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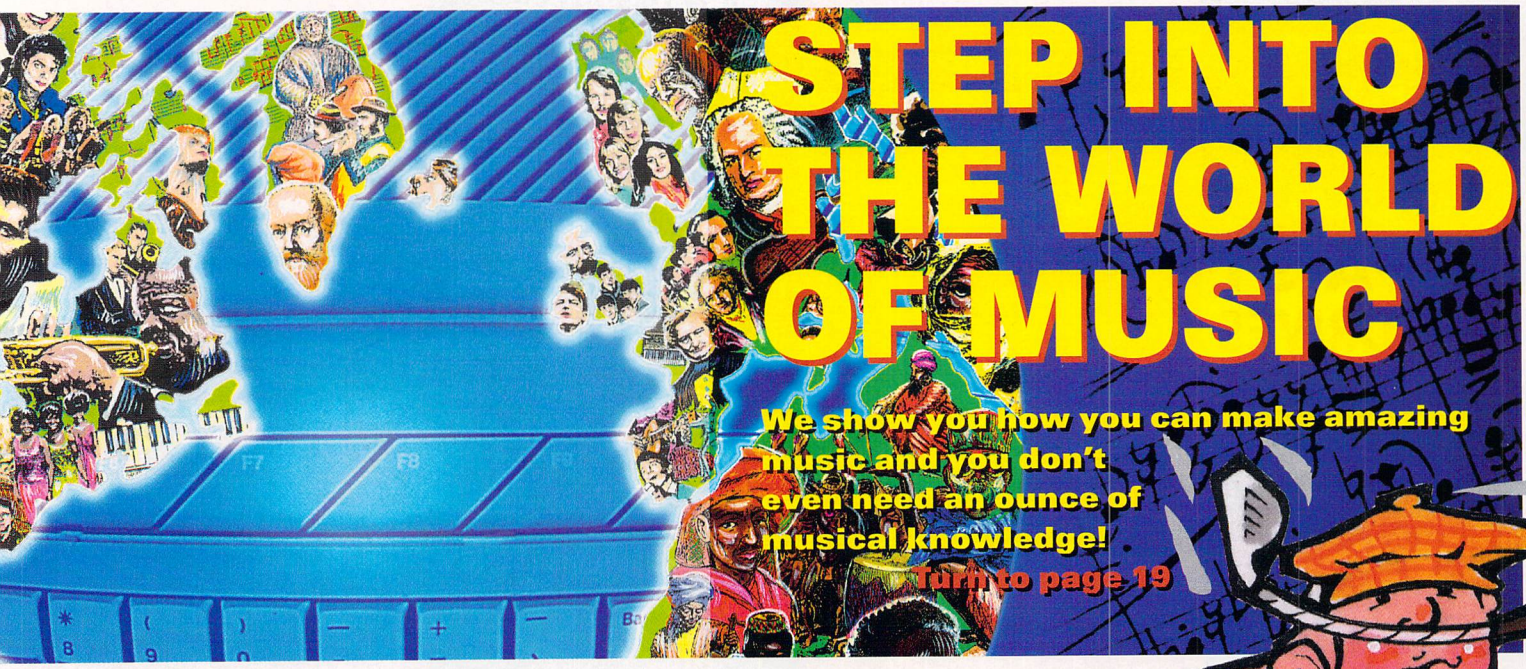


STEP INTO THE WORLD OF MUSIC

We show you how you can make amazing music and you don't even need an ounce of musical knowledge!

Turn to page 19

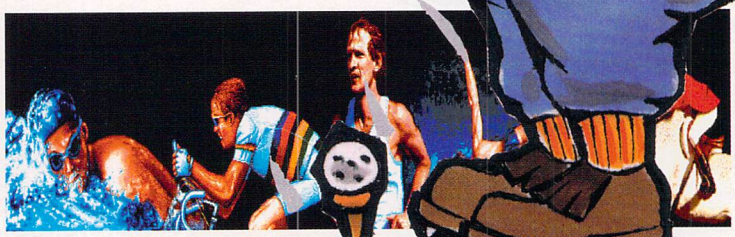
AMAZING RAYTRACING!

The first piece of Falcon PD – see page 91

Create amazing pictures like this for a song!

TAKE THE SPORTING CHALLENGE

Check out the latest summer sports games on page 30



DA'S VECTOR

We investigate this incredible vector graphics package on page 48

So realistic you could almost eat it. Find out how to create vector graphics that'll make your friends go, "Wow!"

SCREENED THIS MONTH

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The *Chaos Engine* finally makes it on your ST. Find out if it was worth the wait with our definitive three page review on page 68.

ST FORMAT

ABC July - Dec 1992

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ST FORMAT ■ ISSUE 48 ■ JULY 1993

Paula Richards, EDITOR

WELCOME TO *ST FORMAT!*

The inclusion of MIDI ports on the ST was a masterstroke, making the ST the computer in every musician's studio. But making music with your ST is so easy it's something everybody can do – we show you where to start on page 19. To tie in with this we've put the excellent MIDI sequencer, *Composer Two*, on the Cover Disk so now you have no excuse for at least trying to become a rock star! Also on the Cover Disk this month is the full version of the amazing *Prism Paint* art and animation program, worth over £40. Just pop it in your drive and see what it can do!

Chaos Engine is the big game this month – it's a massive arcade adventure with lots of puzzle and shoot-'em-up elements. We review it on page 68. Also on the games front you can take up the summer sports challenge with our roundup of sporty games on page 30. Our reviews continue with *Chronos 3D* (page 46) and *DA's Vector* (page 48) – there's plenty of support for the machine, and don't let anybody tell you otherwise!

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Start making beautiful music with your ST.

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40 CREATE A RIOT OF COLOUR
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Exploit all the options in the essential *DBMaster*.

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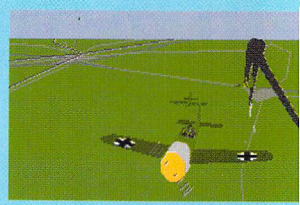
The chance for your art to go on public display.

COVER DISK 48

£40 WORTH OF SOFTWARE

A complete game, a complete paint program and a complete sequencer - what more do you need?!

■ **B17 Flying Fortress** – exclusive playable demo of MicroProse's latest flight sim.

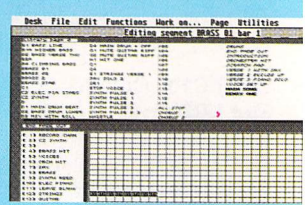


■ Bombs away! Get involved in World War 2.

■ **Prism Paint v1.1** – the full paint and animation program worth over £40!

■ Create some pretty amazing pictures.

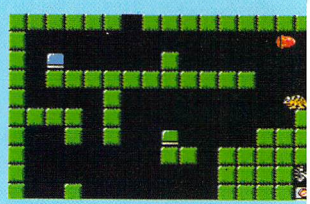
■ **Composer Two** – get creating incredible music with this complete sequencer.



■ Challenge the great artists with your songs.

■ **100 TOS 2 icons and designer** – enhance your Desktop with these new icons, then create your own designs!

■ **Colour Clash** – eat feasts of flies in this addictive platform puzzler.



■ Understand the colour code, and you're away.

■ **Dungeon Master** – the complete solution of this 14 level classic game.

TURN TO PAGE 12 FOR FULL DETAILS!

Ladbroke Computing

33 Ormskirk Rd, Preston, Lancs, PR1 2QP

Ladbroke Computing International are one of the longest established home computer dealers in the U.K. We have developed an extensive customer service policy which involves testing of all hardware prior to despatch to ensure that goods arrive in working order, offering free advice and support over the phone and keeping customers informed. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup.

All prices are correct at copy date 7/05/93 (while stocks last), and are subject to change without prior notice. All prices include VAT but exclude delivery.

How to Pay
You can order by mail Cheques/Postal Orders made payable to Ladbroke Computing. Or give your credit card details over the phone.

Delivery
Postal delivery is available on small items under £40 (Normally £3, phone for details). Add £7 for courier delivery. Next working day delivery on mainland UK subject to stock (£11 for Saturday delivery).

Open Mon-Sat 9.30am to 5.00pm.
Ladbroke Computing Ltd trading as Ladbroke Computing International.

Fax: (0772) 561071
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Printers

Star

Star LC100 Colour	**£165.00**
Star LC20	**£124.00**
Star LC24/100 Mono	**£179.00**
Starjet SJ48 Bubblejet	**£210.00**
SJ48 Sheet Feeder	**£55.00**
SJ48 Ink Cartridge	**£19.00**

Citizen

Citizen Swift 240 Colour	**£270.00**

Hewlett Packard

HP Deskjet 500	**£339.00**
HP Deskjet 550 Colour	**£580.00**

Lasers

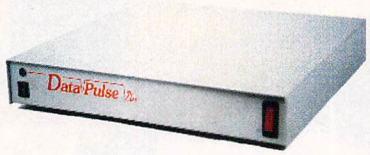
Seikosha OP104 **£549.00**

- 512K RAM (Exp to 2.5Mb)
- HP Laserjet IIP emulation
- 14 resident fonts
- Centronics/RS232C/RS422
- 12 months on-site warranty

Seikosha 512k RAM upgrade	**£69.00**
Seikosha Toner (2 units)	**£19.00**
Seikosha Drum Unit	**£79.00**
Ricoh LP1200	**£759.00**

Add £3 for Centronics cable and £7 for next working day courier delivery

DataPulse Plus



Hard Drives

- All Data-Pulse Plus Hard Drives are fully Autobooting/Autoparking and are formatted, partitioned and tested before despatch, ready to "plug in and go"
- Full metal case measuring 300mm x 285mm x 51mm (wdh), providing good shielding and monitor stand
- Only Highest Quality Quantum or Maxtor mechanisms used
- All drives come with full 12 months warranty and free expert help and advice over the phone

Data-Pulse + 42Mb	**£319.99**
Data-Pulse + 85Mb	**£379.99**
Data-Pulse + 127Mb	**£429.99**

Floptical Drives

- Capable of storing over 20Mb of uncompressed data on a single 3.5" Floptical disk. Can read and write 720K and 1.44Mb 3.5" Floppy disks.
- Average access time 65ms. Data transfer rate of 200K per sec (6 times faster than Floppy disk).
- High quality Data-Pulse Plus Case and PSU.
- Ideal for fast data backup from hard drive. Diamond Back II compatible.

21Mb Floptical Drive	**£399.99**
Datapulse upgrade	**£299.99**

All the Above drives include one 21Mb 3.5" Floptical Disk. Phone for combination HD/Floptical units.

21Mb 3.5" Floptical Disk	**£24.99**
5 x 21Mb Floptical Disks	**£114.95**

Aries Upgrades

- Will fit any ST(F)(M) or Mega ST
- Extremely compact in house designed Multi-layer circuit board smaller than a credit card
- Upgradeable in stages from the base 512K to 2Mb then 4Mb
- Solder in design for greater reliability
- Fully tested prior to despatch
- All Aries RAM upgrade boards come packaged in a 10 capacity disk box, complete with full fitting instructions and memory test disk.

512K Board	**£39.99**
2Mb Board	**£79.99**
4Mb Board	**£129.99**
512K SIMM's STE	**£9.99**
2Mb SIMM's STE	**£49.99**
4Mb SIMM's	**£94.99**
2 x SIPP to SIMM adaptors	**£3.00**

ST/Falcon Networks

Datanet Network Hardware

- Cartridge based high speed network solution
- Compatible with ST (F)(M), Mega ST, STE, Mega STE

Powernet Network Software

- MultiTasking Network software allows applications to run on the server while drive and printer accesses take place in the background

DataNet with PowerNet	**£99.99**
LanNet with PowerNet	**£89.99**
MidiNet with PowerNet	**£59.99**

Prices quoted are for 1 Node. Each computer attached to a Network requires 1 Node. A LanNet device is required to Utilise the Lan Port on a Mega STE, TT or Falcon.

STE Packs

520 STE	**£219.00**
1Mb .....STE	**£229.00**
2Mb STE	**£275.00**
4Mb STE	**£329.00**
1040 STE Curriculum 2	**£289.00**

Falcon 030

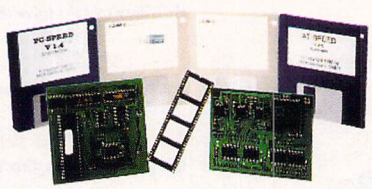
- 16MHz 32 bit 68030 Central Processor, 16MHz Blitter, 32MHz 56001 Digital Signal Processor
- 1.44Mb 3.5" Floppy, up to 14Mb RAM. Displays 65536 colours from 262144 palette at 768 x 480 resolution
- 8 Channel 16 bit, higher than CD quality. Stereo sound sampling

FALCON 4Mb 65Mb HD **£959.00**

Software

Silhouette	**£60.00**
Scanlite Accessory	**£20.00**
Diamond Back 2	**£29.99**
Diamond Edge	**£34.99**
Image CAT	**£24.99**
HD Turbokit	**£4.99**

PC Emulators



- Run PC Software on your ST
- Full installation instructions
- XT or AT Emulation

PC Speed STFM (XT)	**£55.00**
PC Speed STE (XT)	**£55.00**
AT Speed STFM (8MHz)	**£129.00**
AT Speed STE (8MHz)	**£139.00**
AT Speed C16 STFM	**£189.00**
AT Speed C16 STE	**£199.00**

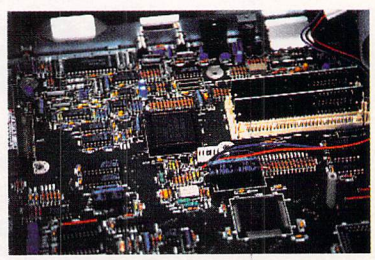
Repair Services

Our Service department can repair ST's in minimum time at competitive rates. We can arrange for fully insured, courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day.

We can fit memory upgrades, PC Emulators, Security devices, ROM upgrades, hard drives to Mega STE's etc.

We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge.

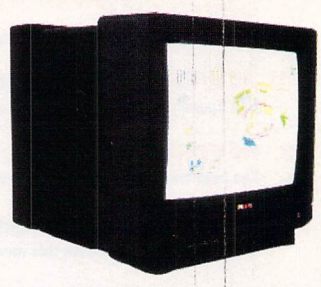
Please note: The minimum charge covers labour, any extra parts are chargeable.



Quotation	**£15.00**
Minimum repair charge	**£35.25**
Same day service	**£15.00**
STFM(E) PSU	**£39.99**
1Mb internal drive	**£44.99**
A/B Boot switch	**£4.99**
TOS 2.06 + Switch STFM	**£65.00**
TOS 2.06 + Switch STE	**£65.00**
Courier Pickup	**£11.00**
Courier Return	**£7.00**

Phone for price and availability of ST spares

Monitors



Philips 8833 MkII **£229.99**
Includes 12 Months on-site warranty (Mainland UK) and free Lotus Turbo Challenge II game.

Hi-Res Mono Monitor **£139.99**
High quality 14" VGA Monitor with ST adaptor. Fully compatible with all ST Hi-Res Programmes

Philips 15" FSTTXT TV **£259.99**
Fully Remote control 60 channel. Fast text TV with Scart input for near monitor quality display.

Colour SVGA Monitor **£250.00**
High quality Colour SVGA Monitor 28 dot pitch. For use with Falcon.

Falcon VGA Adaptor	**£9.99**
Falcon ST Monitor Adaptor	**£9.99**
Philips SCART to ST/STE	**£9.99**
8833 Mk II to ST/STE	**£9.99**

Multi-tasking for all Atari machines

by Paula Richards

MultiTOS, the long-awaited multi-tasking system for the ST and Falcon, is finally available, several months after the initial release of the Falcon.

This means that if you have at least 2MBytes of RAM and a hard drive you'll be able to run more than one application at a time. Your machine can get on with time-consuming functions, like file compression, rendering or printing in the background while you continue with other work. How many programs – whether applications or Desk Accessories – you can run at any one time depends on how much RAM you have installed. A minimum of 4MBytes is really necessary to make the most of MultiTOS's capabilities.

Adaptive prioritisation

MultiTOS makes the most efficient use possible of the processor power – say you were using your word processor with a rendering going on in the background but paused for a moment to think about what next to write, your machine would turn more of its attention to the rendering, and then when you started to type again the processor would concentrate on the word processing functions. This is what Atari describe as "adaptive prioritatisation" – giving the program that's running the most processor time. If you were printing a document from a desktop publishing program, for example, if you just had that running under TOS it would take less time to print than if it was running in the background while you were doing something else under MultiTOS – the positive side being, of course, that you could be getting on with something else while waiting for it.

"You can run all existing programs under MultiTOS as long as they're properly written"

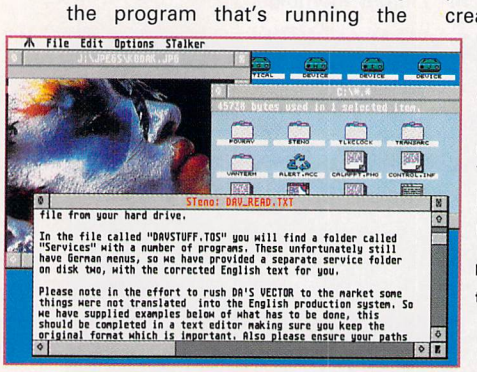
Memory protection

They've also included something they're calling "memory protection," available only on the Falcon and TT, where one program is prevented from interfering with another active program's data. So, if one program crashes, it is unlikely that the other programs running will also crash.

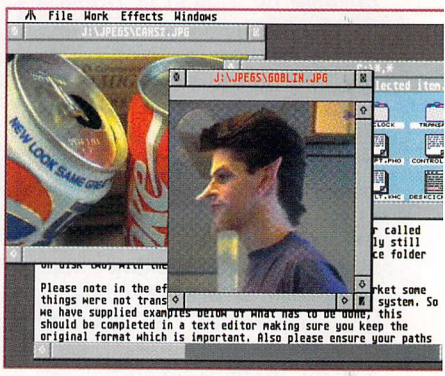
Software support

You can run all existing TOS programs with MultiTOS as long as they have been properly written. There are more programs on the way from both Atari and other third parties that have been specially created to take full advantage of MultiTOS such as *TruePaint*, *That's Write 2* and the forthcoming *Atari Works*.

Everybody who has purchased a Falcon will get MultiTOS free of charge – all you have to do is send the serial number of your machine, details of where you bought it and a photocopy of your proof of purchase to Atari at Atari House, Railway Terrace, Slough, Berkshire SL2 5BZ. If you have an ST, remembering that you need at least 2MBytes of RAM to run the program, you can get it from HiSoft for £29.99. Don't expect a manual, though – that's not quite finished. Instead you'll get some photocopied bits of paper entitled "Preliminary User's Guide."



■ **Use MultiTOS to save yourself from having to wait around.**



■ **Fine tune your pictures before importing them onto pages without having to quit applications.**

Next month we'll be giving MultiTOS the full ST FORMAT analytical treatment so guarantee your copy now with the coupon on page 10.

CANNON FODDER

Sensible Software's latest offering for Virgin is as far removed from *Sensible Soccer* as you can get.

PR Executive Caroline Stokes describes *Cannon Fodder* as "*Lemmings* with guns," a 70 level war game that's as giggle-inspiring as it is bloodthirsty.

You're an armchair general who has to send his troops on a variety of suicidal missions which include rescuing Mr President from a heavily-defended enemy base and preventing the slaughter of innocent natives at the hands of enemy tanks when you're only armed with a few jeeps.

***Cannon Fodder*'s released in September, price £30.99. Watch this space for more details.**

■ **The Sensibles get brutal with *Cannon Fodder*, the latest arcade shoot-'em-up from Virgin Games - due to hit the streets in September.**

APOCALYPSE NOW

Apocalypse **is the latest helicopter gunship shoot-'em-up from Virgin Games.**

Caroline Stokes, PR Executive at Virgin, promises the game is going to be a real stormer when it's released later in the year. "There's no other helicopter game that's going to have the same amount of action in it, " she says.

Your best pal is being held prisoner by a gang of ruthless rebels and there's only one person who can save him – you. It's your job to fly into enemy territory, rescue your mate and his fellow POWs while destroying as much of the rebels' defences as possible. Your helicopter's equipped with the latest weapons technology including heat-seeking missiles, rockets and firebombs.

Apocalypse **is set for release in the Autumn, price £30.99. If you want to find out more, then call Virgin on ☎ 081 960 2255.**

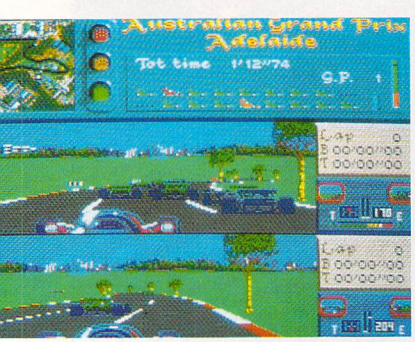
DOMARK GOES VROOM

Vroom **programmers Lankhor are currently developing a new racing sim for the ST.**

Released through Domark, *F1* (as it's been provisionally titled) promises to be a cut above other games in the genre. "Speed is its major selling point," says Joanne Hotson, Domark's acting-PR manager. "All other racing sims are slow by comparison."

The game features FISA World Championship circuits and a split-screen two-player option as well as artificially-intelligent ST-controlled players to race against.

F1 **will be available from Domark (☎ 081 780 2222) in August, price £25.99.**



■ Domark and French programmers Lankhor team up to bring *F1* to your ST this summer.

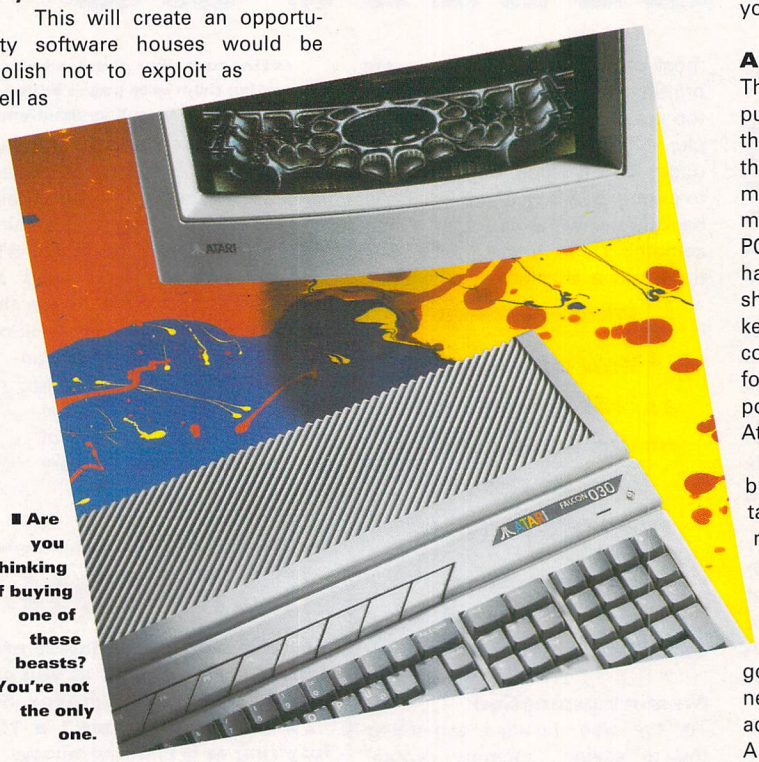
SUBSTANTIAL BASE BY CHRI

by Paula Richards

Atari are aiming to sell up to 100,000 Falcons in the UK by Christmas as widespread advertising, distribution and importation of the Falcon finally gets under way this month.

This will create an opportunity software houses would be foolish not to exploit as well as guaranteed continued development of more serious applications.

First of all, Atari are concentrating on getting 1MByte Falcons into the country. Up until now they've been flown into the UK at a rate of between 600 and 1,000 machines a week, but from the end of May there are to be boats, which can carry thousands of machines, coming into Europe virtually every day, so there should be no problems actually getting hold of one. This should mean an end to tales of "Falcons are selling out as fast as we can get them in," although the choice of the 1MByte machine isn't the most sensible choice – you can't even run MultiTOS.



■ Are you thinking of buying one of these beasts? You're not the only one.

Advertising crazy

The interested computer-owning public is having the existence of the Falcon rammed down their throats, with ads showing off the machine and its capabilities in ST magazines and the top Amiga and PC mags from this month. There have also been wide-ranging mailshots. Darryl Still, Atari UK's marketing manager, reckons the computer owning public accounts for around ten per cent of the UK's population and it's these people Atari are trying to attract this year.

Those who own computers but don't read magazines will be tackled via the TV campaign, a more general Atari awareness raiser which starts in September. Still explained that the other 90% of households will be tackled next year – they're somehow going to be persuaded that they need a Falcon but not actually admit to them that it's a computer. All this sounds horribly reminiscent

Falcon's the musician's choice

Atari machines reigned supreme at the fourth annual MIDI music show, with around 70% of the machines on display being either STs, TTs or Falcons.

The Falcon was the main attraction with virtually every exhibitor either demonstrating the machine's abilities or singing its praises to crowds of onlookers.

All the major players in the music world were present; Korg, Yamaha, Kemble, Fostex and Roland all had large stands with crowds of music-makers and enthusiasts milling around, along with representatives of the smaller MIDI companies.

There were also seminars taking place over the three days of the show, covering everything from software and hardware demonstrations to mini organ concerts.

Attendances at the show on the Saturday and Sunday were hit by the huge bomb blast at the Nat West Tower in the City on the Saturday morning.

■ A musician's dream - spending all day trying out the new technology.

FALCON USER STMAS!

of Commodore's somewhat abortive CDTV campaign, although one of the main problems with CDTV was the fact that there wasn't really a decent selection of software available for it – and that shouldn't be the case with the Falcon.

Exclusive dealerships

Right, so there are machines in the country and you know that it's what you want. So, you want to be able to know where you can buy one from. And you preferably want to get one from someone who knows what he's talking about, someone who'll be able to give you honest advice, backup and help you out if you've got any problems.

To cover all these possibilities Atari have decided upon a scheme whereby a base of at least 50 dealerships – consisting largely of independent retailers all over the country – will receive training and specialist knowledge about the Falcon to then pass on this knowledge and backup. Assuming the independents that Atari are investing their time and effort in can stay solvent long enough to pass on their enthusiasm and skills, everyone will benefit from this scheme. As well as these dealers, established players in the ST industry who don't normally deal with hardware and don't have sales premises of their own, like Compo software, have been distributing the Falcon and the £159 STFM, suggesting there's confidence in the move and it spans wider than just Atari.

"It is likely to nudge the software houses out of apathy"

At the end of the year...

If Atari succeed in achieving their projected sales of 80,000 to 100,000 Falcon sales in the UK, the software houses would be foolish to miss out on the opportunity for selling to game players. It is likely to finally nudge the British software houses out of the apathy they've been revelling in about the ST over the past few months, and sit up and take notice of the new market. It's interesting to note that this attitude has not taken hold in the European software houses – both Thalion and Silmarils have already released Falcon-only games – nor in the serious software market. The case is quite the opposite. In fact, serious developers are ready to take on the challenge of the Falcon; already software and hardware is appearing – even in the Public Domain as you can see on page 91.

Next month we're going to be looking at the future of the ST and the Falcon in terms of the new software that's coming out – and see if we can make a few guesses about the future of the games scene.

WHAT'S IT GOING TO LOOK LIKE?

Speculation has been rife for months now about what the new case for the Falcon is going to look like – and if, indeed, there is to be a new case. There is a wide belief in the industry – which Atari are refusing to confirm or deny – that there is to be a new case, without a cartridge port, that will be available from September onwards. The Falcon is likely to be housed in a black PC-style casing – with a separate keyboard and housing for the CPU. With this sort of setup you get the advantages of having a better keyboard and more space inside the machine to add expansion and graphics cards. It's also likely that the one piece machine will continue to be available for some time.

New from the show

System Solutions and Compo presented a continuous rolling demo of the Falcon's graphics and sound capabilities on a giant TV screen, with intense interest being shown in the *Screenblaster* overscan board and the *Musicom* direct to hard drive recording software.

Gajits were selling *Breakthru* and *Sequencer One Plus* as fast as they could get the packages on display, their video instruction manuals for both of these packages were also selling well.

Harman Audio have released Steinberg's *Cubase Audio* for the Falcon. This is the Falcon update to the industry-standard *Cubase 3* and features eight channel digital audio recording without any additional hardware, although you do need a huge hard drive to be able to make any serious recordings. Other modules include a drum sample player and digital effects using the DSP chip and full compatibility with *Cubase 3* modules. *Cubase Audio* costs £799 and is available now.

John the Composer is a composition program from Finland designed and written by music theory teachers, it's an improvisation package that enables you to create compositions by inputting various parameters into the program. *John* needs 1MByte of memory and works with both MIDI instruments and the ST's internal sound chips. UK distribution is being handled by Newtronic for 45, alongside their vast collection of MIDI music files. HiSoft/AVR were present demonstrating *Replay 16* running on a Falcon, it looks as if the *Replay Editor* software is going to be adapted to work with the Falcon's internal ADCs and DACs rather than use an external cartridge. A good idea, especially as the cartridge port is destined to disappear on future versions of the Falcon. Although the Falcon has only been on sale in large numbers since March there is already a Falcon030 musician's club in London. FIX (the Falcon Information eXchange) is a user group that specialises in musical applications for the Falcon. Membership is £20 a year and includes a disk magazine, updated listings of music software for the Falcon and PD and Shareware as it appears for the machine. Contact Computing for Music on ☎ 081 340 1871 if you want more information.

System Solutions and Compo show off the Falcon's capabilities with a giant screen setup.

BITS...

Wrong number

Oops! We made a bit of a mistake when we reviewed the *Biz Accounts* package last issue – they're actually on ☎ 0424 436674. We'd also like to clarify that you don't actually need a second external drive to run the program. Orpheus say that they've now sorted out the bugs in the screen display. They are in the process of upgrading the program and say they'll have a second version out in around six months which "looks a lot more sexy." Of course, if you can't wait until then you could always get hold of the package from our mail order service – for further details, see page 98.

Doing the continental

After the TOS upgrade feature in last month's *ST FORMAT* it seems that everyone wants to upgrade.

Analogic Computers have had an enormous response to the feature with enquires about the board from all over the world. Raj Shukla of Analogic said: "We have been astonished by the size of the response to the feature in *ST FORMAT*, we are now organising dealers in the US and in Europe and shipping the STE TOS switchers to them in bulk. We have even had enquires from *STF* readers as far away as Singapore."

Incidentally, you don't have to turn your ST off to switch between the two TOS versions on the STE TOS switcher, it is quite safe to do so while your ST is running.

I want my MTV!

MicroDeal's *VideoMaster* has been used to create a music video currently being shown on MTV.

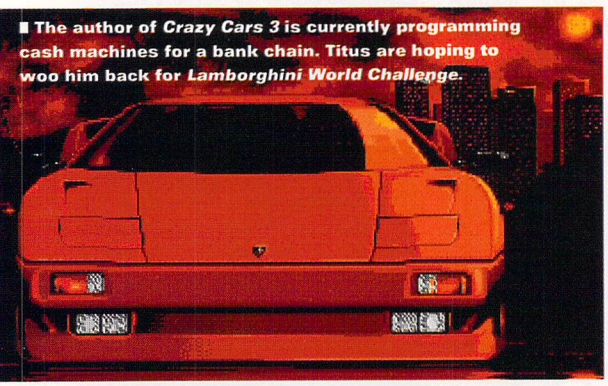
The video features Indie band Test Department's latest single *Bang On It*. The complete video is around eight minutes long and is a mixture of treated *VideoMaster* sequences and live footage with the soundtrack added afterwards.

Paul Taylor of Necromiton Productions/Pilot Visonaries said about this production, *"VideoMaster* is the perfect tool for this kind of work, we are hoping to use it again in further projects."

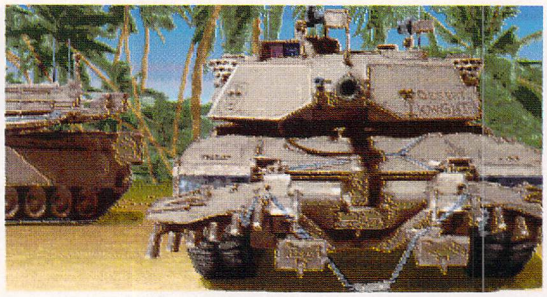
LAMBORGHINI CRAZY FOR TITUS

More news on the racing front comes from French softies Titus who've announced a licensing deal with Italian sports car manufacturers Lamborghini.

Details of the new game – provisionally titled *Lamborghini World Challenge* – have still to be finalised, but Steve Darragh, PR manager for Titus, told *ST FORMAT* the game would be based on a revamped version of *Crazy Cars 3*, which received an *STF* Rating of 85% in issue 39. If things go according to plan *Lamborghini* should be released in September, price £25.99



■ The author of *Crazy Cars 3* is currently programming cash machines for a bank chain. Titus are hoping to woo him back for *Lamborghini World Challenge*.



■ Teach the Iraqis a lesson they are never going to forget in Empire's *War in the Gulf*.

WAR IN THE GULF

Empire take on the might of the Iraqi army with the release of their latest war sim.

Based on the *FORMAT* Gold winning *Pacific Islands*, *War in the Gulf* is set in 1995 when the Iraqis once again try to stake their claim on Kuwait. You play the leader of a crack team of Gulf War veterans, hired by the Kuwaiti Royal Family to defend their country. Equipped with a squadron of armoured vehicles, including the M1A1 tank, it's your job to recapture the oilfields and strategic sites held by the Iraqis in 15 different tank battles over 400 square miles of terrain.

War in the Gulf is available now, price £29.99 from Empire Software. Phone them on ☎ 081 343 7337 if you want to know more.

...AND PIECES

Big bubbles

If you liked the sound of the Canon BJ-200 printer that we reviewed in *ST FORMAT* 46 then you'll like the BJ-230 twice as much. It is an A3 bubble jet printer which can produce large pages of copy from DTP packages or spreadsheets at 360dpi. The basic design is the same ae the BJ-200 with a built-in sheet feeder and a small footprint, in other words it takes up very little room on your desk. The recommended price is £470 although you should be able to get it from dealers for around the £350 mark. Freephone Canon on ☎ 0800 252223 for more information.

But it's not PD

Because of an error we reviewed *Interface* from Caledonia PDL in the Public Sector area of *STF* last month. Sadly, this excellent resource file editor isn't actually in the PD – Jake Bain of Caledonia points out that, "it's far superior to anything available in the PD." You can obtain it from HiSoft (on ☎ 0525 718181), and costs £49.95 including backup and support.

Get involved!

If you know anything about MIDI and think that you have anything to offer in this domain, then Robert Treen of RTPS Systems would like to hear from you on ☎ 0869 278470. He's involved in creating a tutorial for people who are to be even remotely involved with MIDI and wants to hear what you think should be included. No idea is too small, so get telephoning or write to RTPS Systems Ltd, Somerville, Rectory Lane, Fringford, Bicester, Oxon OX6 9DX.

Start programming!

You can learn to program in *STOS Basic* with *The Beginner's Guide To STOS*, the first foray into the publishing world for MT Software (☎ 0983 756056). The course covers basic principles through to complete programs over a huge variety of subjects and it costs £39.95.

THE TOP TWENTY

Your guide to the best-selling ST games throughout the UK

Position	Game	Publisher	Price	*STF* Rating
1.	Street Fighter 2	US Gold	£27.99	91%
2.	Premier Manager	Gremlin Graphics	£25.99	85%
3.	Civilization	MicroProse	£34.99	92%
4.	Sensible Soccer 92/93	Renegade/ Mindscape	£25.99	91%
5.	First Division Manager	Codemasters	£7.99	67%
6.	James Pond	GBH	£7.99	82%
7.	Pirates	Kixx XL	£12.99	74%
8.	Trivial Pursuit	Hit Squad	£7.99	67%
9.	Spellbound Dizzy	Codemasters	£7.99	71%
10.	RBI 2 Baseball	Hit Squad	£7.99	62%
11.	Prince of Persia	Hit Squad	£7.99	90%
12.	Terminator 2	Hit Squad	£7.99	63%
13.	Treasure Island Dizzy	Codemasters	£7.99	82%
14.	Formula 1 Grand Prix	Microprose	£34.99	81%
15.	Magic Land Dizzy	Codemasters	£7.99	69%
16.	Lotus Turbo Challenge	GBH	£9.99	86%
17.	Sleepwalker	Ocean	£25.99	92%
18.	The Simpsons	Hit Squad	£9.99	74%
19.	Jack Nicklaus Golf	Hit Squad	£7.99	62%
20.	Future Wars	Kixx XL	£12.99	87%

There aren't many surprises in this month's chart, Street Fighter 2 being one of the most popular games across all formats this year. It's strange to see the domination of so many football games, especially since Premier Manager and Sensible Soccer have been around for some months. It's good to see quality games like Civilization and Sleepwalker are making an entry into the chart and you can expect Sleepwalker to go much higher – at the time the charts were compiled it had only been out for about three weeks.

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More Atari News & Views from HiSoft

When only the Best will do...

Falcons from HiSoft

Yes, we have them - now! In what is an unusual step for us, we have decided to stock both the 1Mb and the 4Mb/65Mb HD versions, the retail prices of which are £599 and £999 inclusive.

We have un-rivalled (in the UK at least) knowledge of the Falcon hardware, its operating system and the tools that will be available for this amazing machine; in addition, we firmly believe in quality of customer service, both before and after a sale. So why not give us a call to discuss the benefits of this superb new computer and how it can best meet your requirements?

Language News

Watch our for new versions of our popular languages; Devpac 3, HiSoft BASIC 2 and Lattice C 5. These latest releases include full Falcon030 support with extra libraries, an improved debugger and a comprehensive handbook that discusses using these products on a Falcon computer.

The new libraries include routines for accessing the video and audio sub-systems, Speedo GDOS, MultiTOS, the DSP processor and other new aspects of the Falcon030. As such they are essential for any programmer with a Falcon computer or for anyone who wants to support this fabulous machine.

These Falcon-enhanced versions will be stickered as such on the outside of the box (an example is shown below) and so will be easily recognisable. Upgrade prices start from £10 for each product - please call for details.

The Falcon030-enhanced sticker that will appear on all our software packages that include special features to take advantage of the Falcon computer.

Speedo GDOS and MultiTOS

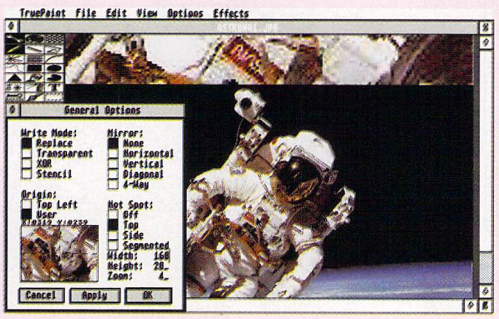
At long last, both MultiTOS and Speedo GDOS are available in the UK. MultiTOS is Atari's official pre-emptive, multi-tasking operating system allowing you to schedule a variety of tasks on your computer. Speedo GDOS is the new outline font system based on Bitstream's Speedo font engine.

Both programs are released on 22 May, require upwards of 2Mb of memory and are complete with manuals and free 30-day support from HiSoft.

TruePaint

TruePaint is the first art package to take advantage of the true colour capabilities of the Falcon030 computer ... and it is shipping now. Some of the highlights of the product are:

- *Works on all STs and Falcons in all screen resolutions including 768x480 True Colour*
- *Easy-to-use multi-window environment with menus, toolbox and keyboard shortcuts*
- *Full range of drawing tools*
- *A large variety of effects including shear, wrinkle, smooth, rainbow etc.*
- *Flexible zoom, full screen mode with edit, colour picker, bézier curves ...*
- *Animation, Font/Speedo GDOS support, wide variety of file formats including IFF, TIFF, GIF, JPEG, Targa, IMG, Neochrome and more*
- *Extensive and informative 170-page manual*



TruePaint was launched at the 7th International Computer Show and has already gained wide acclaim from its users. For more information, please call us and ask for a brochure.

Diamond Edge

From the authors of Diamond Back, the popular hard disk backup program, comes a new package that is essential to any serious user of an Atari 680x0 computer.

Diamond Edge is a complete set of management, optimisation, diagnostic, repair and data recovery tools for use with floppy disks and hard disks. Version 1.04 is now available, this supports the IDE hard disk within the Falcon030 - call for upgrade details.

The current version of Diamond Back, 2.51, has full support for the new 21Mb flopticals - again. contact us for information on upgrading.

DataLite 2

We are pleased to have acquired the exclusive rights to this new program from Germany.

DataLite is a sophisticated 'disk doubler' which, by using a combination of compression & de-compression techniques, can save up to 50% of the space on your hard drive or on your floppy disks. We have thoroughly tested this invaluable program and we have found it to be extremely reliable and easy-to-use.

DataLite compresses all types of data on your disk, not just text files, and thus gives you optimal space saving. DataLite is a logical companion for Diamond Edge and Diamond Back II and we have a special, limited offer for a combined pack of all three utilities (see the box below).

Harlekin 3

The latest upgrade to the immensely popular Harlekin suite of desk accessories is released on 22 May. The package has been much improved and extended including non-modal dialogs, a multi-window editor, full Multi-TOS and Falcon030 support and a new manual. Please call or write for full details and upgrade information.

Special Spring 93 Prices from HiSoft

As a very special mail order promotion, we have reduced the prices of some of our software titles for a limited time to readers of this magazine. The following products will be available, subject to stock, at lower prices for the period 22 May until 31 June 1993. You can only order directly from HiSoft using your credit/debit card or by sending us a cheque/postal order (payable to HiSoft), quoting reference ATS93M1. All prices include VAT and P&P from HiSoft.

Diamond Edge, Diamond Back II, DataLite Package	£99	ProFlight	£14.95
		Lattice C 5 - non Falcon	£99.95
Speedo GDOS and MultiTOS package	£49.95	HiSoft BASIC 2 - non Falcon	£54.95
		Devpac 3 - non Falcon	£54.95
Wordflair 2 inc Speedo GDOS	£59.95	Harlekin 2	£39.95

All HiSoft's products should be available through your local computer dealer. If you have difficulty in obtaining a title you can order directly from HiSoft using your credit or debit card - just call 0525 718181 and ask for mail order sales.

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COVER DISK 48

B17 Flying Fortress

This month's Cover Disk is a cracker, and here are all the details on how to pull it...

■ This is your B17 crew's mascot. It's a delightful rendering of the tail gunner's friend. But there's no time for thinking about her where you're going.

This month's goodies

B17 Flying Fortress
Take to the skies with this exclusive playable demo of Microprose's latest flight sim.
Size: 256K **Page 12**

■ **Check out our definitive review of the full game on page 72.**

Prism Paint 1.1
The full version of Lexicor's paint program – it runs in all resolutions.
Size: 106K **Page 14**

Composer Two
A complete MIDI sequencer with a whole new approach.
Size: 142K **Page 13**

■ **See page 19 for details of how to make music with your ST.**

Colour Clash
Cunning puzzle game of a different colour.
Size: 108K **Page 14**

TOS 2 Icons
Customise your Desktop with 100 icons and an icon editor.
Uncompressed size: 98K **Page 16**

Assembly listing
More assembly listings to digest.
Size: 9K **Page 15**

■ **Turn to page 102 for more info.**

STE medium res boot
Sort out TOS 1.6 and get your ST to boot in medium resolution.
Size: 2K **Page 15**

No Borders
Banish those black borders around your screen with this clever piece of assembly listing.
Size: 9K **Page 16**

Dungeon Master solution
A complete solution to the block-busting game.
Uncompressed size: 30K **Page 16**

■ **Turn to page 82 for more classic solutions in Gamebusters.**

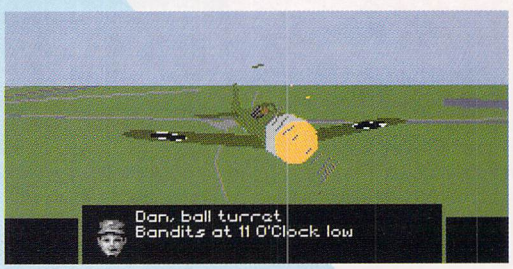
Back Up
What do you do before you try out any of these goodies? Yes, that's right, you use our regular and impeccable backup program.
Size: 13K **Page 16**

BY: MICROPROSE
RESOLUTION: LOW RESOLUTION
FILES: B17DEMO.PRG, B17INDX, B17DATA, B17INST
TOTAL SIZE: 256K
GET STARTED WITH: B17DEMO.PRG

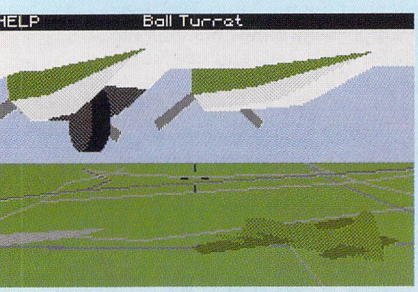
Now that's what you call brave, flying deep into enemy territory facing hordes of deadly fighters who intend to ventilate your plane. On top of that, you also have to find a target and drop bombs on it!

B17 Flying Fortress puts you in command of the crew of a World War Two B17 bomber. You can pilot, navigate, bomb and fire machine guns in all directions. The Cover Disk demo lets you loose and in control of one of two B17s on a raid on Antwerp docks facing the attack of three Focke Wolf 190s. Run B17DEMO.PRG and get ready for some serious action.

When the demo has loaded you find yourself in the pilot's seat. You can switch between all the crew positions using the function keys. Each position can be controlled either by yourself or by your ST: if there's a little computer icon at the bottom left corner then your ST's in charge, if there's a little hand icon then it's you that's at the controls. You can toggle between



■ **This is what all tail gunners dread, one of those nasty fighter fellows getting right up your tail with all guns blazing. As the fighters close in on you, you get warnings from the gunners.**



■ **The view from the ball turret position of a B17 bomber - these were quickly added to the early designs when fighters learned to approach the plane from underneath.**

FLIGHT CONTROLS

B17 can be controlled with the joystick and keyboard or entirely using the keyboard. Pressing <Help> and <Alternate> together brings a list of all the keyboard commands up on-screen. The demo is missing a couple of features to save space but all the important bits are here

<F1> – Chin gunner.
<F2> – Navigator.
<F3> – Pilot.
<F4> – Copilot.
<F5> – Top gunner.
<F7> – Ball gunner.
<F8> – Left waist gunner.
<F9> – Right waist gunner.
<F10> – Tail gunner.
<M> – Toggles manual or ST control of a crew position.
<Alternate> <M> – Switches you to movie mode.
<P> – Toggles pause.
Spacebar – Blast away with the machine guns.
Cursor keys – Move the guns about quickly.

Before you do anything else, you must read this

Tread carefully
To keep your *STF* Cover Disk safe, write-protect it by moving the black tab so you can see through the hole. Nothing can now be written to your Disk. Write-protection also keeps your Disk safe from viruses.

Study the map
Space on the Cover Disk pages is limited, so you may find text files for some programs on the Disk. These have the file extension DOC. It's always a good idea to read these for more information on a program. Double-click on them and select "Show" to display the text. If text disappears off the screen when you try to read a DOC file in low res, change to medium res and try again.

Avoid the pitfalls
To keep your *ST FORMAT* Cover Disk safe you should make a backup, so if anything goes wrong, you still have the original. Because we use a special disk format to squeeze programs on to the Disk, you can't do a direct disk-to-disk copy. We've made life easy for you, however, with this *Back-Up* program. Follow the instructions on page 16 and you can't go wrong. Now there's no need to risk damaging or losing your disk again!

Some programs are compressed to fit on the Disk and cannot be run directly from it. Follow the instructions here and it'll all be fine.

Is your drive obsolete?
We use a double-sided disk format. If you own a single-sided drive, you can't read the Cover Disks, or much of the new software since single-sided drives are obsolete.

You are strongly advised to buy a new double-sided drive which can cost as little as £35.

Composer Two

BY: DAVID DICKENS
RESOLUTION: MEDIUM OR HIGH
FOLDER: COMPOSER
FILES: STRAWJAM.C2, MANUAL.DOC, QUICKREF.DOC, COMP26S.PRG, COMP2.RSC
TOTAL SIZE: 142K
READ: QUICKREF.DOC, MANUAL.DOC
GET STARTED WITH: COMP26S.PRG

One of your ST's strengths is what it's capable of in the musical side of things. With a couple of leads and your ST you can take an unprecedented level of control over any MIDI instrument. All you need is a sequencer program and you need look no further than this month's Cover Disk.

Composer Two is a complete sequencer with an easy to use format. Songs are built from segments. You write or record different segments and then string them together to produce the final song. Graphical editing of notes makes everything dead easy.

This is the very latest version with quantising, chord editing and other improvements. It features 96 beats per minute resolution, 16 polyphonic tracks and full note editing. To show off its capabilities there's also an example song called *Strawberry Jam*.

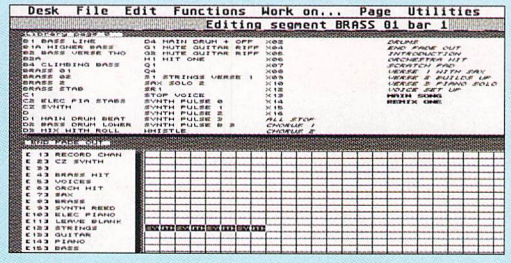
Open the COMPOSER folder and run COMP26S.PRG. It runs in medium res but you might find things a little squashed. Go to the File menu and select Load Music Data. From the file selector choose STRAWJAM.C2. Now select the Work On menu and choose Build Sequence into Song. The display now shows the song table. Press <P> to hear the song and <S> to stop it again.

In *Composer Two* you either build a segment or string segments together to make a song. You can switch between the two modes using the Work On menu. It approaches music by creating segments of between one and 32 bars of music. Each bar can consist of between one to 96 note divisions in normal 4/4 timing. Each segment appears in the library box. To record a segment select Record from the function menu or press <R>, play away, press <S> when you're done. A dialog box appears to give your new segment a name, it now appears in the library box.

You can copy and move segments around and edit each individual note. Click on a segment name and a graphical representation of the notes appears. You can double-click on the start of a note to fine tune it. You can add notes from the keyboard too, by double-clicking where you want it and typing in the note you want. Press the Spacebar when you've finished.

There are two text files on the disk that detail the ins and outs, QUICKREF.DOC lists all the commands while MANUAL.DOC tells you how to get the most from this excellent sequencer.

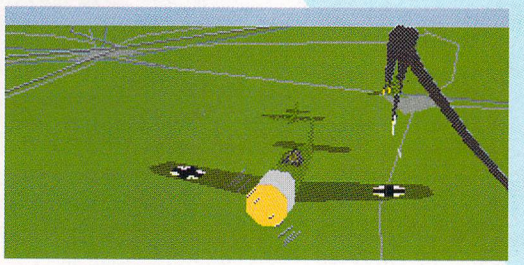
If you're at all confused by any of the musical terms here, turn to page 100 for the *STF* guide to musical notation.



The Editing screen greets you when you first load *Composer Two*. The top bit contains your library of segments and the bottom is your sequence table showing MIDI and timing information.

the two by pressing <M>. Note that at first all your gun positions are controlled by your ST.

The fighters are zooming in pretty quickly, press <F1> to take you to the chin gunner and press <M> to take manual control. You can now use the joystick or the cursor keys to aim the guns and the Spacebar or <Fire> button to start blasting. Shooting down the fighter planes isn't easy – because of their speed, you need to aim ahead of them and be pretty snappy about it, they're only within range for a very short time.



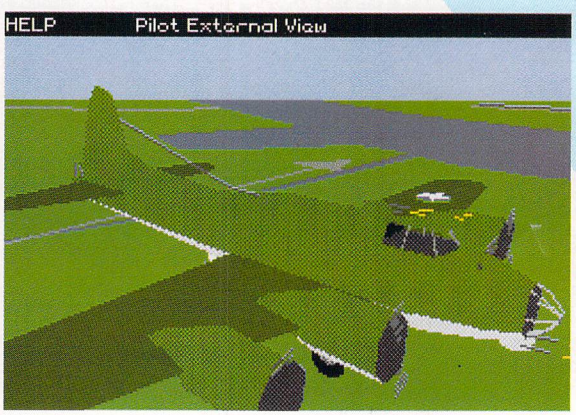
Oh dear, it's all going horribly wrong. A victorious 190 leaves one B17 going down in flames. Watch it! You don't want to run into the other bomber if you get out of formation.

The demo has a time limit, see if you can bag one of the attacking fighters and keep both bombers airborne within the allocated time.

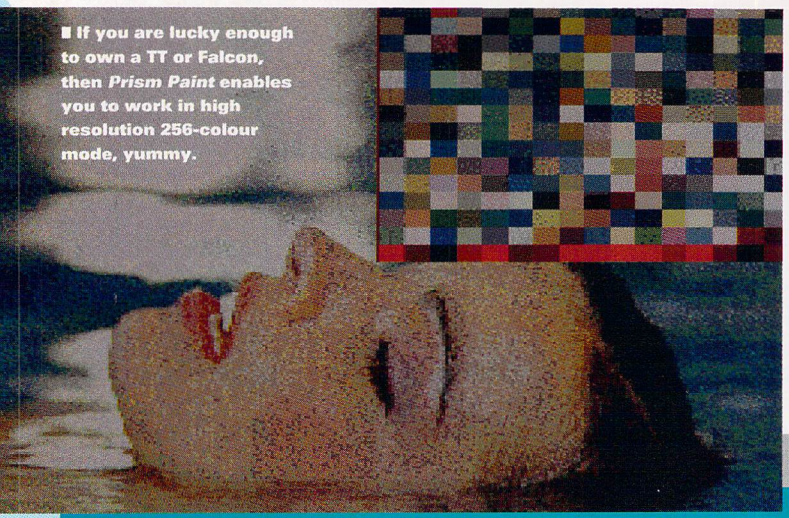
An excellent way of getting a feel of things is by putting the demo into movie mode and sitting back to watch the encounter unfold – to do this just press <Alternate> and <M> at the same time.

Buckle up your flying jacket and boots, open up a fresh packet of gum and hoist yourself aboard. It's a dirty job but someone has to do it – bombs away!

<Shift> and cursor keys – Move the guns about slowly.
<E> – Switch to external view from pilot's position.
Numeric keypad – Controls external view.
<G> – Toggles landing gear up and down.
<F> – Toggles the flaps up and down.
<W> – Takes you back to the view from the external view.
<I> – Takes you to the instrument panel.
<[> and <]> – Change instrument panel.
<Shift> <F7> – View from the bomb bay.
<Shift> <F8> – View from the target's position.
<Alternate> <1> to <4> – Fire extinguishers in the engines
<-> and <+> – Increases and decreases engine revs.



***B17 Flying Fortress*'s vector graphics are superbly detailed. This bird can take you deep into enemy territory, drop bombs on the target and fend off attacking fighters. With any luck.**



If you are lucky enough to own a TT or Falcon, then *Prism Paint* enables you to work in high resolution 256-colour mode, yummy.

Prism Paint

BY: LEXICOR
RESOLUTION: ALL RESOLUTIONS
FOLDER: PRISM
FILES: PRISMPNT.PRG, PRISMPNT.RSC
TOTAL SIZE: 106K
GET STARTED WITH: PRISMPNT.PRG

You lucky people, this month we've managed to scoop *Prism Paint* – not a demo or disabled version but the full working program in all its glory. As well as all the functions you'd normally expect from a graphics program, *Prism Paint* has animation and runs in all resolutions – even 256 colour modes on a TT and Falcon. You need 1MByte to run it as it wasn't designed to run on a 520 ST.

Open the PRISM folder and run the PRISMPNT.PRG program. The main menu appears as a large

BRUSH UP ON YOUR BRUSHES

There are far too many functions in Prism Paint for us to give a detailed explanation of them all here. Everything is mouse-controlled. Click on the File menu to load and save your work

1 TOOLS
Your basic set of drawing tools. Select and use them with the left mouse button. Draw is the most basic, it lays down the selected colour using the selected brush. Copy copies a section of the screen you define with the mouse to the clipboard. Paste enables you to put the section back down again. Magnify gives you a small box to select the area of screen you want to take a closer look at. Spray Control enables you to fine tune the spray can. You can use the Snap Grid to make all your drawing functions work on a defined grid. All the tools are very simple to use.

2 BRUSH MODE
You can copy a piece of the screen and use it just like any other brush. This toggles between the two modes. Obviously, you need to have captured a section of screen with the Copy tool first.

3 FRAME CONTROL
Prism Paint has a natty animation feature. Initially you only have one frame, click on Insert Frame to add new ones. Frames can be cleared or deleted. Each frame is held in a compressed format, a blank frame only takes up 16 bytes. Click on Frame Information for the statistics on your animation. The slider at the bottom enables you to quickly switch from frame to frame.

4 COLOUR PALETTE
This shows your palette – if you're working in 256 colour mode then the up and down arrows enable you to get at the rest of the palette. To change the colours click on Edit and move the RGB sliders.

5 BRUSHES
All drawing is done with either the brush or clipboard. Initially, the brush is a single pixel. You can use the left and right arrows to cycle through the selection. Click on the picture of the brush to enter the brush editor. Here you can load and save sets of brushes or grab a section of screen.

6 LINES
There are six different line types. Use the left and right arrows to cycle through them. Click on the picture of the line to enter the editor if you want, to define each one of them yourself.

7 FILLS
There are two basic types of fill, mono and colour. The left and right arrows cycle through them. Click on the Fill Pattern to enter the editor; as with the brushes you can load and save sets of fills and grab

Colour Clash

BY: ANIMALSOFT
RESOLUTION: LOW RESOLUTION
FOLDER: COLCLASH
FILES: COLCLASH.DOC, COLCLASH.PRG
TOTAL SIZE: 108K
READ: COLCLASH.DOC
GET STARTED WITH: COLCLASH.PRG

You are a little lizard chap on a mission to overcome an obstacle course devised by a nasty-looking bloke who is doing a spot of endurance testing on you. You are armed with your guile, a limited ability to jump and your best trick, changing colour.

Colour Clash is a beauty of a game, an original bout of cunning platform puzzlery. To complete each level you have to reach the flies and, er, eat them. It's all joystick controlled and very addictive.

Open the COLCLASH folder and run COLCLASH.PRG. Press the <Fire> button to get past the intro sequence. From the title screen you can select to play from Level One or enter a password to start at a higher level. When you complete a level, remember to write down the password so you don't have to fight your way through all the previous levels again.

Collecting the coloured icons changes you into that colour and gives you special abilities. You need to make the most of these and plan ahead if you want to make it very far. Pushing the joystick up pauses the game. At the top of the screen are three coloured words, moving the joystick left and right cycles through them while pressing <Fire> returns you to the game. There are three

Colour Clash is an original and challenging game featuring a small lizard in search of flies, yuk! Each level yields a password you can enter at the start to take you to that level.

All right then, clever clogs, how do you get through this one? The design of each level of *Colour Clash* gets more devious. You need thought and dexterity - got those? You're OK then.

COLOURFUL EFFECTS

The secret of Colour Clash is mastering the different powers gained by collecting the coloured icons

Orange – the default, pressing <Fire> sends you jumping into the air. You can always return to this colour at any time by pushing your joystick up and selecting Def, and then pressing <Fire>.

Green – pressing the <Fire> button sends your tail lashing out zapping enemies or blocks immediately behind you. Note that in particular cases it's the only way to reach some areas of the screen.

Red – pressing the <Fire> button does something rather surprising to your stomach and then sends you floating off into the air – pretty handy for those out-of-the-way places of the screen.

box full of icons. Clicking with the right button takes you to the drawing screen and back again. Try experimenting with the tools. Select them from the Tools box, switch to the drawing screen and play about. There are definable fill patterns, brushes and lines. There are three different types of splines, a definable spray can and different text types. There are all the drawing tools you're ever going to need – and a few you didn't know you needed yet. Areas of the screen can be cut and pasted. You can have as many screens as memory permits and then animate through them.

Prism Paint uses its own PNT format as well as *Neochrome, Degas Elite*, IFF and GIFF formats. It can also use FLM and DLT animation formats making it a flexible and powerful graphics tool.

If you're smitten by *Prism Paint* take a look at our exclusive offer to *ST FORMAT* readers; £30 buys you version 1.5 of *Prism Paint* with the manual and a free upgrade to version 2, due for release at the end of June.

Prism Paint special offer

If the Cover Disk version of *Prism Paint* has made you hungry for more why not make the most of our special deal with 16/32 Systems? Get yourself *Prism Paint 1.5*, the full manual and a free upgrade to version 2 when released (in about a month) all for a mere £30.

Version 1.5 includes the ability to load and convert GIF and TIFF format pictures, merge and splice animations, manipulate blocks including skew and enlarge, blending, K-line splining and loads of other goodies. Version 2 promises to have even more!

Yes, please send me ____ copies of *Prism Paint 1.5* at £30.00 each.

I enclose a cheque/postal order for £ _____ made payable to 16/32 Systems.

Name _____

Address _____

Postcode _____ Day phone number _____

Post to 16/32 Systems, 173 High Street, Strood, Kent ME2 4TH

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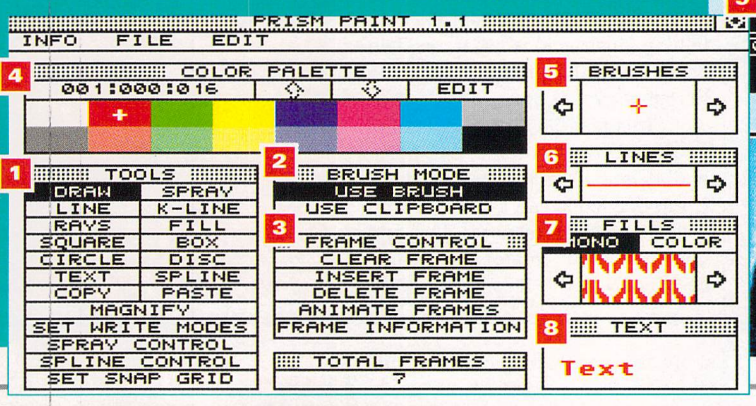
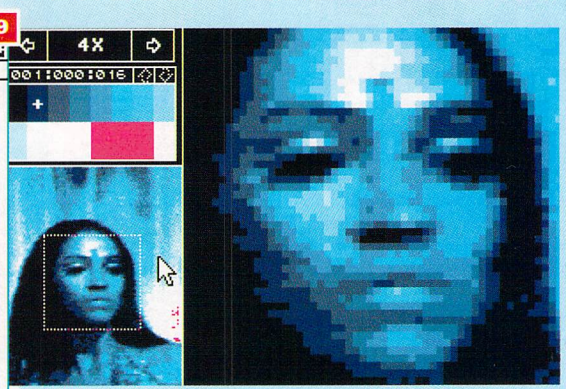
sections of screen to use as your new fill pattern.

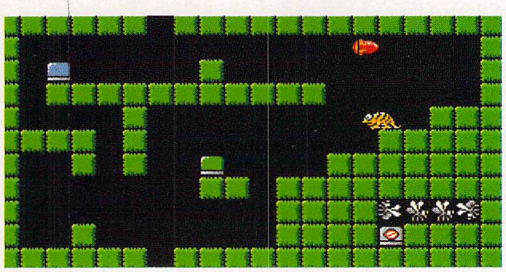
8 TEXT
Click on the word text to enter the text editor, you can give your text a range of different sizes and attributes. Experiment with them.

9 MENU CONTROL
Click on this little box to select which menu you want to be the active one – you start off with the full size menu with all the icons, but you can easily choose to just have the Frame menu or the palette menu showing.





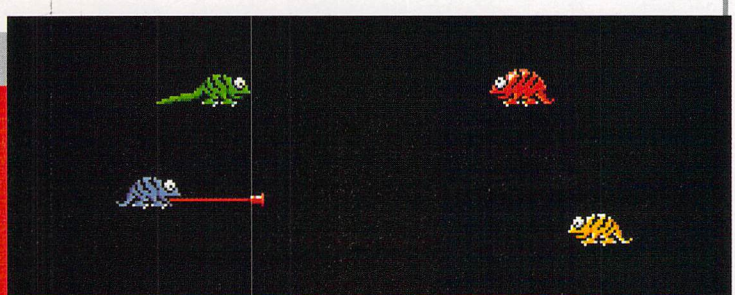
The Magnify function enables you to do the fine detail work on your picture. You can set the level of magnification at the top left and move the selected area about in the box below the colour selector.



Our small scaly friend with the constant surprised look ponders his next move. That grey icon with the warning sign means instant death. To get past this level you need to do your special trick.

options: Not means no change – you stay the same colour. Def means you return to the default colour orange and Kil means you explode in a rather disagreeable manner. You can use this when you've mucked up a level and there's absolutely no way you can complete the damn thing.

That's about it, you are on your own now to battle through those levels. It's clever, it's devious, it's original, and it's waiting for you to load it and get playing.



Blue – pressing the <Fire> button sends your tongue zooming across the screen and sticking to any block it hits. Moving the joystick left and right enables you to move the block about. Press the <Fire> button again to reel your tongue back in your mouth again.

TOS 1.6 Medium Resolution Fix

BY: DON MARPLE
FOLDER: STEREZ
FILES: MEDREZ.DOC, MEDREZ.PRG
TOTAL SIZE: 2K
READ: MEDREZ.PRG
GET STARTED WITH:
SEE OPPOSITE

Early versions of the STE came with TOS version 1.6. TOS stands for The Operating System and is stored in a chip inside your ST. It handles things like reading disks and putting graphics on the screen. Due to some unforeseen bug that crept into the code, TOS 1.6 refuses to boot in medium resolution even though you've saved the Desktop correctly.

To get round this undocumented feature, pop the program MEDREZ.PRG into an Auto folder on your boot disk. Make sure there isn't a DESKTOP.INF file and your STE will start in medium res.

Assembly Listing

BY: TONY WAGSTAFF
FOLDER: ASSEMBLER
FILES: MENU.HRD, MENU.I, MENURSC, MENU.S
TOTAL SIZE: 9K
GET STARTED WITH:
SEE BELOW

You're learning assembly coding, right? You're following the Bytecruncher's Guide to Assembly, and you want to know how to get at the GEM alert boxes, menus and file selector. No problem, we'll sort you out.

Here's the source code to go with this month's tutorial that'll have you calling those AES functions in a jiffy. If you're one of the chosen ones who must follow the path of the great assembler god Binary then turn to page 102. The rest of us can merely stand about confused wondering what the hell is going on – unbelievers.

Desktop Icons

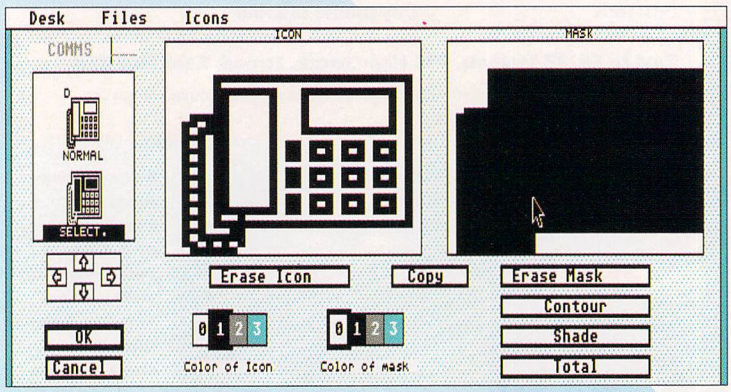
BY: CODEHEAD SOFTWARE AND PRESSIMAGE
FILES: DESKICON.TOS
SIZE: 50K
UNCOMPRESSED SIZE: 98K
GETTING STARTED: SEE BELOW

Last month we showed you how to upgrade your ST's operating system to TOS 2.06, now we give you two programs to enhance your new Desktop.

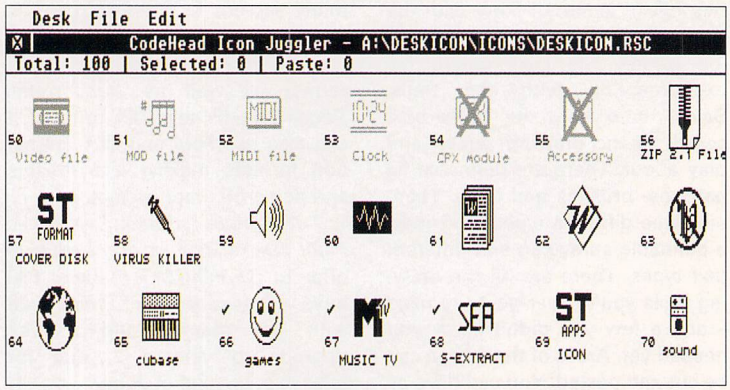
Copy the DESKICON.TOS file to a blank formatted disk, then double-click on the DESKICON.TOS icon to unpack it. In a few minutes all the files and folders are created and ready for you to use.

One of the great things about the latest version of the Desktop is the ability to assign individual icons to files so that you can quickly identify programs and files just by glancing at their icons. These two programs enable you to design and add beautiful new icons to your Desktop.

Makelcon enables you to create and edit icons and store them in resource files although you are limited to files containing 54 icons. When you are designing icons it's best to create them in batches of ten and save them in small .RSC files. The program is fully driven by menus and very simple to use, just point and click on the various options you want to use and, er, use them.



■ **The icon designer enables you to create your very own personalised Desktop icons. Masks can be created automatically to give you the highlighted version of the icon.**



■ **The *Icon Juggler* enables you to combine up to 500 icons in the DESKICON.RSC file, for practical reasons you should limit the file size to 64K, that's about 200 icons.**

Icon Juggler is a Shareware program from CodeHead Software and is supplied with a text file containing instructions that explain how to use the program and how to register your copy.

This text file also contains full details of how to merge, cut, paste and delete icons from your files. Up to 500 icons can be loaded into a single master resource file, and you can then create customised DESKICON.RSC files for your setup. We have also included an example DESKICON.RSC containing 100 icons to get you started and give you some ideas so you can get started with designing your own icons. It's great fun!

STF WARNING

Always, work on a backup copy of your original DESKICON.RSC file, never on the original. Make a backup copy of all your original TOS 2.06 files supplied with your Mega STE or TOS upgrade and keep them safely tucked away just in case you have any problems later on.

Dungeon Master Solution

BY: GORDON LONGLEY
RESOLUTION: MEDIUM OR HIGH
FOLDER: DUNGEON
FILES: DUNGEON.TOS
UNCOMPRESSED SIZE: 30K
GET STARTED WITH:
SEE OPPOSITE

Dungeon Master remains one of the all-time classic games. Quite a few fans of this game, however, seem to be having a spot of bother battling through the 14 levels of devious puzzles and vicious monsters. So, to help you out we asked for a complete solution and got heaps of replies.

It's a big game and, rather than take up pages of valuable Gamebusters space, we've put it on the disk in the form of a text file. The document reveals all about the spells, magic items and how to defeat those puzzle chaps.

Copy the file DUNGEON.TOS to a disk with 32K or more of space and run it. A text file extracts itself and appears on your new disk. You can now load it into a word processor or read it from the Desktop by double-clicking on it and selecting Show from the alert box.

You can now go ahead and cheat to your heart's content – and all for the noble cause of completing *Dungeon Master*.

Cover Disk Back-up

BY: BRIAN TILLEY
RESOLUTION: ALL RESOLUTIONS
FOLDER: BACK_UP
FILES: BACK_UP.TOS
SIZE: 12,728 BYTES
GET STARTED WITH:
BACK_UP.TOS

You've pulled your precious Cover Disk off the front cover of *ST FORMAT*. So, what do you do next? Whack it into the drive and start playing with all the goodies? You can stop that right away. No matter how careful you are there's always the chance of something somewhere going wrong and trashing some of the programs. To be absolutely sure you should make a backup copy of the disk.

We use a special format to squeeze lots of stuff on each disk so you can't do a standard Desktop copy. You could drag each folder across to drive B, but it takes a horrendous number of disk swaps. The smart way is to use the *Back-Up* program we put on every disk, it's fast and very efficient.

First write-protect your disk so nothing can be changed on it. Move the little black tab at the corner so you can see through the hole. Get a spare disk ready and run BACK_UP.TOS. Up pops the options, press <1> to start copying. Swap disks when prompted and that's it done.

The source disk is the one you are making a copy of and the destination disk is the one you are copying it to. If you're sporting two disk drives then drive A is used for the source disk and drive B for the destination. *Back-Up* also makes use of all the available memory, so if you have 1MByte or more you only need to make one single disk swap. Heaven!

Back-Up can be used on most other disks too, press <2> to see if it's possible. Don't expect it to copy protected disks though 'cos that's why they were protected in the first place. Other than those it'll produce quick and easy copies of all your disks, super.

No Borders

BY: ALEX JOHNSON
FOLDER: BORDERS
FILES: BORDER.S
TOTAL SIZE: 9K
GET STARTED WITH:
SEE BELOW

Hands up, Geoffrey French, this is for you and anyone else who dabbles in assembly code and fancies getting rid of those borders at the top and bottom of their ST's screen. This really rather ingenious piece of source code can do just that. Turn to the full question and answer session in ST Answers on page 56.

GALAXIANS

This arcade blaster from last month's Disk works on all STs. What we unfortunately forgot to mention was that it needs to be in an Auto folder on 520 STFMs. Get a blank disk and create a folder called Auto on it, now copy the GALAXIAN.PRG into it. Now boot with this disk in the drive and the game loads and runs automatically.

What's your problem?

1. This Disk won't load!

Before you do anything else, check your drive. If it's older than 1988, it's probably single-sided and can't format any disks to more than 360K – this also means it can't read *ST FORMAT* Cover DIsks. Single-sided drives are obsolete and it's well worth upgrading. Replacement drives are easy to fit and cost as little as £35.

So your drive's spanking new, or at least it's double-sided, and you still have a problem. *ST FORMAT* duplicates thousands of Disks every month so, unfortunately, some are bound to be defective or damaged in some way. If the Disk just won't load, or you can't open a window at all, there's nothing in it, or the folder names are gobbledegook – the Disk is defective. It doesn't happen often, but please accept our sincere apologies. You're guaranteed a free replacement if you return the Disk to:

***ST FORMAT* July Disk Returns,**
PO Box 21
Daventry
NN11 5BU.

Enclose a sturdy unstamped self-addressed envelope – we pay for the postage – and a brief letter explaining the problem, what hardware it is on and the version of your operating system. If you're worried about sending your precious Cover Disk via the normal service, the Royal Mail's Recorded Delivery service costs only 30p on top of the normal postage.

Please don't send your defective DIsk to any other address than the above one – we have no stocks of Disks at the Bath or Somerton offices.

2. I can't work out this Cover Disk program!

Your Disk seems OK; everything loads, but you've got a problem with one of the programs. Make sure you've read all the relevant Cover Disk pages and any document files on the Disk. Try consulting your ST owner's manual – that may have the information you need. Still got a problem? Then give us a ring on Wednesday afternoon. Telephone the *ST FORMAT* Cover Disk Hotline ☎ 0225 442244 on Wednesdays between 2 – 6 pm only.

We don't write the Cover Disk programs ourselves and don't know as much about them as the programmers, but we'll do our utmost to sort your problem out. Please note that the above phone line is for Cover Disk problems only. If you have any other queries, read on!

3. I have a problem with this other program I bought!

The best place to start is the distributor of the program. Most software houses run some kind of helpline service – check the information that came with your software for the number.

4. I've still got an ST problem!

If you still have a problem, you suspect your machine may be faulty, or you need an answer to a more general query – then you have two options;
(a) Ring the official Atari Helpline ☎ 031 332 93233 on any day from Monday to Saturday 6 pm – 11 pm or on Sundays from 8pm to 11pm.
(b) Write to ST Answers, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW – and let *ST FORMAT's* team of experts tackle your problem in the pages of *STF*. To help us when sorting, could you please indicate on the envelope what type of problem it is – for a full list, turn to ST Answers on page 56. Cheers!

Share your program with *STF*

We pay for your software – games, utilities, demos – anything good, original and short. If you've written anything worthy of appearing on *STF's* Cover Disk, send it with this form and full documentation to: Chris Lloyd, *ST FORMAT* Cover Disk Editor, 30 Monmouth Street, Bath, Avon BA1 2BW. Please be patient: we get absolutely loads 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, please explain concisely what your program does and why you happen to think it's so amazingly brilliant.

Remember to: ■ Include on-disk and paper documentation ■ Write your name and address on the disk ■ Use a virus-free disk ■ Contributions are non-returnable, so keep your own copy of your program ■ Enclose an attractive bribe. Not that it makes any difference.

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 _____

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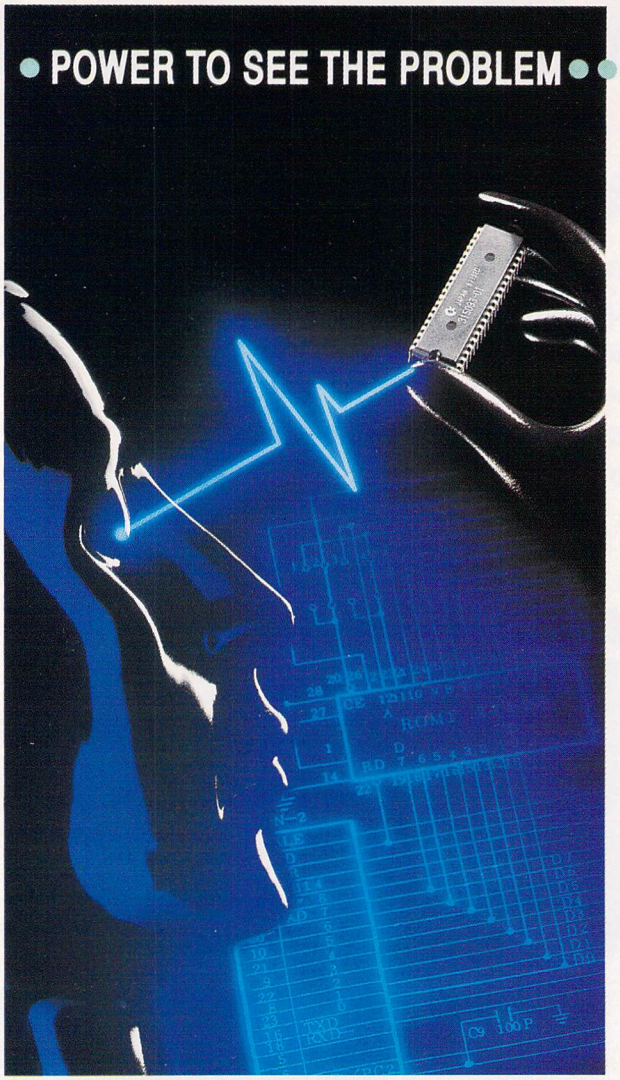

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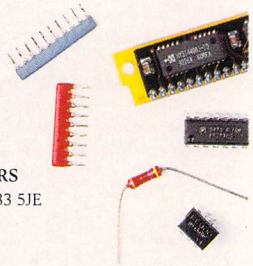

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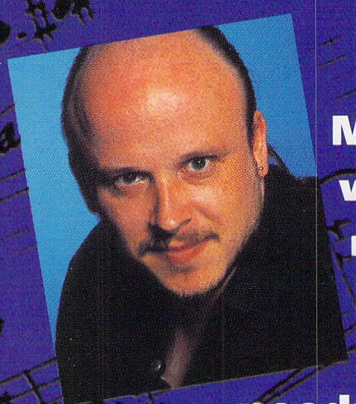


Making music with your ST really is a piece of cake - and needn't cost a fortune. Karl Foster, editor of *STF*'s sister magazine *Future Music*, shows you how to get started

Start making music with Composer Two, a complete MIDI sequencer, on this month's Cover Disk

Ever wanted to cut it as a musical superstar? The fame, the money the gigs and groupies – well, I can't promise you that, but I can certainly show you how easy it is to make music with your ST.

Nowadays many professional musicians are using computer power to help them make hit records – listen to any song in the charts and it's odds-on there'll be an ST behind it.

The factor that makes computers such a dominant force in music is that they free up creativity like no other tool can. There was a time when you'd have to learn to play an instrument before you could start putting songs together, which meant spending lots of time practising and acquiring an understanding of musical theory. Now things are very different, computers provide the means to be creative without years of struggling with the techniques of the medium.

So how come the ST is such a popular choice for music makers? Well, aside from the fact that it's a powerful and cost-effective machine, the main factor is MIDI.

MIDI stands for Musical Instrument Digital Interface and was dreamed up back in 1981 by a bunch of chaps who wanted to find a means by which electronic instruments could exchange information with each other. The problem was that with so many different makes of synthesizer on the market, nobody had a standard way of connecting several together so you could access sounds via a single controlling keyboard or computer.

The MIDI communication language was accepted as the solution and instruments everywhere began sprouting MIDI sockets. Atari got wise to this pretty quickly and decided to put MIDI ports on the ST as standard – every other computer platform needs an external interface – neatly plonking their machine at the top of the heap as far as software developers were concerned.

It resulted in heaps of top-notch music software being developed for the ST, which is great news for aspiring, ST-toting musos. Of course, you need more than just the machine itself, so let's look at some low cost ways of exercising your musical muscle.

MAKE A NOISE

Let's start from the very beginning. What do you actually need to make some form of noise?

WHAT YOU NEED TO GET STARTED

Roland's SC-7 is one of a host of low-cost tone modules that have been developed specifically for home computer users

ENTER THE WORLD OF...

First off, you need a MIDI-equipped tone generator to actually make sounds – perhaps a synthesizer, which creates sounds electronically, be they similar to real instruments such as violins and trumpets, or sounds that don't occur in nature like buzzes and bleeps. Or you could use a sampler, by which you can record snippets of sound digitally, modify them and then play them back at different pitches.

Either way, there are two important considerations when buying: polyphony and multi-timbrality. A tone generator's polyphonic capability governs the number of notes it can sound at the same time – if you want to play chords, you'll need a polyphonic sound source. Many synthesizers offer between 16 and 32 notes of polyphony, so there's plenty of scope for complex chords. Multi-timbrality means that the device can play more than one timbre, or sound, at a time. For example, if you have a piano piece and you want to add a bass guitar line, a drum pattern and some flute on top, rather than using four separate tone generators a multi-timbral one can deal with all the different parts in one go. Most multi-timbral sound sources offer between eight and 16 parts.

Of course, the most important factor when buying a tone generator is how the thing actually sounds. Here's where cost comes into play – if you pay more you get better-sounding instruments and more flexibility when modifying sounds. However, if you're a bit cash-strapped there's a cost-effective solution: a dedicated tone module and controller keyboard (see the What You Need To Get Started diagram above).

"But why do I need a keyboard when my ST has one?" you cry. While it's usually possible to enter information into a sequencing package via a mouse or QWERTY keyboard, it's much quicker to play notes in from a piano-style keyboard. And there are plenty of features in a sequencer to help you even if you have real trouble hitting the keys at the right time.

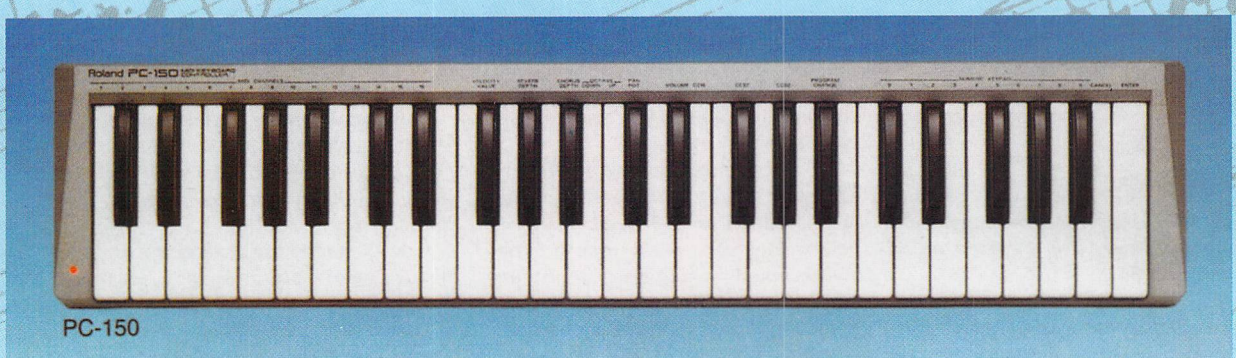
One company that has an eye towards the computer market is Roland with their PC-150 MIDI controller keyboard (£139) and SC-7 Sound Canvas tone generator (£279).

The keyboard can be plugged into the ST's MIDI In port and used to enter notes and all manner of other MIDI information into your sequencer. You can listen to the results via the 28-voice polyphonic, 16-part multi-timbral synthesizer that is the SC-7 simply by plugging it into the MIDI Out port of your ST

...GARY NUMAN

Gary Numan is still plugging away with an STFM with a 20MByte hard drive. For sequencing he uses Emagic's Unitor interface and *Notator*, but raves about his sound editing software, Digidesign's *Sound Tools*. "*Sound Tools* is one of the biggest aids for me. It's put a whole new dimension into recording. I no longer worry about the order I record things in: I can do a rough arrangement of a track and then do the serious arranging at the end."

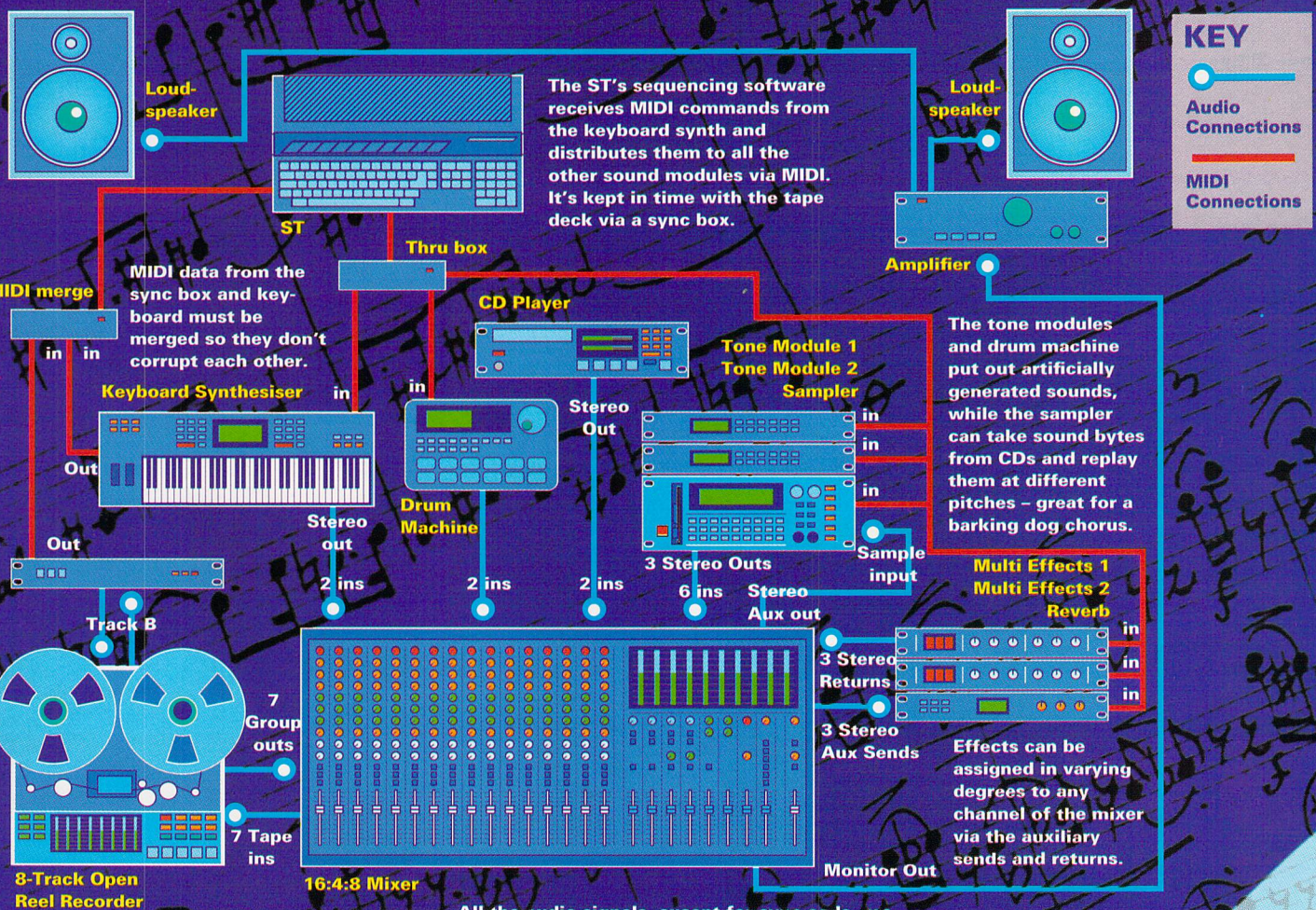
While you can enter MIDI data from your ST's keyboard or with a mouse, a keyboard, such as the Roland PC-150, makes life much easier. Even if you are a keyboard klutz, it's still an easy option because you can slow the sequencer right down and enter notes very slowly. Then just speed the sequencer up for playback.



PC-150

THE PROFESSIONAL SETUP

Here's an example of the kind of MIDI music setup you could build around your ST to achieve really professional recordings

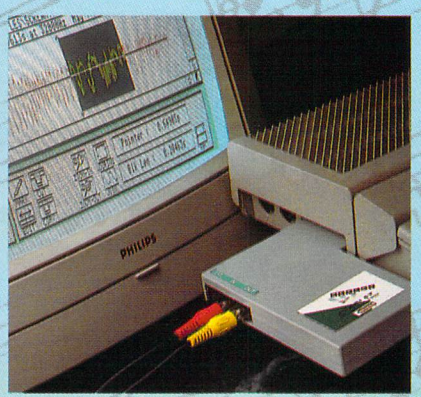


and connecting the SC-7's Audio Outs to your hi-fi. With six drum kits and 128 different sounds available, you can create multi-part musical arrangements for not much moolah at all.

This modular concept of desktop music (DTM, as it's becoming known) is being picked up by many leading music manufacturers and has prompted them to agree on something called General MIDI. GM-compatibility means that a tone source has certain sounds in certain set places – sound one would always be a piano sound, while sound 60 would be a brass instrument. So when someone hands you a disk containing a sequence they've composed on their particular GM-compatible DTM system, all you do is load it into your ST and the sequence plays back with all the right sounds – you won't get a squadron of helicopter noises playing the pan pipe part, for example.

If sampling is your bag, you could try Microdeal's 16-bit *Replay 16* sampling cartridge (£129.95). It offers the facility to record samples at up to 48kHz – that's better than CD quality – and they can be triggered by a sequencer or keyboard using the included *MIDIplay* software. Considering most dedicated samplers costs more than £1,000, it's a wonderfully inexpensive way of getting into sampling.

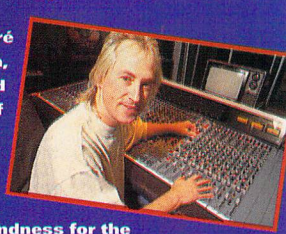
From such simple beginnings you can expand your setup, adding a dedicated drum module for quality percussion sounds, a full-blown synthesizer with piano-style weighted keys, a dedicated sampler, MIDI-controllable effects units which add all manner of weird treatments to sound – see the diagram above for an idea of how big things can get.



Have a shot at sampling with the low-cost *Replay 16* cartridge from Microdeal.

ENTER THE WORLD OF...

...ANDRE JACQUEMIN



André Jacquemin, famed producer of such leading acts as Robert Plant, Toyah Wilcox and the Monty Python team, has a particular fondness for the ST: "I'm a great fan of Ataris. We have people coming in with Macs quite often, but I find they're slower than STs, and with the Atari Falcon, which I'll certainly be getting, the processor speed is a lot quicker."

...808 STATE

Graham Massey, main man in 808 State, has an Atari 1040 STFM and Mega 2, both of which run *Cubase* sequencing software. He enjoys the flexibility that the set-up offers when composing: "It's more about organising choices rather than having a clear vision about how something will sound. We never structure things with *Cubase* too much; in that way we have a lot of options."

SOFT CHOICE

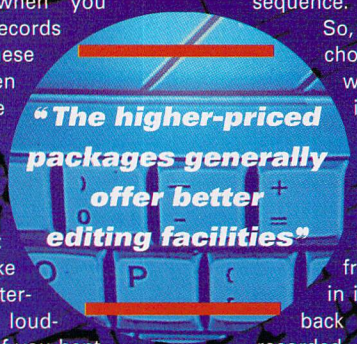
Now that you've got noise, you need some software that helps you to make it sound interesting

The most important bit of software you need for making music is a sequencer. These packages record MIDI messages into the ST's memory and sends the data to MIDI-equipped devices like synths.

Imagine how music was made in times past: the composer would knock up a tune and write it down as score on manuscript paper. If the piece was going to be played by an ensemble, all the individual parts would be written down separately, including instructions on how loud certain parts are to be played, the tempo of the piece, and so on, then handed to each instrumentalist and played back.

This is pretty much what a MIDI sequencing program helps you do. The instruments are connected to the computer via MIDI and you can input instrument parts just by hitting Record and playing the notes in from your MIDI keyboard. Each time you hit a key the sequencer records a Note On message, then when you release the key it records a Note Off. These instructions are then passed on to the instrument.

There are many other MIDI messages floating about in there: how fast you strike a key (Velocity) determines the relative loudness of that note; if you bent a note with the Pitch Bend wheel on the keyboard, that instruction would be detected and recorded; if you decided to tell one of your synthesizers to change to a different sound during the piece (Patch Change) then that would be recorded as part of the sequence.

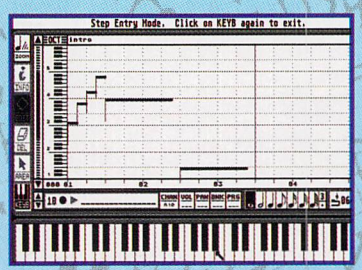


"The higher-priced packages generally offer better editing facilities"

So, you've recorded a chord sequence and want to add other instrument parts to it. No problem. There are 16 MIDI channels, so you can address up to 16 MIDI devices from the ST's built-in interface. Just play back the sequence recorded and then record another part on another channel. And if you make a hash of one bit of it, go to the sequencer's Editor screen and correct your mistakes there rather than recording the whole part again.

Choosing the right sequencing program comes down to how much you can afford and personal preference. The higher-priced packages generally offer better editing facilities and access to banks of MIDI channels – Emagic's *Creator*, for example, gives you four banks of 16 channels on which to record, though you need

CREATE



Each note of your masterpiece can be entered one at a time using *Breakthru*'s on-screen piano-style keyboard.

ENTER THE WORLD OF...

So, you've got all the bits of your MIDI set-up under control. How about writing a tune or two?

There's no standard approach to composition – some people lay down a "groove," like a drum pattern and bass sequence to get them going, while others start with a melody or chord sequence. One practice that is standard, however, is that a piece is built up a layer at a time. Using Gajits' *Breakthru* sequencer/sample player (check out our special offer on page 98), let's look at how a track takes shape.

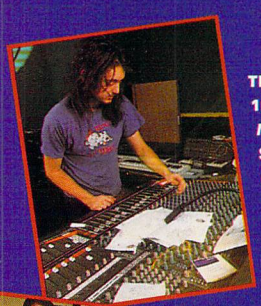
First you need to get your initial tune into the ST. So either hit Record and play it, fumblingly, from your MIDI keyboard, or enter it in step time using the program's on-screen keyboard.

Step time entry is useful for the keyboard klutz. Each note can be individually placed at the right pitch and at the right point in the song, which is good for building up impossibly complicated sequences a little at a time. For the more competent, timing errors in a live keyboard performance can be automatically compensated for with quantization, by which the ST looks at each note, sees if it's fallen just off the beat and tweaks it back into the right place.

Now we've got our melody line, let's add a beat. *Breakthru* has a Drum Edit page with which you can define the sounds of the drum kit you want to use, then fine-tune the rhythm part – how loud each beat sounds, where it falls, and so on.

A while later, and we've got channels stuffed with sequences that play back simultaneously. You can see the MIDI channels on which each part has been recorded – the drum machine is being addressed on Bank A, Channel 10 (yup, *Breakthru Plus* offers two banks of 16 channels), while the sampler playing the Orchestral Hit is set to receive on Channel 5.

The numbers in the next column show the volume at which the

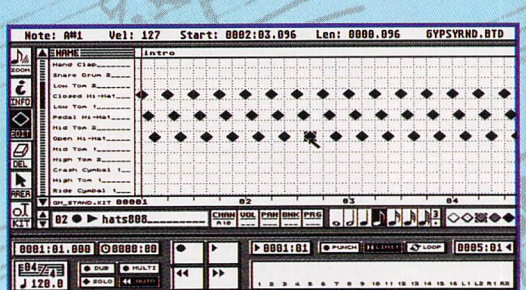


...THE ORB

The Orb's Kris Paterson uses a 1040ST with Emagic's Unitor and *Notator* software on-stage. The ST is synchronised to a digital multi-track tape deck.

...BIZARRE INC

Bizarre Inc, who struck major fame with the single *I'm Gonna Get You*, have a number of 1040STEs running *Cubase*. Each band member comes up with ideas on his own and they swap disks between them to knock the songs into shape.



Time to tweak the drum part. Getting your percussion just right is essential to building a good groove, and it can all be perfected on the ST's screen one beat at a time.

The Falcon has landed

Your ST is a brilliant music making tool, but there is now an even more brilliant machine in the shape of the Falcon

Just as the ST was the leading music computer of the 1980s, so the Falcon looks like being top dog in the '90s. Its impressive 32-bit processing and 16MHz turn of speed aside, the major factor for musicians is its built-in 16-bit digital-to-analog and analog-to-digital convertors – no other major computer platform has these convertors as standard, and they cost a fair penny as peripherals.

What makes this facility so clever is that it enables you to record audio straight to your hard drive at CD quality. The possibilities are impressive: once you've recorded, say, a vocal track, you can use software to move parts of the take around (useful if you've just

A SONG

A SEQUENCER TO MATCH YOUR NEEDS

Here's a bunch of leading sequencing packages for your ST in a variety of price ranges

Concerto, £39.95 from Microdeal, is a great entry-level sequencer which scored 87% when reviewed in issue 36.

Feeling Partner, £149 from Music Pro Import, is a very user-friendly sequencer which earned an *STF* Rating of 85% in issue 40.

Breakthru, £129.95 by Gajits Music Software, scored an impressive 90% in *STF* 47 for its price and power.

Notator SL 3.1, £329 by Emagic from Sound Technology is an extremely powerful, mid-priced sequencing package with a great scorewriting feature and scored 90% in *ST FORMAT* 39.

Cubase 3.0, £449 by Steinberg from Harman Audio has a very flexible graphic song arrangement page and is widely used in profesional studios. It scored 91% in *STF* 39.

Cubase Audio Plus, £669 by Steinberg from Harman Audio, includes *Cubase Score* and can handle digital audio recording.

a special four-way MIDI interface to use all 64 available. Some even offer scoring facilities so you can print your sequence out as notes on staves, then real musicians can read the parts and play them back.

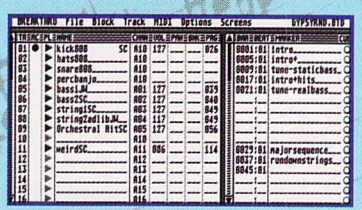
But there are still some very worthy programs below the £200 mark. See the panel above for recommended buys.

Getting softer

There are other music-related programs that can help you in your compositional endeavours. Most synthesizers present an unfriendly face when you come to edit their sounds. True, the manufacturers do try to make creating new sounds as easy as possible, but you're often left struggling with an uninformative LCD display and the onerous task of paging through rucks of parameters with little more than a data wheel and a pair of Yes/No buttons.

This is where editors come in. You can literally take control of the innards of your synth via MIDI by loading the appropriate editor program into your ST and tweaking sounds from its much friendlier interface. Many editors double as librarians, so once you've created banks of shiny new noises you can save them to disk and pump them back into the synth whenever you like.

If you've got a sampler there's even more fun to be had. The digitised recording that is a sample can be transferred from your sampler to a sample-editing program on your ST and then apply various treatments to it. For example, finding that elusive point in a violin sample so you can loop it without it going "clack" each time the join in the loop goes past. You can also mix the sample with another sample for some really weird effects.



The status of each instrument part can be quickly assessed on-screen.

instruments are being told to play. Incidentally, changing volume over MIDI as part of your sequence is handy when it comes to mixing the final track because you can pretty much automate the whole process and never have to touch a fader on the mixing desk.

On the right-hand side of the screen is a window where you can see how the song's parts are being structured. Rather than recording a song in one big lump, most people break their compositions up into bits – like intro, verse, chorus and wibbly bit in the middle – work on each section and then string the bits together, defining at which point each should be played in Arrange mode.

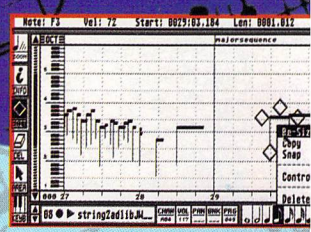
But wait! There's a mistake in the string part. Let's whiz to the Step Edit page, zoom in on a graphical representation of our tune and tweak that offending note. We could change its pitch, drag it to fall on or off the beat, extend or reduce how long the note plays for, how loud it plays and much more. All sequencers enable you to do this and it's easy to achieve note-perfect results with a little patience and judicious use of the Edit mode.

And that, in simple terms, is how songs are written with a sequencer. Of course, if your creative juices are a little shy to flow, there is other software that'll help get things nicely moist.

An auto-accompaniment package, such as PG Music's *Band-in-a-Box* (£79, from Zone Distribution) enables you to put together chord backings so you can play away over the top and make up tunes that way. Or you could try Creative Sounds' *Jazz Improviser* (£149) which you interact with to gain a good understanding of jazz techniques.

But if all this making it up business is not your thing and you just want to singa-longa karaoke-style, there are plenty of libraries out there offering hit songs as Standard MIDI files which can be loaded sraight into your sequencer. Hit Play and you have the backing track to Michael Jackson's *Heal The World* (Pro Music, £5.95) wending its way to your General MIDI-compatible tone module and pumping out of the speakers.

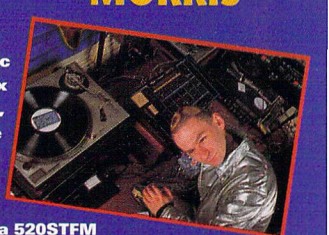
Making music on your ST is really that inexpensive and that easy, so don't just sit there, go and make some serious noise. **stf**



Changes can be made using powerful editing tools.

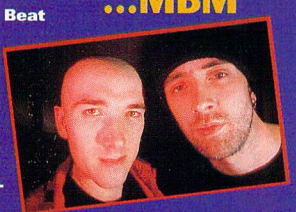
ENTER THE WORLD OF...

...MIX MASTER MORRIS



Leading disc jockey Mix Master Morris, aka The Irresistible Force, is a big noise on the ambient music scene. For his own mixes he uses a 520STFM running *Dr T's KCS 1.5* sequencer, but having just done an album with Pete Namlook - the most prolific producer in Germany - he's thinking of putting more power into his MIDI rig: "His studio is all 1970s classic synths, all retro-fitted by experts and all controlled from *Cubase Audio* with 2GBytes of hard disk. It's one serious set-up! Having worked there, I've been invited to other electronic music studios across Europe and I'm convinced this is the way to record."

...MBM



Heavy dance outfit Meat Beat Manifesto dumped their Roland MC500 hardware sequencer when they found it was too hard to use. Instead they plumped for a Mega 4 ST and Steinberg's *Pro-24* sequencing software.

sung one chorus perfectly and want to copy the same performance to every other chorus in the song), add effects such as echo and chorus digitally, reverse takes, change their pitch... It's gonna be a biggie in recording studios everywhere and is probably destined to make the multi-track tape deck obsolete.

Already D2D Systems' *4T/FX* (£299 – check out the review on page 53) uses Falcon hardware to sample to hard disk, and effects can be added to the tracks with the Falcon's 56001 DSP. Slightly more pricey is Steinberg's *Cubase Audio* (£699), which offers eight audio tracks running alongside the powerful, 512-MIDI-channel-munching *Cubase* sequencer.

There are plenty more developers out there jumping on the Falcon bandwagon, so it looks like good times ahead for Atari's new baby.

POP GOES THE LEMMING

Are the Lemmings destined for yet more fame and glory? Rob Mead pops down to Camden to talk to the people responsible for giving the little green creatures a chance to top the music charts

■ Lemmings are go!

Food Records are usually associated with indie bands like Blur, Jesus Jones and the KLF, but their latest project is a cash-in single based on the top-selling ST game *Lemmings.* With the imminent release of *Lemmings 2*, *STF* decided to meet SFX – the band behind the record – and find out what they get up to in the studio.

A whole load of acronyms

Ex-KLF members Ian Richardson and Nick Coler are the main protagonists in SFX – established especially for the record. Normally, Ian and Nick are responsible for producing records by other artists, but this time they're seeking fame for themselves. Their studio setup consists of a 1040STE running *Cubase,* a DX-7 synth, eight samplers and a couple of drum machines. However, neither of them admits to knowing much about the technical aspects of the equipment they use and have only been to one MIDI show. Nick reckons *Cubase* is better for rock music, because you can get the whole song on-screen and that makes editing a lot easier. They also use their ST for putting down rhythm tracks before they let the human musicians play.

Ian and Nick's involvement with the KLF goes back as far as the band's 1987 album, which they engineered. The two were involved in producing and playing on all of the KLF's hits including *What Time is Love?* and the Timelords offshoot single *Doctorin' The Tardis.* There was plenty of dressing up in stupid outfits involved, as Nick explains, "The one we had to wear on the Christmas *Top of the Pops* show was fairly stupid, because we had to have rolls of paper on our heads, gaffer-taped to our faces." Ian sums it all up by saying, "You know when the KLF say 'can you be in the video?' you're going to have to dress up and make a prat of yourself."

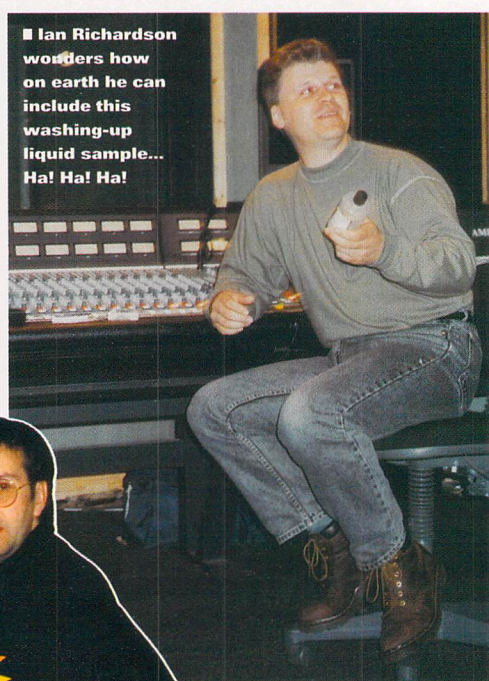
Surprisingly enough, the KLF connection has made its presence felt on the *Lemmings* single – if you listen carefully, there's a sample from every KLF record on there somewhere.

How was it put together?

"We got the melodies and relevant samples from the DAT that got sent down by Psygnosis... The samples and the ideas are obviously from the game, the rest of it we put together ourselves, with chords behind it. We wrote the lyrics, the lyrical bit and the singing bit and then we got a guy in to write the rap." Erm, which guy? "I don't know what his name is. I know his name's Hubert." says Ian. So how would they describe a typical day at the cutting edge of pop?

"A typical day for us is turning up to the studio, go to the cafe and have a muffin, omelette, chips and beans. Go to the pub, have a couple of beers, come back to the studio, have a look at the gear, go back down the pub again, then come back by which time our two apprentices we keep locked in the cupboard have done the track for us and we bask in the glory of it all," jokes Ian. "Everything else is a lie, apart from the bit before the basking in the glory," says Nick.

Nick and Ian come across as a bit of a comedy duo when you meet them – Nick even looks a bit like a young Peter Sellers – and their whole musical philosophy is not to take what they do too seriously. "At the end of the day, anyone who makes music for a living has to realise they're bloody lucky to be doing it... We're just having a bit of fun, making a bit of music, enjoying ourselves and getting paid for it." ***stf***



■ Ian Richardson wonders how on earth he can include this washing-up liquid sample... Ha! Ha! Ha!

The pop is dead debate, part 24

Do you believe computer games are taking over from music? We asked SFX what they thought about the current music scene

What do you think of the state of the music industry?

Nick: "Boring. There's not enough anarchy in it."

Ian: "We like a lot of explosions, violence."

Nick: "It has to be like driving in second gear all the time, when you get that thrust of acceleration. If you haven't got that, what's the point? Music should be different, different from every day life, otherwise there's no point in doing it. That's what is wrong at the moment."

Is too much technology killing music?

Nick: "There's so much stuff that it limits people's imaginations sometimes. They're given too much. They've made synthesizers incredibly boring because you can sample everything now, so all they do is get a load of chips and blow samples all through the chips and that's the end of it... It doesn't matter whether it's any good or not. That's why we're trying to get back to doing something a bit more exciting. What happens with all that stuff is there's no soul in it, there's no personal contact."

Anyway, what do you think? Write in to Pop is Dead, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW and tell us.

Check out the *finished* version of *Lemmings 2* next month!

■ Nick Coler shows off his 1040STE. Can you spot the copy of *ST FORMAT*?

AMITAR

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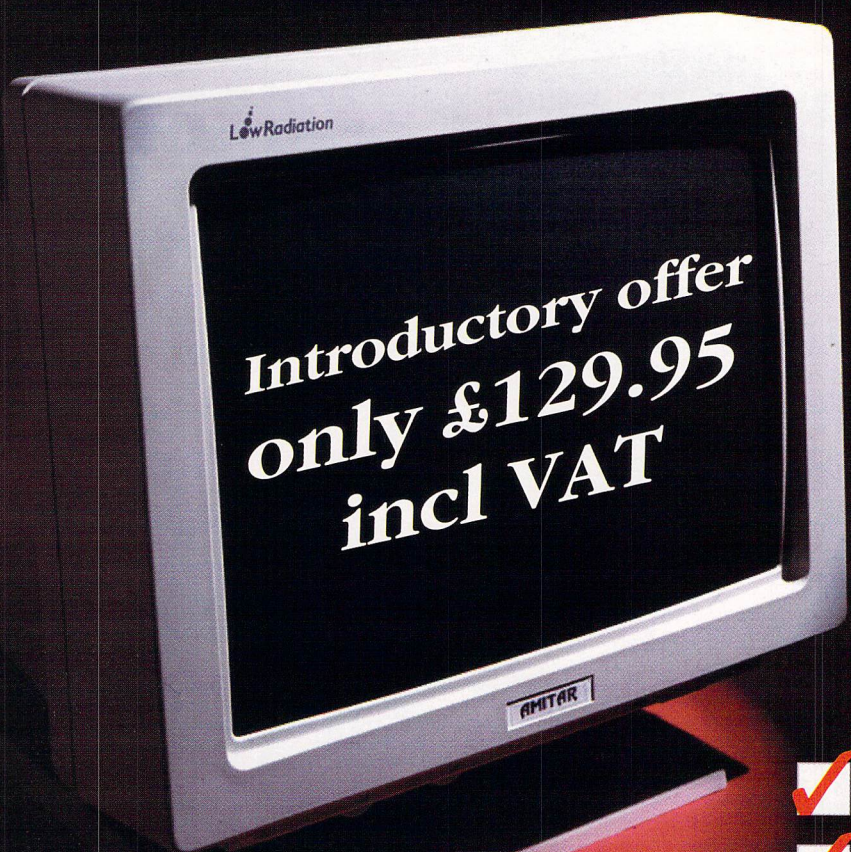

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ANALOGIC
ANALOGIC
ANALOGIC

DEMONSTRATION

Nestling in the lists of programs from the PD libraries are those strange beasts known as demos. So, what are they all about?

A colour-shock screen, get as many colours on-screen at once and have them waving about! Your ST never looked so colourful, this screen is from the *Pandemonium* demo.

Colour cycling is a very easy way to get eyeball-popping visuals without breaking into a sweat. The colour palette is cycled through rapidly giving an impression of animation.

What the hell are these demo things that keep appearing in the Public Domain, then? They're not games or applications, and you can't do much with them except watch and press the occasional key. So what's the point?

Demos are put together by programmers to show what they and their STs are capable of. You get wacky soundtracks and all sorts of chaos happening on your screen with scrolling lines of text, loads of colours and impressive effects.

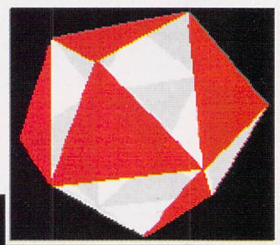
That's the point, you see, you're supposed to be impressed and entertained. There are no pretensions to anything else. The performance of your ST is taken to the limits. Take a look at some of the better demos (check out our top ten) and prepare to be seriously gob-smacked.

This is Megademo land

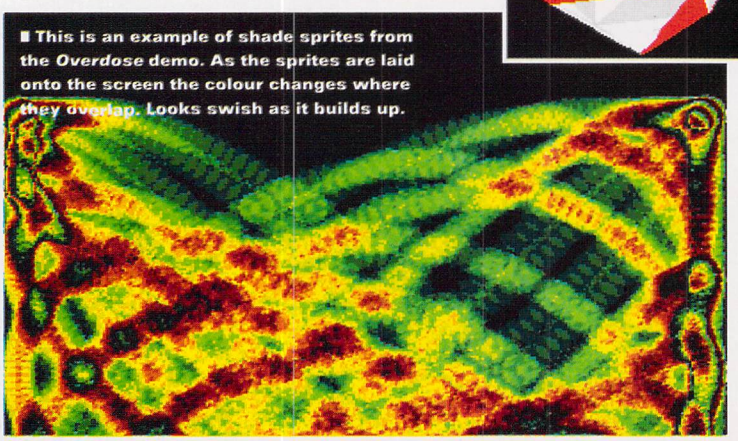
Demos usually consist of a series of screens – that is, sections of code that show off one effect or another – these are often linked by a menu to select the screens and hence the megademo appeared.

The classic formula for a megademo is a menu consisting of a little sprite against a scrolling background. You guide him with keys or your joystick to various points where you press the Spacebar to enter the sub-demos. Some megademos have more elaborate, 3D menus, whereas some dispense with them entirely, and the demo just runs through each screen.

All demos have zero practical value. The first question any right-minded individual might ask is, why bother? Ask a few demo programmers and you get the unanimous answer, because it's damned good fun, that's why. Programming a good demo means taking on your ST head on and trying to master it, squeezing out every last gramme of performance. It's about finding out just what is possible. How far can you push the hardware and software? How many colours can you get on the screen? Can you get rid of the borders and produce complex parallax scrolling, play a sampled sound track and bounce a sprite around the screen, all at 25 frames a



Three-dimensional objects are just not enough these days - demo writers have to go one step further. This object was created with Glentz vectors and, as you can see, you can see through the object, giving a very realistic 3D feel to it. Dead clever, that.



This is an example of shade sprites from the *Overdose* demo. As the sprites are laid onto the screen the colour changes where they overlap. Looks swish as it builds up.

Here the graphics are drawn on-screen exactly in sync with the electron beam in your monitor, the borders are opened up by changing screen frequency and resolution at exactly the same time - a neat trick that.

FEELING LUCKY, PUNK?

Anyone with a smattering of programming ability can have a bash at a demo, so why don't you?

Many people have and there are loads of less than stunning examples about. Most good demos are written in assembly, a complicated and powerful language. You can write demos in BASIC if you want to, but the lack of speed can be a severe handicap. It's a big plus to have an STE too, so you can use all the extra features and can be sure your demo is compatible.

The most important ingredient of all is an original idea to make your demo stand out of the crowd. There are lots of demos that just copy previous ones. The best ones are either original or show stunning expertise. Remember though, there's not much point in creating complicated code if the results don't show. You need some dazzling graphics and serious sounds. If you can't hack those, get a friend who can or get busy with a digitiser and sampler. Creating demos is an ideal way to learn programming as well as being a whole heap of fun. Once you've sussed a couple of practical ideas, fire up your favourite programming language and get coding.

TOP TEN FROM DEMOLAND

1 Grotesque demo
Thumping sound track and psychedelic flashing graphics, real groovy.
STF Rating: 90%

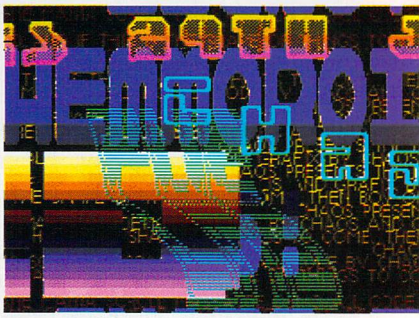
2 Punish Your Machine
Two disks of crunchy effects and amazing coding, hot stuff.
STF Rating: 90%

3 Overdose demo
A series of superb sub-demos. A megademo and a half, absolutely stunning.
STF Rating: 88%

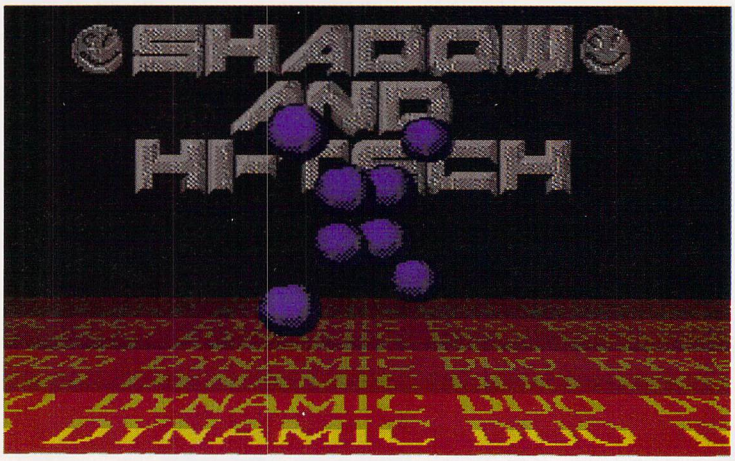
4 Oh Crikey, What a Scorcher
A fractal flight thingie leads to a cracking final screen, fab.
STF Rating: 88%

5 Red Sector Megademo
A demo that plays like a rave video, get down, terriff.
STF Rating: 85%

IN PROGRESS



■ You won't see many demos without scrolling text. The info is sometimes interesting and often very difficult to read as programmers try out devious ways of getting them on-screen.



■ The favourite of many demo programmers - vector balls. The little devils fly about the screen in a wild 'n' woolly fashion following precalculated paths. Time to brush up on your maths.

second? That's just the sort of challenge that demo programmers are looking for to keep them happy.

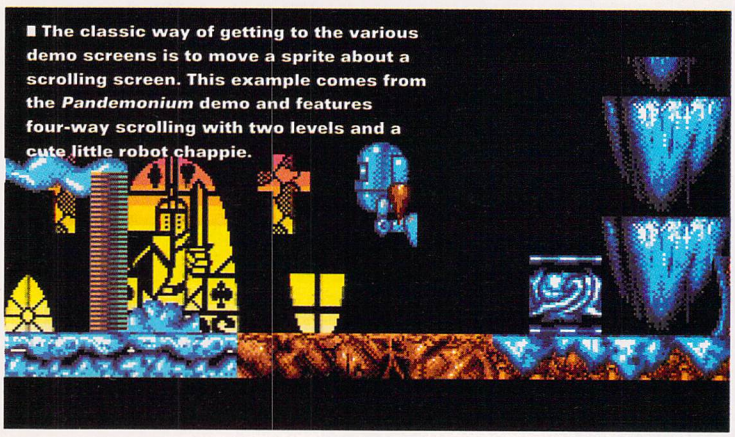
Whatever you may think, demo programming is engrossing and enjoyable and the results are a buzz. Once you've created your masterpiece, you have to let other people see it. Into the Public Sector it goes, and gets picked up by other demo programmers, keen to see what others have come up with so they can copy it, better it or just slag it off a bit in their next creation. The net result is that skill levels go up and programmers get better and better.

Writing demos is an ideal way to learn about what your ST is capable of producing. Many demo programmers go on to write games or applications, bringing all their demo writing skills to the job.

So, the next time some annoying person stands next to your ST and asks "what can it do, then?" pop a good demo in the drive, that'll shut them up.

CHRIS LLOYD

■ The classic way of getting to the various demo screens is to move a sprite about a scrolling screen. This example comes from the *Pandemonium* demo and features four-way scrolling with two levels and a cute little robot chappie.



WHO ARE THESE PEOPLE ANYWAY?

Who are these obscure programmers who spend their time creating demos?

Check out a demo or two and you notice they are written by demo crews such as the Lost Boys, the CareBears, the Pixel Twins and the like. They're groups of programmers who have joined forces to write demos. There's a strong sense of competition between the teams as they try to out-do each other.

■ Stop giggling at the back, this is what a lean, mean demo crew look like. The Dynamic Duo are responsible for some most excellent megademos. Since the Bitmap Brothers' publicity shots, sunglasses are now standard issue for all coders.

One such group is the Dynamic Duo who started life in 1987 and have released four megademos – the last one called *Imagination* was a real corker. We tracked down Marcus Lynn, AKA Shadow, one half of the duo. How did they get into the demo scene? "Initially it's experimentation, but once you get to a certain point and your group gets mentioned in other demos, it becomes competitive, fierce and generally friendly. A lot of the inspiration comes from other demos, as well as films and music demos and, strangely enough, dreams. Some of the strangest effects and ideas have been total accidents.

"The STNICCC stands for ST New International Christmas Coding Convention, and it's a three day get together for all the best groups around the globe to meet, code and be merry. Much to our surprise we won a place in two of the three competitions and were voted better than the Lost Boys."

The real question is, what kind of people get into demo coding – are they, er, normal? "People who write demos come from all walks of life, it's an escape from the mundane routines. Our social life is no different from anyone else's – we go out, spend too much money and suffer headaches the next day. As with any hobby, you have to set aside time to make it worthwhile. Demo coding has probably been my most worthwhile and profitable hobby yet."

■ One of the best screens from the *Imagination* demo is the fractal flight screen. You can adjust all sorts of parameters and use the mouse to fly about. You can even save the screens to disk in *Degas Elite* format.

■ The menu for the Dynamic Duo's *Imagination* demo features a unicycle in a 3D-Cadaver style world. Looks good but can get annoying when you have to make a map to search out the demos before you can see them.

6 Imagination demo
11 chunky screens with a fistful of zappy effects, wild.
STF Rating: 83%

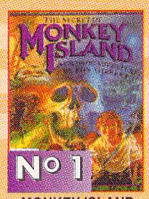
7 M demo 4
Lots of different soundtracks and wibbliness, smashing.
STF Rating: 83%

8 Pandemonium demo
Classic megademo with half a dozen brilliant sub-demos including some wild tracker music.
STF Rating: 82%

9 Stupendous Demo
Effects-city demoville, all the old favourites done in style, dead sexy.
STF Rating: 82%

10 Lightning Demo
Classic effects including a plasma screen, swish.
STF Rating: 82%

ATARI ST SOFTWARE & ATARI LYNX 2



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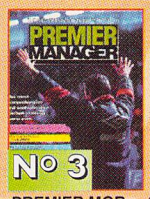

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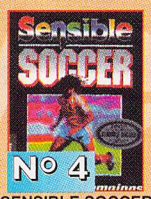

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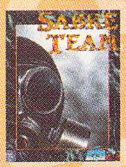

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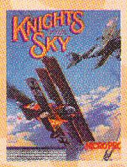

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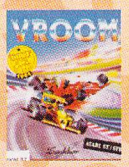

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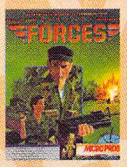

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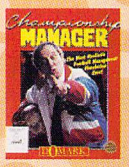

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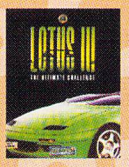

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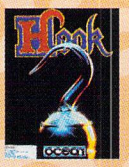

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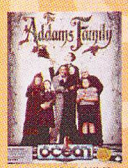

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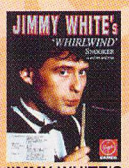

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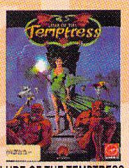

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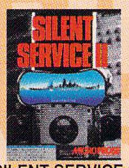

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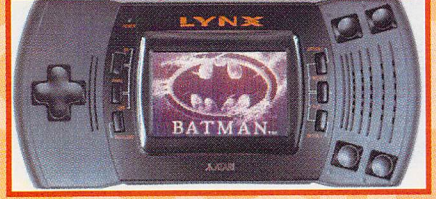

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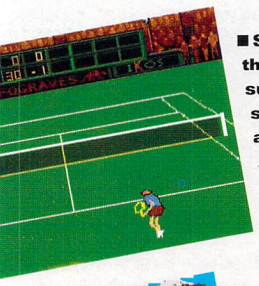
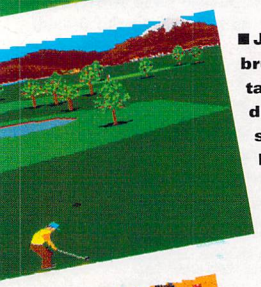
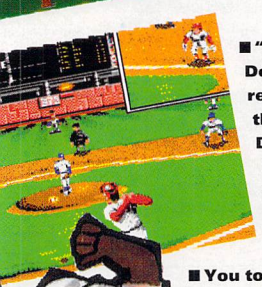
SUMMER SPORTING CHALLENGE



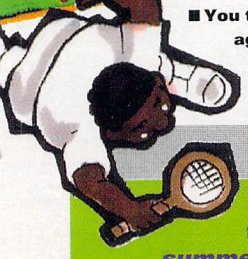
■ Strike a blow for the Brits this summer by slaughtering all-comers in *Advantage Tennis*.



■ Jack Nicklaus brutally decapitates a worm during his bid for superstardom in *World Class Leaderboard*.



■ "Hey Chuck! Doesn't this remind you of the battle with Darth Vader in *Star Wars 3*?" "Nope." "I was just asking."



■ You too can play against top tennis players, with the help of your ST.

Join in the great sporting way of life this summer and show your ST who's best. Rob Mead puts on his whites and hands out the sweat bands

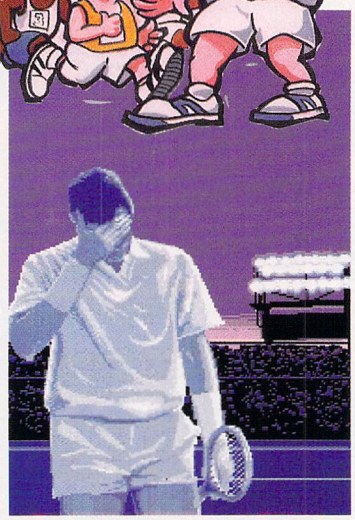
The summer's wonderful, isn't it? Hot sun, cold drinks and bronzed beauties lying on the beach. Then there's the sport. All the best sporting events happen in the summer – athletics, tennis, cricket, teenage riots, y'know the kind of thing. Hang on! How can you keep on using your ST and get involved in all that sport at the same time?

The answer's simple – there are more summer sporting games on your ST than there are spectators at a pro-celebrity golf tournament. Why risk getting sunstroke and skin cancer on an athletics track, when you can do a four-minute mile with your waggling hand? Still not convinced? Then what about the times you stagger over the finishing line only to find that fat spotty bloke got there 20 seconds before you did? At least your ST understands when you're crap, even if the fickle cheerleaders don't.

"How can you keep on using your ST and get involved in sport at the same time?"

Athletics and the Olympic games are well catered for on your ST. Empire's *International Sports Challenge* offers six different events; marathon, diving, swimming, cycling, show-jumping and shooting, while Kixx's *California Games* offers suitably summery sports like half-pipe skateboarding, surfing and flying disk – that's frisbee to you. The broad spread of events in these games translates into a wide variety of gameplay – one minute you can be taking on a management role, the next you need to do a spot of wrist-breaking waggling. You can also take comfort from the knowledge that if you mess up one event, you can make up ground in the next. The big drawback with athletics games is that it's very difficult to get the balance right. A bad compilation like *Espana: The Games '92* finds you waggling for

■ *Cricket Captain* makes a good attempt at being a decent cricket sim.



■ "That's it. My career is finished. I've just been invited to Sonia's talentless no-hopers party."

THE SUMMER GAMES EXPERIENCE

Get into the spirit of all things sporty this summer with STF's top tips for making your ST gaming experience just a tad more realistic

WIMBLEDON

Give £250 to a complete stranger in return for a glass of Pimms, a punnet of strawberries and a seat behind an extremely fat lady who's wearing a flowery hat. Now pour a bucket of water over yourself and your ST for that "summer shower" effect. Great, eh?

HENLEY REGATTA

Pitch a tent in your back garden and invite all the local toffs round. Now charge them £500 each to sit in front of your ST and marvel at a still picture of Jane Seymour standing in front of a Thames boathouse.

THE ASHES

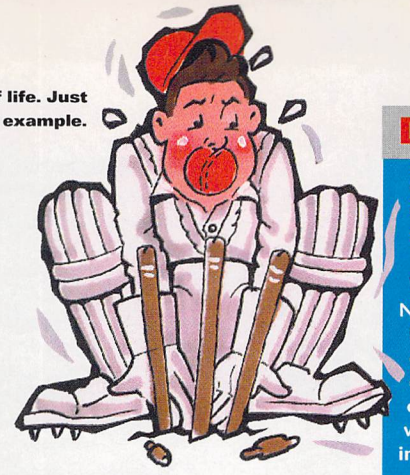
Grow a moustache and drink a bottle of gin. Load up *World Class Cricket* and say "Well done, that man," every time you lose. Fall face down in a puddle of your own vomit, pour a bucket of water over yourself and your ST and go on a tour of South Africa.

SCHOOL SPORTS DAY

Get your kid brother to snot up all over your ST, then beat him up for his sponsor money. Superglue a megaphone to Mr Boff, the science teacher's face and pour a bucket of water over your mum, dad, dog and gran before turning it on yourself.

IN A CORNFIELD WITH SUSIE

The best summer sporting event. Use all the money you got from the toffs and your kid brother to buy a big bunch of flowers. Ply Susie with champagne and give her your ST as a headrest. Now it's up to you...



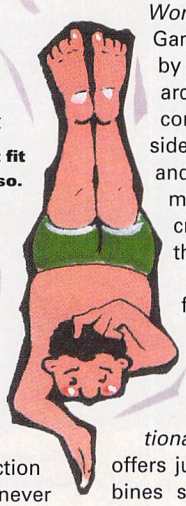
■ You can't beat the cricketing way of life. Just look at Goochie for the best example.

all your worth in every single game and, without a multi-player option, there's little to sustain your interest once you've completed it.

Golfing a round

If you're more single-minded in the pursuit of the sporting ideal you could try your hand at one of the many golf games. The best of these, *Microprose Golf*, managed to get an *STF* Rating of 95% when it was first released in 1991. The game combines impressive 3D polygons with some well-placed samples giving you the impression of actually being on a real life golf course. You can play against three of your pals or eight ST opponents and the game contains plenty of different courses and in-game options to keep you going. The attention to detail is also quite staggering – you can even change the tee height and your stance before swinging.

Another great golfing game worth considering is oldie *World Class Leaderboard* from US Gold/Kixx. Although it's not as impressive as *Microprose Golf*, it more than makes up for it with four difficulty levels and the thrill you get from steering the ball through the increasingly tricky terrain. Now on budget, *World Class Leaderboard* makes the perfect introduction to the golfing sim if you've never teed off before.



■ Cool off this summer, get fit and show off your torso.

Graham Gooch vs the World

Chatting up the birdies is all very well, but you can't beat the camaraderie of the cricket pitch. Last month we reviewed Audiogenic's excellent *World Class Cricket* – turn to page 62 to order your copy if you missed it – which finally put the cricket sim up there with some of the best footy games. Again realistic graphics and great gameplay mark this out as something special, yet you don't have to get bogged down in all those silly cricketing rules that could otherwise prove off-putting. All they have to do now to improve the game is include the pyjamas favoured by the Sunday leaguers.

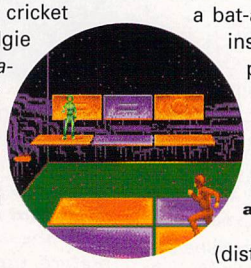
After Gooch's exploits in *World Class Cricket*, D&H Games' *Cricket Captain* pales by comparison. Instead of arcade action, *Cricket Captain* concentrates on the strategic side of this great English game and comes up with something more likely to appeal to the cricket enthusiast, rather than the casual gameplayer.

You could be forgiven for thinking that the Public Domain is an odd place to find a classy cricket sim, but Budgie UK's *International Cricket 2* offers just that. It combines strategy, arcade and management elements without costing an arm and a leg.

Love, love, love

Monica Seles' recent experience at the hands of a crazed fan shows how dangerous the genteel sport of tennis can really be. So, play it safe and install a bat-and-ball sim on your ST instead. The French seem particularly enamoured of this summer sport with both Microids (distributed through Daze) and UBI Soft being responsible for the best two tennis sims *Advantage Tennis* and *Pro Tennis Tour 2*. Of the two, *Advantage Tennis* is probably the best, thanks to some slick graphics and speech samples which exploit the umpire's American drawl, just like the real thing. Shame there are no sex scandals or tantrums though – it might take your mind off the appalling tedium of the backdrops.

Pro Tennis Tour 2 covers similar ground to *Advantage Tennis* with some excellent 3D graphics and smooth animation. The game falls down a little on the control front, however, and it takes quite a lot of time and effort to work out all the joystick moves.



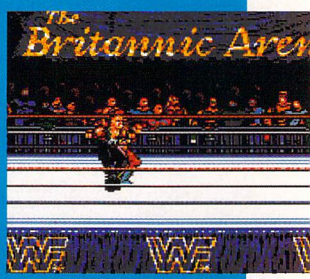
■ Fed up with cricket, tennis and golf? How about a spot of *Disc*?

Dodgy gameplay 3, your ST 0

It's no use denying it - there have been some pretty dodgy sports sims for your ST over the years. Here are the worst offenders

WWF EUROPEAN RAMPAGE - Ocean

Not so much a sports sim, more a triumph of hype over reason. Ocean managed to foist crateloads of this appalling wrestling sim onto unsuspecting gameplayers. The concept's manky, the controls stodgy and the whole thing looks like it was pieced together in the ad break during a *Gladiators* match.



■ "My shorts are not girlie pink, they've faded in the wash." "Girlie pink, girlie pink." "That's it, I'm off to join Rainbow."

PROSOCCER 2190 - Vulture

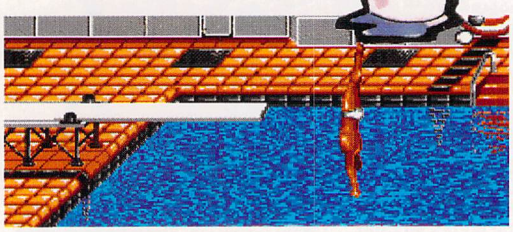
Hard to believe, but this game managed to score even more badly than *WWF* with an astounding 12%. What purports to be a futuristic footy game turns out to be nothing more than a nostalgia trip for Spectrum owners, so bad are the graphics, gameplay and sound.

■ "Eh? Miguel? Waddya got a big arrow pokin' outta da toppa your head?" "Why you got a bigga willy pokin' out of da top of yours?" Team in-fighting in *Prosoccer 2190*.

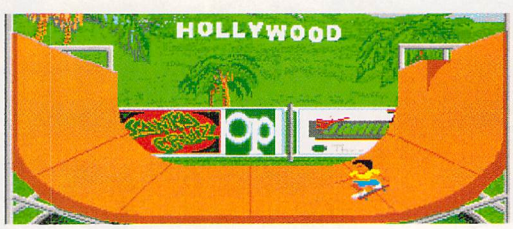
ESPANA: OLYMPIC GAMES '92 - Ocean

Released last year to cash in on the post-Olympics euphoria, *Espana* enables you to gag with laughter at seven different events in either an action or management role. The graphics are sadly average, the gameplay is sluggish and you never feel you're involved in what's going on.

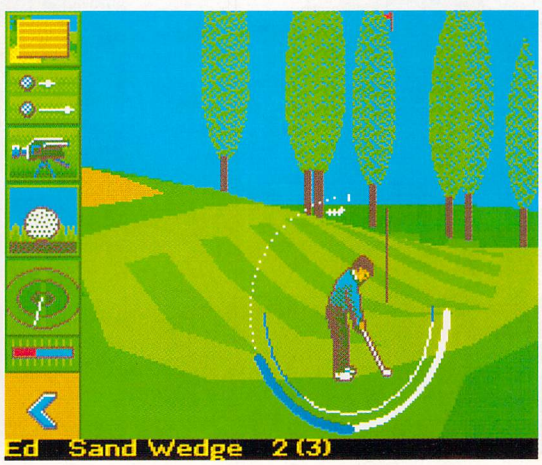
■ This is about as exciting as it gets. Yup, this is what *Espana '92: The Games* was really like.



■ "And as Icarus plummeted into the icy water, his wings melted by the sun..." "What are you on about? This is the Olympics, not some Greek nonsense." "It is, Larry, it is."

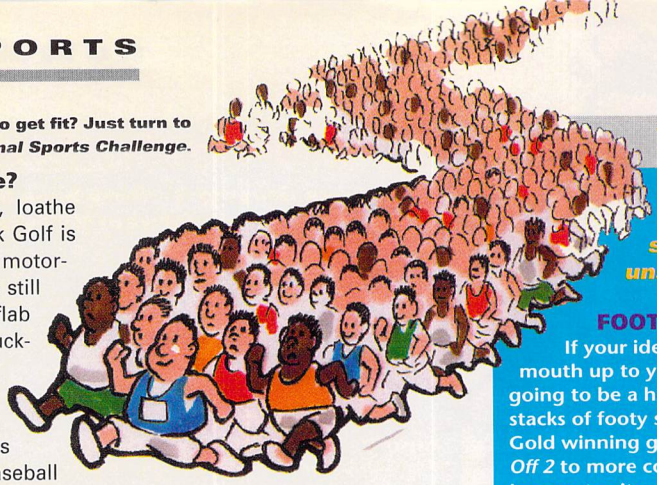


■ Hooray for Hollywood! This is the nearest most of us are going to get to stardom. Welcome to the *California Games*.



■ Get in the swing of things this summer by practising your strokes on *Microprose Golf* the best golf game for your ST.

■ Ever thought of running to get fit? Just turn to your ST and run *International Sports Challenge*.



What's the alternative?

OK, so you hate athletics, loathe cricket and tennis and think Golf is what you drive down the motorway at 150mph in, but you still want to get rid of that flab with the help of your ST. Luckily, there are quite a few more oddball pursuits for you to get involved in.

RBI Baseball 2 puts you into bat on, erm, a baseball pitch and shows *Bunny Bricks* up for the sad *Breakout* clone it is, while that old chestnut *Beach Volley* (now available on the Hit Squad label) finds you lurking behind your shades while you, a pal and a gaggle of girlies admire each others torsos while pretending to get a ball over a net. That's a lie. Sadly, the game gets very repetitive after a while and only scraped an *STF* rating of 62%. Other unusual sports sims on your ST include Loriciel's *Paragliding* which keeps you cool, at least, and *Janghir Khan's Championship Squash* where you get to repeatedly smack some poor ball's head against a wall for a few hours.

Perhaps the most unusual sports sim, though, is Infogrames' *Disc*, a futuristic frisbee game which involves you and a pal in a battle to the death. You have to lob the disc at your opponent either causing damage to his shields or by destroying the eight tiles which separates them from the yawning chasm below. The game features some slick graphics and is so fast moving it has you wheezing like a Woodbine addict doing a marathon. Fabulous stuff.

■ "Look out for the shark!" "Oh sod the shark, I can see the punters on the nudey beach from here."

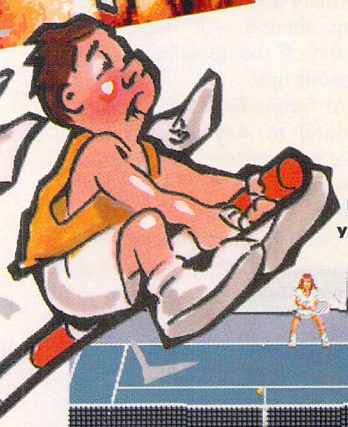
■ The only way to keep cool this summer. Invest in a pair of stout underpants and do a spot of *Paragliding*.

■ Lucinda Double Chin and Diamonds sets off for the knacker's yard with her old nag Dobbin.

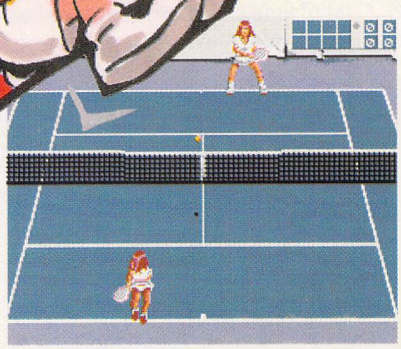
Up stumps and retire to the pavilion

Once all the frantic activity on the summer sports front's over it's time for you to relax, sit back and soak up the sun. But, wait a second, it's only another few weeks to the start of the footy season, so dust down your copy of *Sensible Soccer*, you never know, they might need someone else to do Cloughie's old job. ***stf***

● ***If you want additional information about the games and software houses mentioned in this feature, turn to Essential Contacts on page 105.***



■ Get active! Go pole vaulting with your ST, and you might live to tell the tale.



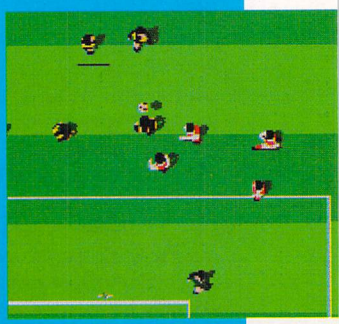
■ Steffi Graf and Monica Seles demonstrate their flying gym skirts routine in *Pro Tennis Tour 2*.

Walking in the snow

Are you the kind of guy who comes out in a rash when the sun shines? Do summer sports leave you cold? Well, here are some unseasonable alternatives...

FOOTBALL

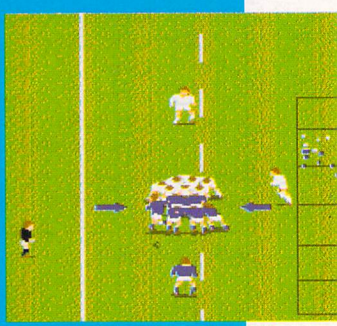
If your idea of fun is standing in a goal mouth up to your shinpads in mud, your ST's going to be a home from home. There are stacks of footy sims available from the *FORMAT* Gold winning genius of *Sensible Soccer* and *Kick Off 2* to more comical jaunts into Premiere League territory like *Peter Beardsley's International Football*.



■ There are more football games on your ST than any other kind of sports sim, even *Scrabble*. Sad, isn't it?

RUGBY

There's even more mud-flinging fun to be had on the rugby pitch. Domark's soon to be released *International Rugby Challenge* and *Rugby: The World Cup* set the standard for other rugby sims to follow, while Audiogenic's *World Class Rugby: Five Nations Edition* trails a close third. However, avoid D&H Games *Rugby Coach* game like the plague – it's complete cack.

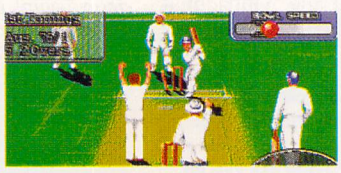


■ "I don't mean to make you paranoid Norman, but I think your friends are talking about you again."

WINTER SPORTS

If more traditional winter sports are your bag, then you could do worse than check out the *Action Sports* compilation from Daze which features the excellent *Super Ski 2*, a mish-mash of skiing and bobsleigh events. Another compilation worth taking a look at is Flair's *Winter Super Sports '92* which features four different snow-melting events such as speed skating, downhill skiing and bobsleigh.

■ "It is no good inspecteur. I cannot chase zee criminals over zee Alps in zees overalls." "Why not?" Mme Hombert is still wearing them." "Ah."



■ Howzat! Graham Gooch gets caught off a googlie by Gower... well, the old jokes are the best, y'know.

■ "Who's Janghir Khan?" "I dunno, but I think she's giving you the eye." "She's a he." "He's still giving you the eye."

■ So you don't like running and you think tennis is too tiring. How about a round of golf with your ST?

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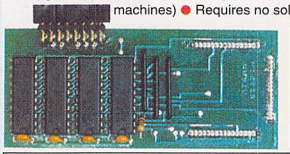

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N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

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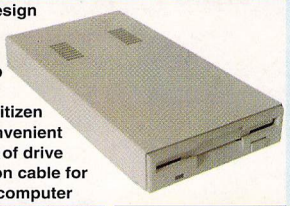

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WHAT MAKES YOUR PRINTER TICK?

You've connected up your new printer, but it refuses to print anything but drivel. Clive Parker explains why

You've just treated yourself to a shiny new printer – or a not quite so shiny second-hand one – and you are finally going to print out the project or picture you've been slaving over for the last few weeks. You select the Print option with a satisfied smile on your face and... your printer churns out a sheet of complete gibberish.

So, what's the problem?

Well, if you want to print out something that's going to look like what you're expecting, your printer has to receive information from your ST in a form that it can understand and then translate into the text or graphics you're expecting to see.

To do this, all applications use a special file called a printer driver which contains the control codes that set up your printer so that it can actually understand the data that is sent to it.

Problems arise though, because every printer on the market has its own specific set of codes, so the information used to control one printer is incomprehensible to another. This means that every time a new printer appears on the market, a new printer driver has to be written for it.

This isn't a problem with computers that have operating systems with multiple drivers already installed because every program is written to use the same set of printer drivers – in this case the printer manufacturers simply supply the new printer driver for the operating system with the printer. Printing with your ST, however, is a different story altogether.

And why does it occur?

Your ST's operating system has no built-in printer routines except for a simple 9-pin Epson FX-80 emulation. Atari's idea was to release a standard Graphical Device Operating System (GDOS) as a software add-on to the operating system to which new drivers could be added.

All software developers were to include GDOS support as part of their code – this would enable a single printer driver to be compatible with all applications. Some software was written to be GDOS compatible, notably *Degas Elite*, *Microsoft Write* and *Timeworks DTP*. But GDOS is slow and difficult to install and, therefore, most manufacturers have developed their own faster output routines.

This has eventually resulted in today's situation where every program developed for the ST has its own unique set of printer drivers which are totally incompatible with every other piece of ST software. Every time a new kind of printer appears a new driver has to be written for every application.

Where to get drivers

Companies that develop a particular piece of software write new drivers as new printers become more popular. This is one of the reasons why registering new software with the developer is important, since you immediately become eligible for any updates and extras like printer drivers.

If you have an old piece of software, the developers may no longer be supporting it. Because of this, home made drivers are created and then passed onto PD libraries to be cheaply distributed to all who need them. Most PD libraries have sections dealing with printer drivers – turn to page 94 for our Public Domain directory. ***stf***

■ Each one of these printers has its own language and its own codes... so it's up to you to make sure the program you're using has a driver that speaks the same language.

Friendly advice

Second-hand printers may seem a bargain, but don't be blinded by how much of a good deal you think it is. To avoid getting stuck with a printer that, er, won't print, follow these five general rules when buying second-hand

1. Never buy a serial (RS232) printer because they are not usually supported.
2. Never buy a printer without a manual, 'cos you won't be able to configure it.
3. Always check that the printer works before you buy it, some don't.
4. Never buy a printer over five years old, 'cos it's probably worn out.
5. Be wary of printers which carry really obscure names.

I WANT TO TALK LIKE YOU, WALK LIKE YOU...

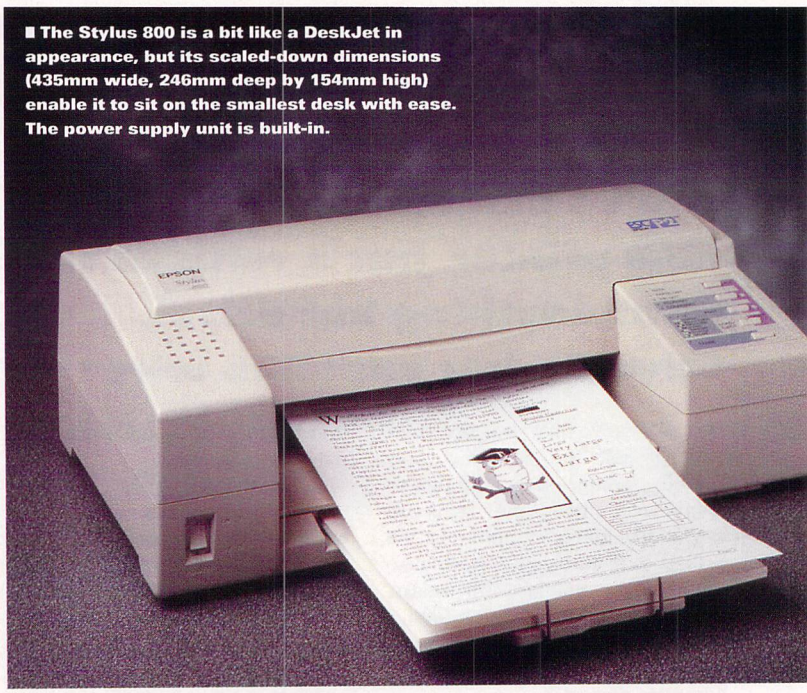
If your printer isn't supported by the application you're using, here's how to go about getting it to print without having to search for a specific driver

Printers have a special built-in emulation mode. This means that the printer is pretending to be a completely different machine which can understand a different set of codes – a set of commands can be sent to your printer which makes it think that it's an Epson printer or an IBM Proprinter for example. Other printers can be emulated but they are less common and less likely to be supported by software. Emulation modes can be changed by a set of tiny switches concealed somewhere in your printer – these are called DIP switches and define your printer's default setup.

All this emulation talk is all very nice, but what does it mean to you? Well, it means that you should be able to use practically any commercial package with your printer because Epson and IBM printer drivers are always included. So, if your specific printer is not supported by the program, all you have to do is select the various Epson and IBM drivers and test them until you find the one that gives you the best results.

STYLUS 800 INKJET

Can Epson's first foray into the mass inkjet market compete with the established names like Hewlett Packard and Canon? Peter Crush investigates...



■ The Stylus 800 is a bit like a DeskJet in appearance, but its scaled-down dimensions (435mm wide, 246mm deep by 154mm high) enable it to sit on the smallest desk with ease. The power supply unit is built-in.

Inkjet printers are fast becoming everyone's favourite way of getting output from their STs. The reasons are not hard to see, inkjets provide excellent quality printing and are fast, quiet, and cheap to run.

The Stylus 800 is the first mass market inkjet printer to come from Epson. Epson have designed it to look like their range of dot matrix machines, and it's finished in a light grey coloured plastic. It's pitched at an in-between size, more like a typical compact dot matrix printer. The IEC mains cable plugs into the rear of the machine, as does the standard parallel printer cable to connect it to your ST. The power switch and control buttons are at the front.

The control panel is neatly styled and easy to use. A set of green LEDs light up to indicate what mode the printer is in, what font is selected and the like. An automatic sheet-feeder, which can accommodate up to 100 sheets, is built into the Stylus 800. You can manually insert single sheets of paper at the rear of the printer without interfering with those in the automatic sheetfeeder, and envelopes can be printed.

Put out by the output

Printed results are much the same as any other inkjet printer, and there is no dramatic increase in resolution or quality that you might expect after reading Epson's advertising material. However, the output is very good, and to get blasé about inkjet quality shows how quickly we get used to results that not long ago were hailed as revolutionary.

The letters formed by the Stylus 800 are very detailed and finely drawn, but if you look closely at them you can sometimes see the little dots – the kind of paper you use can be critical here.

By contrast, output from other 360 dpi machines like the Canon Bubblejet and clones appears a little more solid and definite, with less sign of the little ink spots which constitute the image. The italics version of text on the Epson machine is also less italicized – it doesn't really look very different from plain text.

Verdict

Although the Stylus 800 has a long two year warranty, it cannot match the three year guarantee offered by Hewlett Packard for their deskjets. Points in favour of the Stylus 800, however, are that it's easy to use, has a good selection of built-in fonts, and an attractive street price – which is much lower than the official recommended retail price.

Its general compatibility with existing 24-pin drivers means that you can use it with a large selection of software, even though there is no support as yet for its scaleable fonts. Overall, the Stylus 800 is a good little printer, and represents a strong debut from Epson into the inkjet arena. ***stf***

How it prints

And now for the technical bit on how it actually works

The Stylus 800 uses a different form of printing to the inkjets we are used to which use thermal print-heads. Epson's new machine is equipped with a print-head activated by "piezo" technology. These special crystal materials expand when an electric current is applied to them, and this movement is harnessed to pump out a little blob of ink from a tiny nozzle. The method is not new, but has traditionally been limited to expensive industrial uses. The Stylus 800 has 48 such crystal pumps in its miniature print-head, which Epson claim is quite an achievement for a low-cost personal printer. Where the familiar thermal inkjet machines combine the print-head with the ink reservoir into one throw-away unit, Epson's print-head stays permanently in the printer, and all you have to replace is the ink cartridge, which costs about £10.

It works out cheaper to run because you just have to buy the ink. Multi-colour printing (possible with mono DeskJets and Bubblejets by swapping cartridges and overprinting the same page with different colour inks) would be difficult with the Stylus 800 because of the residue of ink left in the print-head.

What does it actually print?

What kind of output can you expect from the Stylus 800?

The Stylus 800 has five bitmap fonts built-in. These are Roman, San Serif, Courier, Prestige and Script, and they can all be printed at 10 or 12 character per inch (cpi). Courier can also be printed at 15 cpi, and the Roman and San Serif fonts can be printed with the better-looking proportional spacing. Many Epson printer drivers for existing 24 pin printers should enable access to some of these features from some word processing software, but they can be selected manually from the printer control panel if your word processor doesn't over-ride these.

Any text can be embellished by the application of a good range of styles like double strike, emphasised, italic, double width, double height, outline, shadow, strike through, overscoring, and underlining. The printer has the usual 14 international character sets, plus a legal set and five graphics character sets.

If you have a program that includes an Epson 9 or 24-pin printer driver, you should be able to obtain graphics output. For instance, although *PageStream 2* has an Epson 24-pin driver which worked with the Stylus 800, but only at a resolution of 180 dpi instead of the 360 dpi the new Epson can produce.

Stylus 800 inkjet

£445.33 Epson UK Ltd
☎ 0442 61144

Highs

■ Easy to use and has plenty of fonts.

Lows

■ Expensive, quality is not as good as expected.

What else?

■ The Canon BJ-200, £468.83, Canon UK ☎ 081 773 3173. Impressive with its neat design and good range of fonts – *STF* Rating: 92%.

■ The DeskJet range, Hewlett Packard ☎ 0344 369369 comprises the new mono DeskJet 510 for £329, the colour 500C for £459 (*STF* Rating: 85%) and the colour 550C for £669.

STF RATING 79%

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Please Phone in for Repairs on ST

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Probably the best 24pin mono printer available. With cable & paper

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200 to 400dpi. 105mm width with *new touch up software*

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Excellent Offer

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0.5M Ram 1M Disk (FM only model) £149

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with START PACK software from £219

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Above ST's are supplied with START PACK Software:
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FLOPTICAL DRIVE

Something wonderful has happened in the world of data storage. Ladbroke Computing International have created a drive by mixing the traditional magnetic technology used in conventional floppy drives with the speed and efficiency of optical drives. The result of this combination is the floptical drive.

It works just like a standard floppy drive – you can use 720K double-density disks, 1.44MByte high-density disks and 21MByte floptical disks.

Reading and writing data to disk is slower than with a hard drive, but significantly faster than reading a floppy disk. The floptical system is a good alternative to a hard drive, although the initial cost is quite high, adding extra storage capacity costs just over £1 per MByte – extra 21MByte disks cost £24.95 each. As an addition to a hard drive system, the floptical is an ideal backup; you can copy 20MBytes of data to a disk in under five minutes and you can backup a 100MByte hard drive for example, onto five floptical disks.

■ **The Ladbroke DataPulse Floptical Drive and ICD Link - it's big, square and works perfectly.**

Practicalities

This particular version doesn't have the internal host adaptor which the older floptical drives had in order to convert the signal data from your ST's DMA ACSI port to the SCSI signals, now they use the ICD Link instead. Consequently, the drive simply has an external SCSI connection rather than the Atari ACSI socket, which makes it a lot cheaper.

Setting up the drive is simple. Plug the Link into the SCSI port on the drive and connect the DMA lead between the Link and your ST. That's it. Next you either have to install the ICD software on your hard drive, or if you only have floppy drives, boot the Link software disk. This automatically finds the ICD adaptor and the floptical drive and enables you to access the drive from the Desktop. If you don't have a hard drive then you can use the installation program provided to install the ICD boot software. One small quibble, you must have a disk in the drive when the ICD software boots or the drive is not initialised on the Desktop.

All in all though, this is a good value system for keeping all your data together – wonderful stuff.

CLIVE PARKER

Floptical drive

£399 Ladbroke Computing International ☎ 0772 203166

Highs:
- Simple hard drive back-up, convenient, easy to add extra capacity.

Lows:
- Expensive, large, slower than a hard drive.

What else?
- Power Optical drive, £999 Power Computing ☎ 0234 843388 which uses 128MByte disks. The drive is not compatible with the Link but works with the ICD AdSCSI host adaptor.

STF RATING 82%

VGA MONO MONITOR

For quite a while now, finding a high res monitor for your ST has been harder than successfully completing *Llamatron* at the first attempt. Luckily though, there are a few companies who are filling the gap with their own, third party, offerings.

Ladbroke have used the Trust MM-100 14 inch mono monitor. The only problem is that the monitor does not have a speaker system built-in. This is because PC-contemptibles tend to make their various squawks and squeaks from the computer itself and not from the monitor.

Rather than trying to build a tiny amplifier and speaker into the monitor casing, Ladbroke have put a little sounder into the interface plug on the monitor lead. This, although very quiet, is just enough to register key clicks and the system bell. Also provided is a 2.5mm jack socket so a link can be made with external speakers. If you want to buy some speakers with the monitor, then Ladbroke can supply them for £14.95.

The front panel controls are limited to the usual contrast and brightness controls and a power switch. At the rear are controls for picture height and horizontal positioning.

The display is a delight. The screen area is significantly bigger than the one on the Atari SM124 and it is beautifully flat. Regardless of how you set the controls you cannot completely rid yourself of the black borders, but with the large viewing area already available, this shouldn't be a problem.

We used the monitor for long periods and found it to be very easy on the eyes, something well-worth considering if you're thinking of buying one. The display is slightly off-white, compared to an SM124, but the effect is very pleasing.

■ **This is the little adaptor which enables your ST to talk to the VGA monitor.**

■ **Ladbroke's new VGA mono monitor. The enhanced screen size makes it a joy to use and is easy on your eyes especially when compared to the Atari's SM124/5.**

Verdict

If you're tired of waiting for the next Atari high resolution monitor then you're unlikely to be disappointed with this one. The build quality is good, the picture is as clear as you could ever wish it to be and the price is competitive.

ANDY CURTIS

Mono monitor

£139.99 Ladbroke Computing International ☎ 0772 203166

Highs
- Excellent flat display, good value for money.

Lows
- No in-built speaker system.

What else?
- VGA mono monitor from Gasteiner, £149, ☎ 081 365 1151, *STF* Rating: 72%. Exactly the same monitor but with a tiny amplifier and speaker installed.

STF RATING 76%

CREATE A RIOT OF COLOUR

Get yourself the right tool and create real masterpieces. Clive Parker shows you how

What, no Spectrum 512?

We still have copies of *ST FORMAT* 38 with the *Spectrum 512* Cover Disk available – turn to to page 64 to order a back issue if you missed it. GST still have *Spectrum 512* manuals available for £15 including postage and packaging. Make your cheque or postal order payable to GST Software plc and send your order to GST Software Products, Meadow Lane, St Ives, Cambs PW17 or ring GST on ☎ 0480 496575 for credit card orders.

■ Scanning pictures in and then colouring them using the customised palette is one of the most effective ways of getting good results quickly.

■ A slightly different (some would say more interesting) example of using a scanned picture - check out the colouring used to highlight the texture of the leather.

In terms of its colour capabilities *Spectrum 512* is, without doubt, the finest paint program available for your ST. With its unique ability to display up to 48 colours per scan line you can create stunning, almost photo-realistic 512 colour pictures. That's why we gave it to you on Cover Disk 38.

In the Cover Disk pages of that issue we told you about the basic functions of the program and how to access the various modes and functions. Now we're going to show you how to use some of the advanced features of the program to their best effect.

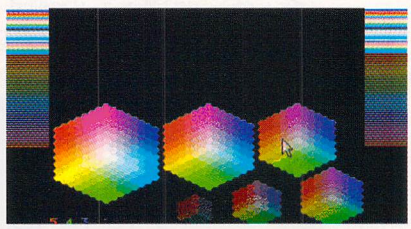
While the normal functions of *Spectrum 512* are similar to any other paint package's – drawing, brushes, polygons and fills are all pretty much standard fare – *Spectrum 512* has its own unique functions which need deeper investigation and explanation. The most important of these being the colour options.

Creating your own customised palette

When you are drawing a picture in *Spectrum 512* finding the exact shade from the colour matrix hexagons can be a bit confusing at times – after all, there are 512 colours to pick from. This is where creating customised palettes comes in handy.

To create a custom palette move the mouse pointer to the lower half of the screen and press <Alternate> and the right mouse button. The colour matrix hexagons appear in the lower half of the screen and the custom palette is displayed down each side of the screen: the top colour bar in the custom palette is flashing. Using the up and down cursor keys moves the flashing colour bar up and down the custom palette column enabling you to insert colours – right-clicking on any colour in the matrix adds it to your customised palette. You can add up to 196 colours to the custom palette by doing this. Pressing <Return> at any point takes you back to the main screen.

<Backspace> deletes an incorrect colour from the column, <Esc> clears the entire palette and the Spacebar inserts a black bar into the palette enabling you to separate groups of colours. Colours can also be added to the custom palette by entering their RGB code on the keypad. You can save your custom palettes to disk and then use them later.

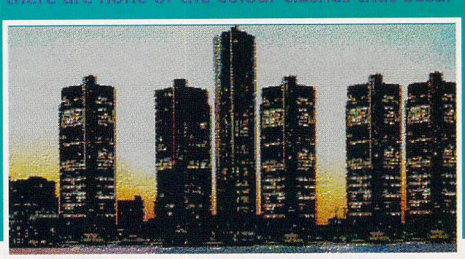


■ At first glance the custom palette looks exactly the same as usual, but the colours at the top of the colour bar are picked one by one from the colour matrix.

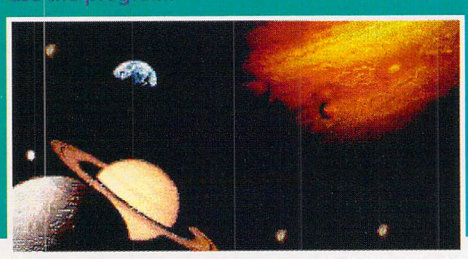
Twice around the block and back

You can use the block command to great effect in *Spectrum 512*. Because the program has a large block buffer area, you can store sections of different pictures and construct weird and wonderful collages by cutting and pasting different objects onto the same background. Because every picture uses the same palette there are none of the colour clashes that occur with 16 or 32 colour paint programs. There are several different modes for the block functions, most of them are obvious when you use the program.

■ In this first picture we can see the Detroit skyline near sunset. It sure is pretty...



■ ...and by ignoring the local planning laws we can add as many extra buildings as we like.



■ By nipping around the solar system we can construct a typical low budget sci-fi film scene.

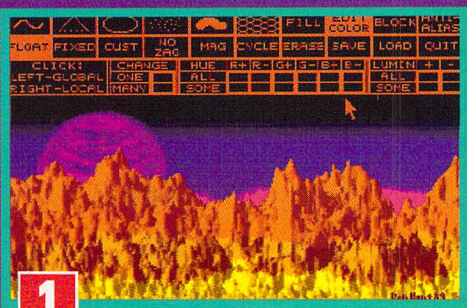
TAKE CONTROL OF YOUR COLOURS

Spectrum 512's strength lies in its colour editing tools...

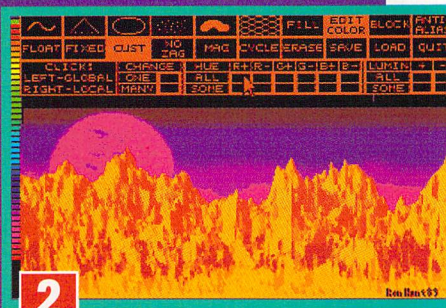
Edit Colour works in a different way to the normal colour commands in *Spectrum 512*, it is used to change the colours in your picture from one shade or hue to another, either globally or individually. The Edit Colour options are very powerful and completely change the look of a picture, whether you are simply changing a single colour in the palette, changing all the colours or adjusting the overall colour saturation of the picture.

To use these commands select Edit Colour from the main menu bar, a sub-menu appears with 16 separate options, each of which can be selected with the left or right mouse button. The left and right mouse click options select between local or global use and local selection is applied with the airbrush.

The Mendip hills at moonrise



1 **Using a handy picture of the Mendip hills at moonrise sketched on a pocket ST (oh, sure!), we decided to adjust the hue of the entire picture...**



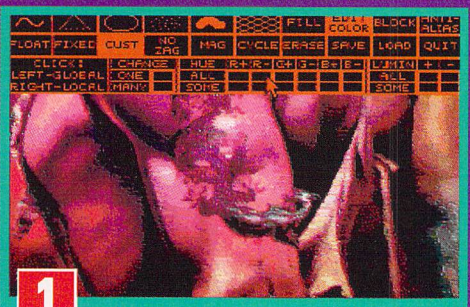
2 **... by increasing the amount of red present. To do this all you have to do is click in the All option of the Edit Colour menu beneath R+.**

3 **LUMIN ALL: Increases or decreases the total brightness of the picture by adjusting the red, green and blue levels equally. Lumin Some, on the other hand, is identical to Lumin All except that only the colours in your custom palette are altered.**

1 **CHANGE ONE: Used to replace a colour in the custom palette – all occurrences of the colour in the picture are replaced with the new colour. Select the replacement colour from the palette and press <Return>, the picture is then processed. Change Many swaps the custom palette's first colour with the second colour, the third with the fourth and so on. All colour pairs are swapped in this way. <Return> takes you back to your picture.**

2 **HUE ALL: Enables you to change the amount of red, green or blue in your picture by selecting the + or – symbols. The effect takes place at once. Hue Some is the same as Hue All except that only the colours in the custom palette are altered.**

A night out with the Chippendales



1 **This muscular torso has far too high a level of red, using the local option of Hue All using -R we can paint out an area of red...**

2 **... leaving the other colours. Now our poor hero is left with an unhealthy looking blue-grey patch on his back. Time to get out the fake tan!**

Graduated fills

Graduated fill$ is another powerful function of *Spectrum 512*, enabling you to create a smooth gradient of colours between any two or more colours on the screen. The gradient fill routine runs as a sub-section of the block functions, an area of the screen is defined in a similar way as the block function. These fills can be used to create psychedelic patterns or outrageously multi-coloured solid backgrounds.

Follow these three easy steps to create a crazy background:

1 Select the Block option from the menu bar and then either select the Pic to Pic or the Pic to Buf options. Now press and hold the <Control> key while you draw out and fix your box where the fill will take place – do this with the left mouse button. After you have fixed the box, release the <Control> key. The custom palette is then automatically selected.

2 Go to one of the single colour drawing functions, select a colour from the custom menu and draw inside your fill area. Press <Enter> on the keypad to fix the colour. Repeat for any other colours you want to use in your fill. Press <(> for solid gradient fill, <)> for an airbrushed fill and <.> for a dithered fill. Enter all these commands on the keypad, not the main keyboard. A full screen takes about 25 minutes to generate, pressing the <Alternate> key while selecting the type of fill results in a rough fill – here the screen takes about 45 seconds to be generated.

3 The three gradient fill modes result in three distinctly different results, solid gives a banding effect with solid blocks of colour, airbrush gives a smoother result while dithered mode results in the smoothest graduation of blends. With experimentation excellent results can be obtained. ***stf***

GETTING ALL YOUR CHIPS IN SYNC

Spectrum 512 needs your ST's various chips to be perfectly synchronised so that the program can display the 512 colours on-screen at the same time

Your ST is not always going to be in perfect sync after it boots up, normally this does not matter and all your software runs OK, but *Spectrum* pictures tend to be garbled with incorrect colours scattered across the screen. If this happens you must use a utility program called *Sync* which is in the Auto folder of your *Spectrum 512* disk.

To use *Sync* is simple. You've got to run it when your ST is first switched on to be effective, a normal reset does not work properly, so place your *Spectrum 512* working disk in the drive and turn on your ST. After a few seconds the screen turns black with a series of vertical red bars, and then switches to the Desktop. This means that your ST is now synchronised and you can run *Spectrum 512* without any problems. If the bars are not vertical then you need to turn off your machine for about 20 seconds and then boot again.

Because the *Sync* program checks whether your ST is in synchronisation, it can be run from the Desktop to see if your machine is OK after running other software, it cannot change the synchronisation from the Desktop. Again, if the bars are straight then the machine is in sync, if not then reboot with *Sync*.

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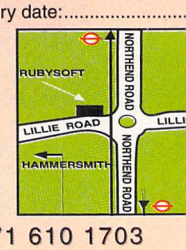

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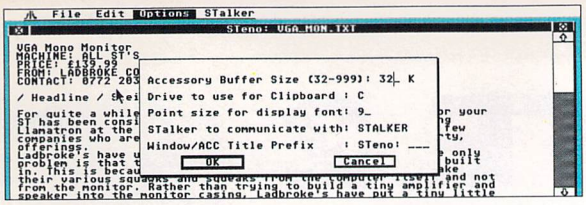


■ You can customise the basic settings of *STeno* from the preferences option, including the name of the version of *STalker* you wish to link to.

ST STENOGRAPHER

What use is another tiny text editor that doubles up as a useful Accessory? Clive Parker is curious and checks it out

Just when you thought you'd seen them all, out pops a new GEM-based text editor. Designed to communicate with their *STalker 3* comms program and be compatible with their famous *NeoDesk 3* replacement Desktop program, Gribnif Software have released *STeno*.

STeno works perfectly on the entire Atari range, from the 520 ST to the Falcon030, without any compatibility problems at all. If you have a 0.5MByte ST, then you can run *STeno* as a standard program from the Desktop. If you have more memory though, you can actually install *STeno* as a Desk Accessory by placing STENO.ACC and STENO.RSC in the root directory of your normal boot disk, *STeno* takes up about 55K of RAM when installed as an Accessory.

What's so good about it?

STeno is fast, it's almost as fast as *Tempus 2* and, being fully GEM-based is much easier to use. Highlighting blocks of text which are larger than the screen area can show for cutting and pasting is a breeze – simply place the cursor at the start of the block and press the left mouse button and hold it down. Now drag the mouse pointer down below the bottom scroll bar and the text scrolls up and is highlighted at the same time – this so much easier than the traditional (ST) method of setting start and end block markers.

All of the main block editing options have been given keyboard shortcuts – these are being standardised in almost all new ST and Falcon software packages. <Alternate> <X>, <Alternate> <C> and <Alternate> <V> cut, copy and paste respectively, and press <Alternate> for printing and <Alternate> <S> for saving files.

The cutting and pasting functions are also compatible with the Atari Clipboard CPX module, enabling you to transfer data between different applications. Other standard editor functions include paragraph formatting, document formatting and the usual search, search for next occurence and search and replace options.

Preferences and printing

The Options menu has a handy preferences function which enables you to configure various system parameters. You can determine the maximum text file size used by the Desk Accessory by altering the buffer size – any figure between 32K and 999K can be allocated, memory permitting. The size of the text is adjustable up to a maximum of 20 points on a medium resolution monitor, the standard text display is set at 9 points. Using 10 points gives you a large, easy to read display.

Printing is configured from the File menu. Because there are no options for text styling – this is just a text editor after all – there is a printer initialisation option where you enter control codes relevant to your printer. If you want to set your printer for italics or bold printing, this is where you enter the code specified in your printer manual.

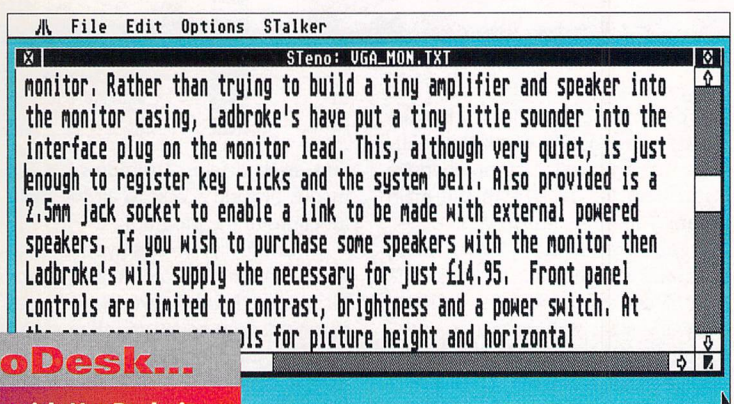
Other texty options that you can set are the left margin width, lines per page (normally 66 for A4 sheets), setting of form feeds and line feeds and the facility to print the document title and page number on every sheet. Another feature of *STeno* often not found in full-priced word processors is the ability to print blocks of selected text, so you can scan a large text file and just print the sections you need.

STeno is a brilliantly designed and easy to use text editor. If you simply want to produce or edit standard text files then there is really no competition for this package, and at £17.99 it is a genuine bargain. ***stf***

A handy little Accessory

Here's how to use Steno as a Desk Accessory

Because *STeno* can be used as a Desk Accessory it is available from within any GEM program that provides access to the menu bar – this is pretty handy if you need to make notes or read a README document while learning to use a new utility or application. The normal menu options for the program you are running are retained at the top of the screen, *STeno* provides its own menu bar for drop-down menus within the Accessory window, enabling you to access the full functions of the editor at all times.



■ If your eyesight is not quite up to 20:20 standard you can display the text you are editing at an easier to read 10 points.

Extras with NeoDesk...

If you use STeno as an Accessory with NeoDesk, it has extra functions available from the Desktop

Enter the *STeno* filename into the Accessories dialog box in *NeoDesk's* Set Preferences menu option. Place the *STeno* accessory icon on the Desktop, save the configuration and you can now access these extra features.

1. You can run the *STeno* DA by clicking on its Desktop icon.
2. Files can be loaded into *STeno* by dragging them over its icon. You can also do this from the new TOS 2.06 Desktop.
3. You can delete the file within *STeno* by dragging the *NeoDesk* Trash icon over the *STeno* icon.
4. You can print the current file within *STeno* by dragging the printer icon over the *STeno* icon.
5. You can run *STeno* from the keyboard by assigning it to a key.

...and STalker too

What do you get if you mix a little slice of STeno with a slab of STalker?

Well, using *STeno* with *STalker* installed as a Desk Accessory enables *STeno* to be used as a capture buffer when reading messages while on-line. Text can also be sent via *STalker* to a BBS from *STeno*. You prepare your messages in advance in a single text file, to transmit a particular message you highlight it by dragging the text cursor over it with the mouse. Pressing <Alternate> <Return> transmits the highlighted text.

STeno

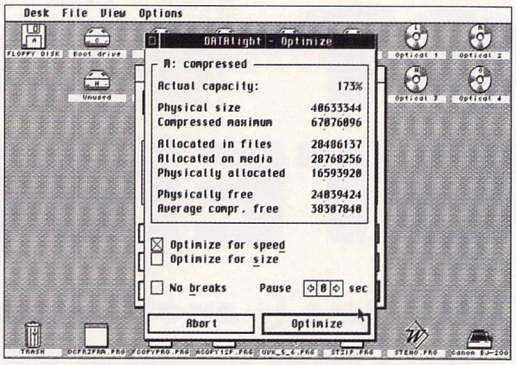
£17.99 Compo Software
☎ 0480 891819
Hard drive installable

Highs
- Fast and easy to use.
- Good editing functions and printer support.

Lows
- The text output is basic.
- No auto styling

What else?
- *Tempus 2*, £39.99, HiSoft, ☎ 0525 718181. An excellent and fast all round editor, although a bit difficult to use.

DATALITE 2



■ *DataLite* can even compress files on optical disks, here we have optimised a 40MByte partition so that it can now store 67MBytes of data - a capacity increase of 73%.

Do you want more disk storage space? Can't afford another hard drive or another 100 floppy disks? Well, now you can almost double the capacity of your hard drive or floppy disks using *DataLite* from HiSoft.

Datalite enables you to compress data and double your ST's hard drive capacity, a trick which is now a common feature on PCs, with the latest version of MS-DOS (the PC's operating system) having this function built-in as standard.

So, how does it work?

DataLite is designed to work in two ways. Firstly, it alters the structure of a hard drive partition so that it is capable of storing data in compressed form – any data already on the partition is unaffected by this process and retains its original size. Secondly, *DataLite* automatically compresses any files saved or copied to the new partition. The program can also format floppy disks to the new standard, so, in effect you can use 720K disks as if they were high density disks.

Place the *DataLite* program in the Auto folder of your boot disk and place the DATALITE.ACC and DATALITE.SYS files in the root directory. When you reset your machine, the Auto program inserts the *DataLite* system software into memory and the Desk Accessory enables you to access all the functions of the program.

The main Accessory menu has six functions, labelled parameter, compression, presentation, cache, format and drives. The parameter function sets up the boot, BIOS parameter block and GEMDOS `dfree` functions. There's usually no need to change any of these options from their default settings. Compression changes between several algorithms is a trade-off between speed and size, and the presentation function simply alters the keyboard shortcuts.

The cache option is used to set the amount of RAM used by *DataLite* to store information, format enables you to format floppies at normal or compressed capacities (giving you high density capabilities) and the drives option take you to the main compression and optimisation routines. All functions are dead easy to follow.

Verdict

DataLite does a very good job. No compression program on any other platform can actually double your drive capacity, neither does *DataLite*.

On the hard drives we tested using *Datalite* gave us between 50% and 67% extra storage space, eventually converting a 128MByte drive into a 211MByte drive. Initial transferring of data to a compressed drive is quite slow, but decompression of data when running applications is a lot faster and goes almost unnoticed.

We moved large quantities of data back and forth between the compressed and normal drives – up to 500 files at once – without any problems whatsoever.

Paying £50 for this much potential extra storage space is extraordinary value for money by any standards. If you need the extra storage space on your hard drive or on your floppy disks, buy it.

CLIVE PARKER

Datalite 2

£49.95 HiSoft
☎ 0525 718181
Hard drive installable

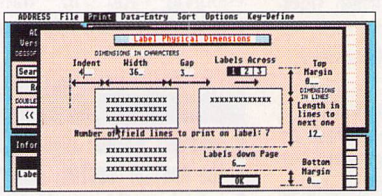
Highs
- Can almost double your disk space.
- Reasonably simple to set up and install.

Lows
- Optimising data on hard drives can be a slow process.
- Compressed floppies can not be read by another ST unless it is also running *DataLite 2*.

What else?
- *Data Diet*, from Double Click, available from US mail order companies.

ST FORMAT RATING 88%

ADDRESS



■ Using the label dimensions menu, you can define the label printout routine so that it matches the labels you are using.

There's nothing more frustrating than wanting to send a letter to one of your old school chums and then realising you've lost their address. Have you ever thought of giving up on those elusive chewing gum wrappers with all your addresses on, and using your ST instead?

All your ST needs to stand in as an excellent address book, is a good database package. *Address* is the latest in a long line of economically priced commercial software packages from the ST Club, and its job is to store, sort and print out all those business and personal addresses you've collected through the years.

When you start moving through the menu options you begin to find functions which make *Address* stand out of the crowd. Installing and using the program is simple and the two part manual provides full instructions for using the installation software along with comprehensive instructions for using both the main program and the Accessory.

Like the manual, *Address* is also split into two separate sections. The main *Address* program is the database entry and label printing section of the package where you enter and edit your address files. The Accessory is provided to enable you to access the address information from within any other GEM program, such as your word processor or DTP package.

The handy extra features

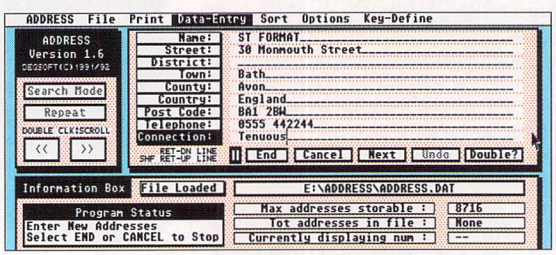
The program is typical of the genre, with standard GEM dialogs to enter information by pointing and clicking, sort and search, find and replace and find and delete. Drop-down GEM menus provide access to all the main functions of the program.

Unusually for this type of program though, you can define macros for frequently used parts of addresses or area dialling codes and then assign them to the function keys. This feature leads directly to the next major plus point, a comprehensive label printing feature perfectly suited for producing mail shots.

The printing functions are split into three sections; label printing, envelope printing and telephone lists. You can define all the main printing functions, although any printer can be used because the data is sent in plain text form. Special features of your particular printer can be triggered by entering commands in the printer control code dialog box – these are in your printer manual.

You can also define the label printing feature to suit the particular requirements of your setup with an excellent menu enabling you to enter the exact dimensions of your labels.

CLIVE PARKER



■ This is where all the action takes place. OK, so, it doesn't look that impressive but *Address* is a very powerful address database.

Address v1.6

£12.45 The ST Club
☎ 0602 410241
Hard drive installable

Highs
- Easy to install, easy to use and easy to maintain.
- Excellent printing functions.
- Modem dialling feature.

Lows
- Accessory feature is inaccessible from non-GEM programs.
- The Accessory can run out of memory if other DAs are loaded.

What else?
- *Address Book*, from the Public Domain, check out the directory on page 94.
- *TLC Addbook*, from the Public Domain.
- *That's Address 2*, £25.99, coming soon from Compo Software, ☎ 0480 891819.

ST FORMAT RATING 72%

Analogic Computers (U.K.) Ltd

Unit 6, Ashway Centre,
Elm Crescent,
Kingston-Upon-Thames, Surrey KT2 6HH

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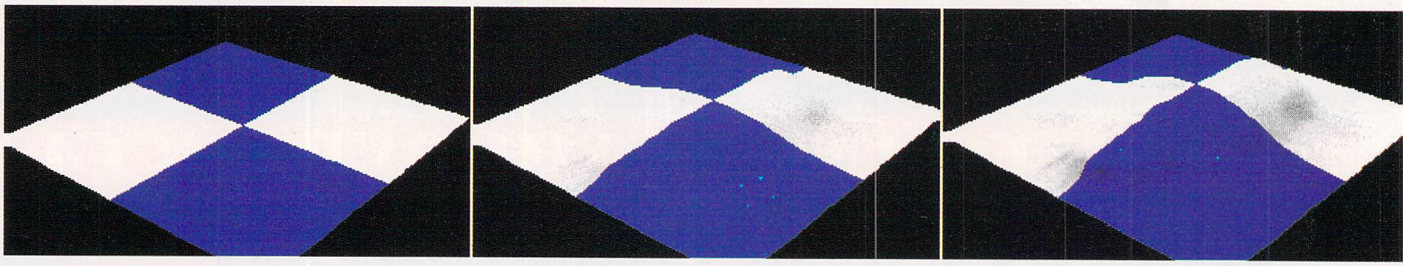


Single screens don't do justice to *Chronos'* abilities, these frames are taken from an animation of a face slowly appearing from a flat surface.

CHRONOS

You don't need a maths degree to create fantastic 3D animations, all you need is a keyframe animator

If a picture is worth a thousand words, then *Chronos 3D* must be worth a small library. It's a weighty animation program that takes a set of 3D objects and sends them spinning through space under your control to produce impressively smooth and flowing animations.

The actors in your creations start life as wireframe 3D objects, you add the camera and lights and sit back in your canvas chair and start directing. You can move, spin, squash and send your objects where you want. The camera and lights can also move anywhere in the scene. You then render the sequence ready for its premier screening. You can produce as many frames as memory permits. Each frame is highly compressed so animations of hundreds of frames are possible. You can even play animations straight from the hard drive so you can direct huge sequences.

What it does

Chronos works by creating keyframes, starting with the first frame, where you position your objects and set things up for the start of your animation. You then insert the number of frames you want, at first each frame holds a copy of the first frame. You can now go to any of the new frames and reposition things as your artistic bent takes you. *Chronos* works out all the intermediate frames, smoothly moving and resizing your objects and adjusting the camera angle between the two keyframes. You can add as many keyframes as you like, so very complex sequences of movement can be built up, even curved object paths are possible using a definable smoothness command.

This fish executes a beautifully smooth figure of eight passing right through the glass bowl, much to the bee's surprise. There are 360 frames taking up only about 480K.

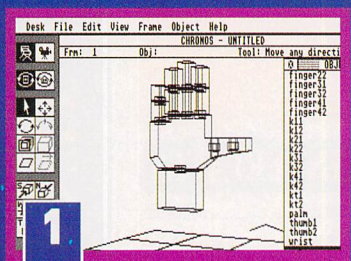
Having defined the animation it's time to set it rendering and pop out for a cuppa. *Chronos* can render in monochrome, 16 colours or in 256 colours if you have a TT. It also supports the ISAC and Matrix graphics boards. The finished FLM or DLT files can be played using the animation player program or loaded straight into *Prism Paint* for final editing.

Chronos runs on STs and TTs and needs a least 1MByte memory, preferably 2MBytes or more. A hard drive is also recommended, it's a powerful program that benefits from a meaty set up. The editor uses GEM and is almost entirely mouse-controlled. Considering the potential complexity of the task it's remarkably easy to get going. The manual is huge but an easy and informative read with plenty of tutorials. There is also help available from within the program. All the main tools are in a strip down the side of the screen and the other functions are accessed from the menus or by keyboard short-cuts.

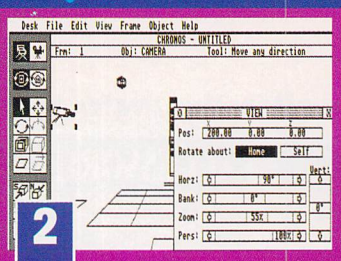
The biggest hassle when you're starting out is thinking in three dimensions, it's easy to start rotating something completely the wrong way, so plenty of experimenting is in

A MOVING EXPERIENCE - SIX STEPS TO TAKING CONTROL

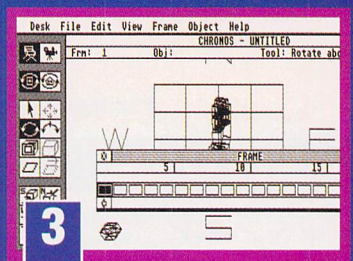
Although there are some heinously complex processes involved, getting a simple Chronos animation sorted is relatively easy. The manual gives you a good introduction and you're soon able to start filling disks with animation files. The degree of control is excellent and you are kept well clear of the complexities of 3D animation and left to concentrate on being the director chappie with the megaphone and fat cigar



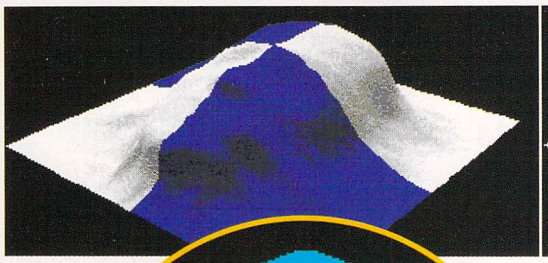
1 **The first thing you need is a selection of 3D objects created using *CAD-3D* or *Cyber Sculpt* loaded into *Chronos*. These are the subjects of your animation. Now you can fiddle about getting the relative positions and scale right for the first frame of your animation.**

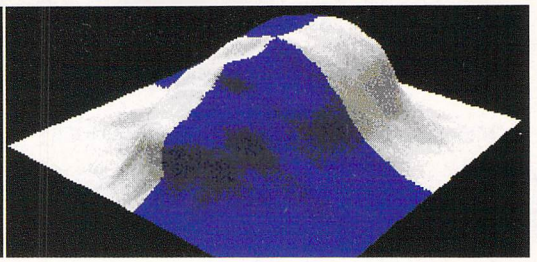


2 **Before you can get things moving you need a camera and some lights. You have complete control of the camera's orientation. There is also a director mode that enables you to view the scene from any position without affecting the camera. There are five different light types too, including definable spotlights.**



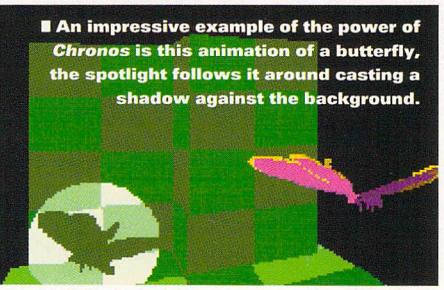
3 **Now you've set up the first frame it's time to start adding frames and creating keyframes. Initially all the frames hold the same scene. Any alterations made to a frame turn it into a keyframe and *Chronos* automatically generates the intermediate frames between it and the last keyframe.**





3D

■ As well as using lighting to illuminate the screens you can render with depth cueing where objects nearer the camera look lighter but fade out to black.



■ An impressive example of the power of *Chronos* is this animation of a butterfly, the spotlight follows it around casting a shadow against the background.

order. The objects are in *3D2* format created by *Cyber Sculpt* or *CAD-3D*. It's a widely used format and there are plenty of examples in the PD to start off but you'll soon want a 3D object editor. Good 3D objects are the key to good animations.

The more complex the 3D objects the better the final creation and the slower everything becomes. This is where things can get annoying; you simplify the objects to speed up the display, but it's still painfully slow at times on a standard ST. You spend a great deal of time waiting for the screen to update. Every time you move an object or the camera or switch to a new frame you need to wait for a minute before you can continue. There is a special TT version that uses the maths coprocessor and gives it the speed boost it needs; on a plain vanilla ST you'll find a spot of patience stretching involved.

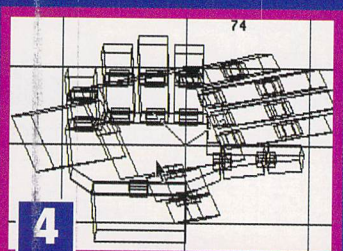
The final animations are beautifully smooth and fluid; you can create huge sequences of all your favourite 3D objects dancing together. You need to research the rendering options to get the best results, each object can be rendered in a different way. Thankfully you can just render one frame to see how things are going before committing yourself to an interminable wait. *Prism Paint* is an invaluable partner enabling you to tidy up the frames and colours afterwards – and it's on the Cover Disk this month!

Animations can be done in greyscales or using the 3D object's colours. In the TT's 256-colour mode the graduations are impressive, but in an ST's 16-colour mode much less so. If you opt to use the original colours, the shades are soon used up – although movement adds a new dimension to a sequence, there is no getting round the limited palette. Adding the ability to render and animate using more colours such as in the *Spectrum 512* would have taken the program a big step closer to brilliance. Running *Chronos* on a standard ST is a little constricting – to really shine it needs the power and graphic capabilities of the TT. A Falcon-compatible version, rather than an enhanced version, is also available.

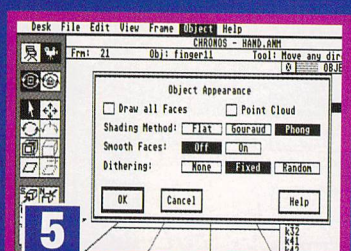
Grumbles aside, it's the most flexible and powerful 3D animator around. If you're contemplating animating 3D objects and have looked in apprehension at the language of *Cyber Sculpt, Chronos* is a godsend. You need to be a dedicated 3D modeller and prepared to invest time and effort but the results can be stunning. The system of keyframes and the degree of control you have over the animation leads to a very flexible and powerful tool – in the right hands this is a dangerous weapon.

CHRIS LLOYD

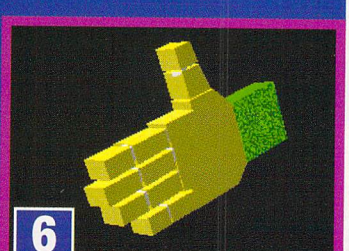
■ Each element of your objects can be rendered differently. Three of the columns are dithered Phong as you can see by the spotty effect. The rest of it is plain Phong, which enables the appearance of true curved surfaces.



4 Objects can be manipulated in all directions, independently or as groups. You can even have different 3D objects used in each frame. You can stretch, squash, rescale, rotate and move them. If objects have the same number of points and faces you can even morph between them.



5 Each object can be rendered in a variety of ways from simple flat faces in black and white up to full Phong shading with anti-aliasing and shadows. Smoothing enables spheres to look truly round rather than faceted as in the tower sequence portrayed above.



6 The final rendering in ST low resolution, you can opt to keep the colours of the original 3D objects or render in grey scales or black and white. TT owners get the best deal with full 256-colour screens. Once created, animations can be played from memory or disk using a Public Domain player program.

Chronos 3D

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All STs with 1MByte RAM minimum and TTs.

Highs
- Keyframe system very powerful and flexible.
- Incredible amount of control over objects movements.
- Can create huge sequences.

Lows
- Can get very slow on an ST.
- Output limited to 16 colours on an ST.

What else?
- *Cyber Control*, £25 Gasteiner ☎ 081 3651151 Uses same 3D objects but has a complex programming language to learn.

DA'S

A first for the ST! You can now create and manipulate colour vector graphics with this great package from Digital Arts

Now's the first chance to get full-colour vector graphics into DTP programs on your ST and this opportunity comes to you courtesy of *DA's Vector*. At last your desktop published documents can compete with those offered by other platforms, instead of just being in black and white and you needing high resolution large screen monitors.

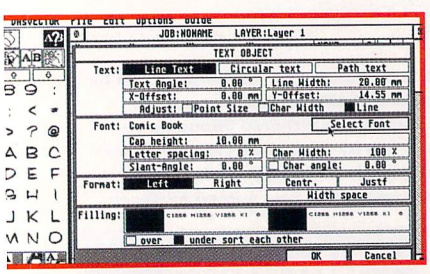
The Mega ST, Mega STE and TT can use 15-bit colour graphics cards enabling the colour capability to be expanded to 32,768 colours on-screen from a palette of 16.7 million. This opens up the possibility of running colour desktop publishing and graphics applications on your ST. Of course, the Falcon is capable of 256 colour and true colour modes without any additional hardware and can run any high resolution colour programs directly on an Atari or VGA monitor. The first powerful DTP package that takes advantage of colour is *Calamus SL* from DMC.

"You are guaranteed superb colour results with DA's Vector all the time"

Bitmap graphics

High resolution graphics on your ST are almost always made up of a pattern of dots called pixels, with each point being either black or white. When these images are printed at relatively small sizes, the number of dots per inch (dpi) is increased so the image is sharp and pleasing to the eye. If you increase the size of the picture consisting of the dots simply get bigger, and when you produce a printout the end result is rather blocky with diagonal lines looking rather jagged. The whole thing looks like a newspaper photograph looked at through a magnifying glass.

What is needed is a method of storing graphics data so that it can be reproduced at any size on-screen or on paper without losing any detail at all. And this is where vector graphics come in.



Because text is very important in graphic design, *DA's Vector* is capable of loading in *Calamus* and *Didot* vector fonts and can also convert Type 1 PostScript fonts.

What's so good about vectors?

Vector graphics work in a completely different way to bitmap graphics. In their simplest form bitmaps are stored as a series of dots with no way to adapt or adjust the "map" when displaying or printing at a different size. With vector graphics, pictures are stored as a series of mathematical descriptions rather than a map of dots. Your ST stores a vector image as a set of drawing instructions, that's why a vector image is completely redrawn every time an image is enlarged or reduced on a page.

A shape can be designed in a suitable vector-based drawing program such as *DA's Vector, Hyper Draw, Didot* or *Outline Art* and imported into *Calamus SL*, enlarged or reduced in size and then printed. Every printout is a faithful copy of the original drawing whatever the size.

Using *DA's Vector* on a Falcon, or on any ST with a graphics card, you can now create brilliant full-colour vector graphics ideal for DTP programs. Although the display on-screen is restricted to the graphics mode, *DA's Vector* works in 16.7 million colours whether you are using an ST in high resolution mono mode, a Falcon in true colour mode or a TT with a graphics card. You are guaranteed superb colour results with *DA's Vector* all the time.

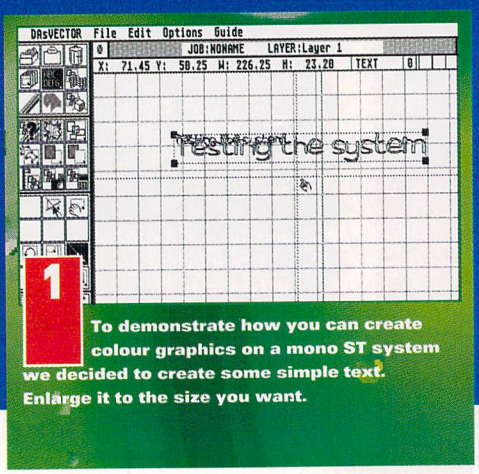
COURTESY OF CC

This apple shows just how much detail can be included in a colour vector graphic, the drops of water make it look good enough to eat.

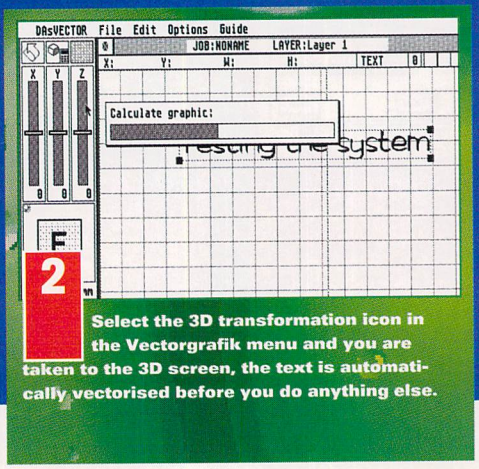
Installation by numbers

Installing *DA's Vector* on your hard drive is a bit fiddly, with archives to extract and some text files to be edited into English, but the installation procedure is laid out on three A4 sheets of paper in 31 easy to follow steps. You need a hard drive partition with at least 3MBytes of space free for

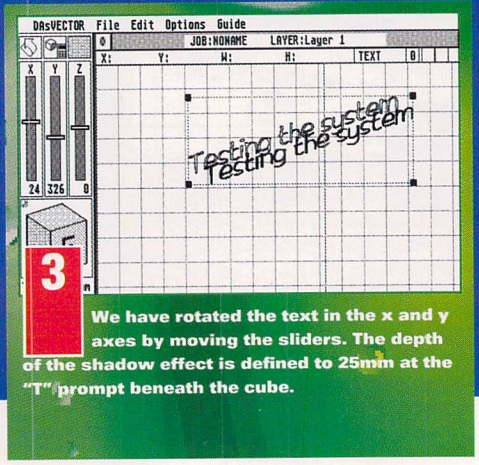
CREATE COLOUR GRAPHICS ON YOUR MONO ST



1 **To demonstrate how you can create colour graphics on a mono ST system we decided to create some simple text. Enlarge it to the size you want.**

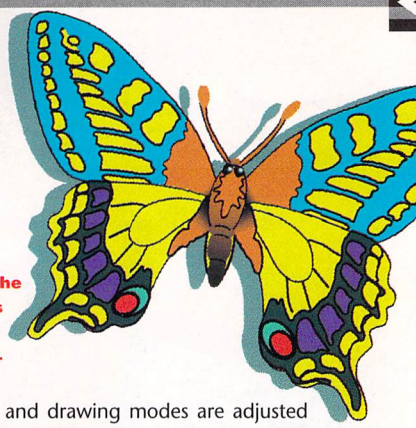


2 **Select the 3D transformation icon in the Vectorgrafik menu and you are taken to the 3D screen, the text is automatically vectorised before you do anything else.**



3 **We have rotated the text in the x and y axes by moving the sliders. The depth of the shadow effect is defined to 25mm at the "T" prompt beneath the cube.**

VECTOR

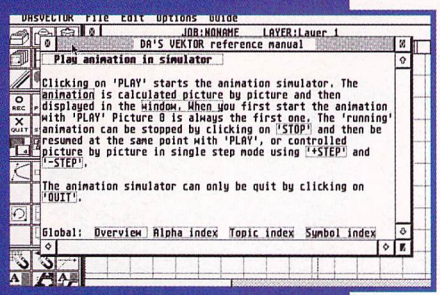


This butterfly swooped into the office one afternoon and has been quickly converted to a colour vector graphic.

Help is always at hand

DA's Vector **comes on four double-sided disks in an A5 ring binder, this also contains the 80 page manual. A graphics package of this complexity is normally accompanied by a wad of paper containing page after page of intricate instructions about every aspect of the program, *DA's Vector* takes a different approach.**

One of the four disks contains a Desk Accessory and data files which comprise *DA's Know-how*, a memory resident manual and help facility that can be accessed at any time from the program by pressing the <Help> key while the mouse pointer is over an icon or any section of the workscreen. A detailed reference manual is displayed on-screen in a GEM window relating to the icon in question, related subjects in the help file have a box around them. Clicking on these key words displays additional info about the new subject. Because *Know-how* communicates with *DA's Vector*, all reference information is available at the touch of a button, making getting to grips with the program very simple.



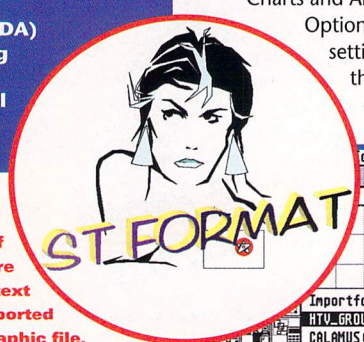
The online reference manual is easy to use and always at hand.

Also included in *DA's Know-how* is a step-by-step tutorial to take you through some simple exercises to get you started on some graphics in *DA's Vector*.

Digital Arts (DA) are incorporating versions of *DA's Know-how* into all their software.

DA's Vector – it's not a small program by any means. You have to set up the on-line reference manual, *DA's Know-how* before you run *DA's Vector*.

When you run the program for the very first time don't be startled at the fact that all the menus and options are in German. Don't panic because you can select English menus and then you can save it as the default language so the next time you use the program, everything appears in English.



We couldn't resist getting our name into one of the pictures, here we have created text over an imported *Calamus* graphic file.

What's on the menu

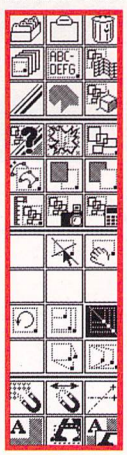
The display is split into three distinct areas, the main workscreen, the drop-down menus and the icon toolbox on the left. For a program as powerful as *DA's Vector* there are not many menus, only four if you discount the Desk menu, and one of these accesses the help functions.

The File menu controls all aspects of loading and saving *DA's Vector* files as well as importing and exporting vector graphics in a variety of file formats: *Calamus, Didot* and *GEM Metafiles* are all supported. You can save files as complete pages, as individual vector graphics or as animation files.

The Edit menu selects what type of work you are doing; a different icon toolbox is present depending on the function selected. The five working modes are Vectorisation, Vectorpath, Vectorgrafik, Graphic-Charts and Animation.

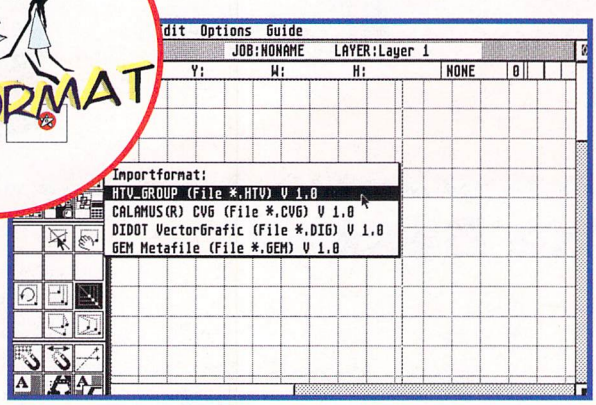
Options define the global settings of the program, the page format, guide lines, grids and drawing modes are adjusted from this menu. The last menu accesses the online help program, *DA's Know-how*, and also runs the easy to follow tutorial.

In the Vectorgrafik toolbox

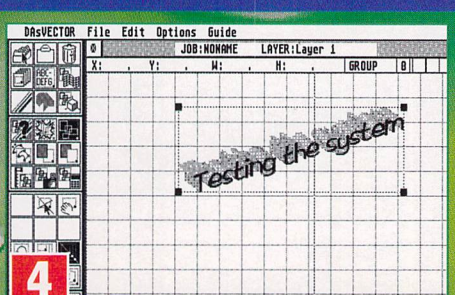


Each section of the program has its own separate set of toolbox icons, although some icons and functions are repeated in different toolboxes. The main toolbox you use is the Vectorgrafik, these functions can edit graphics created with almost all of the other sections of the program apart from animations.

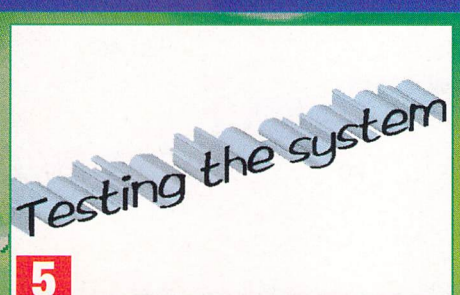
The icon menu bar is split into four sections. The top section consists of



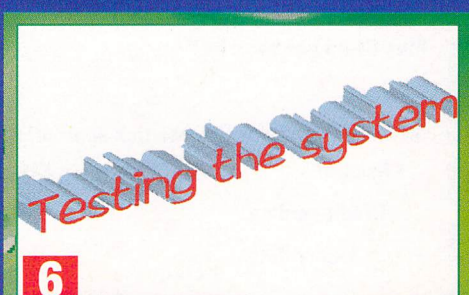
You don't have to save the whole of your work every time you design a particularly good object, you can save and load individual objects in a variety of formats.



4 Once you are satisfied with the way your text looks you can exit back to the main screen, the 3D effects are processed and included as part of the object.



5 Now that we have loaded the text into our Falcon, you can see that although the 3D shadow is coloured the text is still black, something you might want to change.



6 Just use the path attributes icon and you can adjust the colour of the fill colour, the line colour or the line weighting, red is a positive colour, isn't it?

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What else can it do?

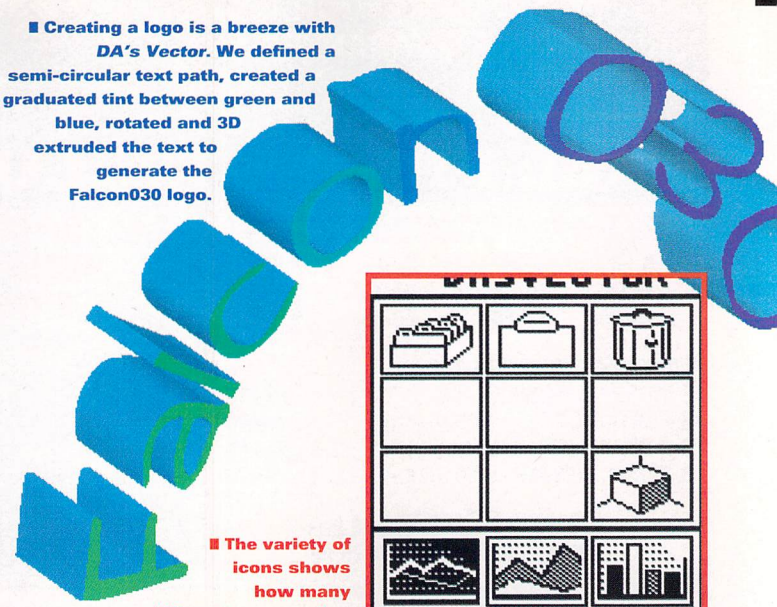
Professional CAD packages use a system of layers to overlay individual objects to create more complex designs. This is like using layers of transparent film to create the same effect in a graphics design studio. *DA's Vector* can store up to 65,536 separate layers, each with its own individual object, and by displaying these layers complex animations can be designed and then played.

Libraries can be created and stored on disk for use at a later date. *Calamus* and *Didot* vector font files can be imported and used within *DA's Vector* to produce stunning text effects and logos.

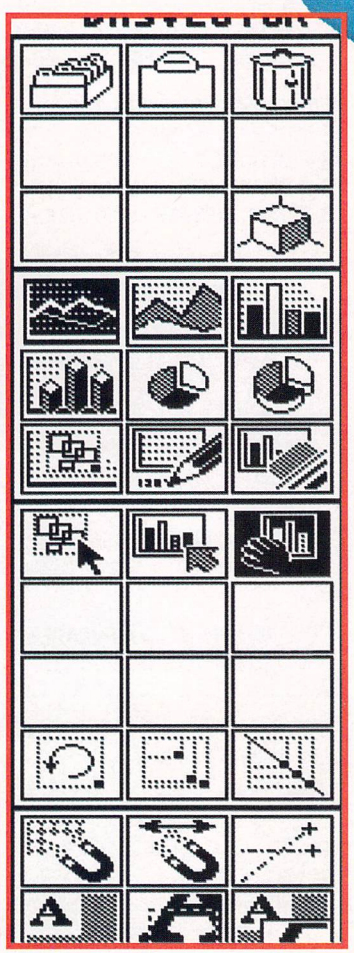
If you have access to Type 1 PostScript fonts they can be imported and converted to *Didot* .DFN vector fonts. The 3D transformation toolkit enables any two dimensional object to be extruded into a 3D shape with a coloured "shadow," brilliant for text effects and excellent for video titling.

Bitmapped graphics can be converted into vector images using the built-in "vectoriser" function to trace the outline of an imported graphic, and while only TIFF halftones and TIFF colour pictures can be converted by the vectoriser there is another converter program that can convert other picture file formats to the useful TIFF format.

There is also a powerful presentation graphics function contained within *DA's Vector*. You can generate charts and graphs by inputting data into the program with a possible eight columns and 32 rows of information. You can then output your graph or chart in a variety of forms including line graphs, 2D bar charts, 3D bar charts, 2D and 3D pie charts, freeform area charts and freeform object diagrams.



Creating a logo is a breeze with *DA's Vector*. We defined a semi-circular text path, created a graduated tint between green and blue, rotated and 3D extruded the text to generate the Falcon030 logo.



The variety of icons shows how many different presentation graphic functions are available. Producing 3D pie charts is easy.

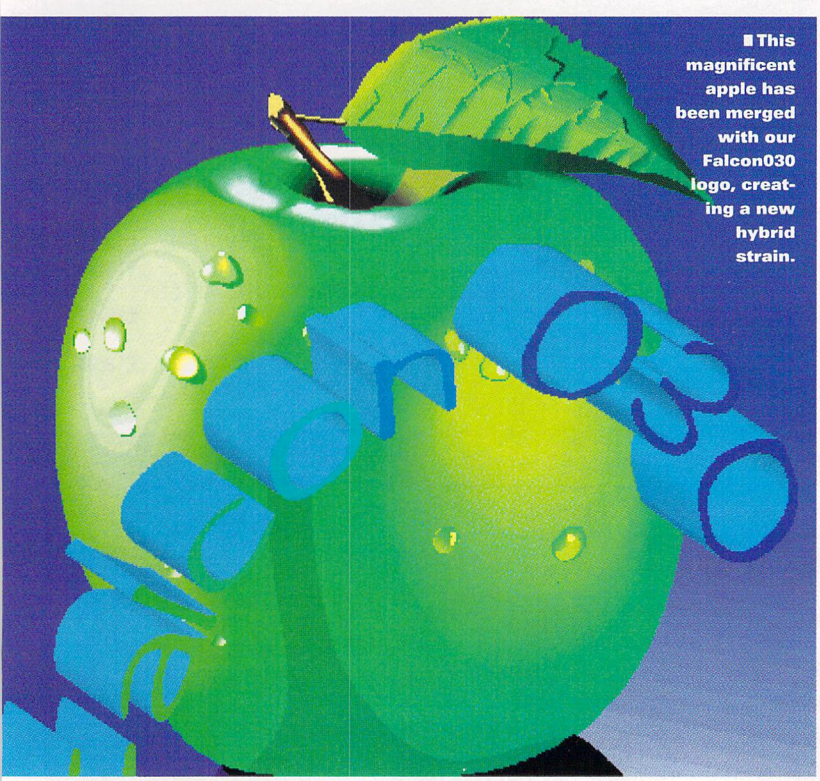
up to nine icons, each of which takes you to a specialised sub-menu. The Vectorgrafik toolbox has a full complement of nine icons enabling access to the clipboard: the trashcan, the library (where pre-defined shapes are stored), the trashcan, the vector text menu, the Bezier area transformer, the 3D transformer, the line and area attributes and the layer menu. After a while, use of each of these icons becomes second nature.

The next group of icons initiate local or global actions, you can act on either all objects or a single selected object. Some of the functions are not so apparent here but a bit of practice soon sorts that out. Objects can be grouped together so that a function affects all of them, objects can be sent to the back or brought to the front of a group of objects to be individually edited. Other more complex functions are also present in this section, mathematical transformation of graphic objects are performed by the calculator.

The third section contains specific tools, obviously these tools are different depending which mode you're in. The Vectorgrafik tools include options to move, rotate, scale and skew objects. The last two rows of the Icon menu are the same whatever toolbox you are in. The first three icons enable the construction tools to be used, snap to grid and guide lines. Double-clicking on these icons opens a pop-up menu enabling you to define your own parameters.

> **"DA's Vector is the most user-friendly vector graphics programs for your ST."**

The bottom three icons control the various zoom modes. Clicking the first icon shows the working area, clicking it with <Alternate> pressed shows the entire workscreen. The second icon enables you to select a new area of the workscreen to work in, while the third icon toggles between the two different zoom modes.



This magnificent apple has been merged with our Falcon030 logo, creating a new hybrid strain.

How was it for you?

DA's Vector is the most user-friendly vector graphics programs for your ST. While the manual does not go into too much detail about each function, it gives a useful general outline to a subject. Combined with the accessibility of the online help system it's simple to use the program to create new objects.

The icon menu system can seem daunting at first, but once you have zoomed around the various options a few times everything becomes second nature.

The ability to use any level of zoom rather than a fixed "two times" or "three times" setup means that you have an incredibly high degree of control over all your objects, both when you are designing them and when editing. It really is a pleasure to create and colour in vector graphics using *DA's Vector*.

CLIVE PARKER

DA's Vector

£150 CGS ComputerBild
☎ 081 686 8121
All STs, TT and Falcon030.
Minimum 1MByte RAM and high resolution monitor.
Hard drive required.

Highs
- Generates 16.7 million colour graphics.
- Icon driven online help.
- Easy to use.

Lows:
- Manual could've been a bit bigger
- Transformations can be slow
- Constant redraws can be annoying

What else?
- *Calamus SL*, £588, Halco ☎ 0734 441525, with its own built-in vector drawing module.
- *Didot ProColour and Retouche Pro Colour Design*, £499 ComputerBild ☎ 081 686 8121.

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4T/FX WITH D2D EDIT

As promised, direct to hard drive recording has made it on to the Falcon. Clive Parker finds out what's so great about it all

One of the most powerful features of the Falcon is its ability to sample and replay sound. No extra hardware is required because the Falcon's own internal hardware does the job perfectly – all that's needed is a suitable software package to control the recording process. This is where *4T/FX* and *D2D Edit* come in.

Using its own built-in ADCs (analog to digital converters) and DACs (digital to analog converters), the Falcon030 is capable of better than CD quality sound recording and playback at frequencies of up to 50KHz. In contrast, CDs are mastered at a mere 44.1KHz.

This level of sampling quality has previously only been available to professional musicians using expensive purpose built hardware samplers from Akai and other manufacturers of music hardware. Using the built-in audio input/microphone socket on the Falcon030 it is possible to record in two-track stereo directly to the hard drive using any standard audio line input, such as the output from the phono sockets on the back of any standard CD player.

Four tracks?

4T/FX stands for four track and effects, but how do you end up with four tracks from a single stereo source? D2D systems have come up with two ways to get around this limitation. The basic *4T/FX* system can record four tracks to hard drive, you are just restricted to recording two at a time. You can switch between tracks, or pairs of tracks, at any time, so you can lay down your tracks one by one or record them in pairs. The other method is using a hardware add-on which will connect to the DSP port enabling four tracks to be recorded simultaneously, it should be ready in the next few weeks, call D2D for details.

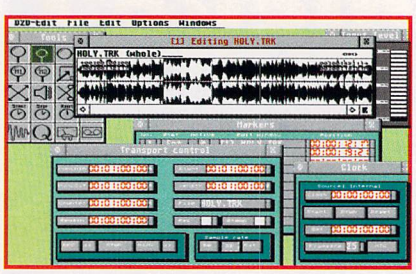
The entire program is GEM-based with sliders, buttons and menus all over the place. It looks a bit daunting at first with all the various controls, but the manual explains the function of each of the controls clearly and concisely. There are four columns at the left of the screen, each containing the controls for each track. At the base of the screen on the right is a set of tape transport controls similar to those used in sequencers, above this are the effects controls and the track name fields.

The program assigns a sound channel to each track, so track one is the left audio input and track two is the right, each track can be assigned to a separate hard drive partition – it's a good idea to do this to save on space. A song we recorded at 32KHz took over 18MBytes of space on each partition. You need a lot of hard drive space for this kind of recording.

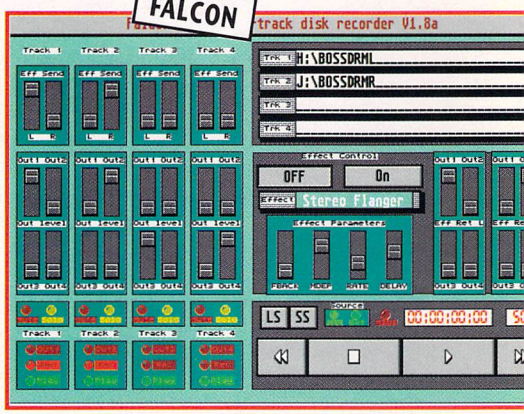
Before you can start recording you must select a track field and enter the track name, this creates the file and assigns the hard drive partition to be used. At the base of each track column there are three buttons marked Record, Play and Out. Recording is done by selecting the corresponding Record button and then clicking the Play button, you are now recording to the hard drive.

You can monitor everything you do by connecting a pair of external speakers to the Falcon. You can also record the output of one or more tracks to another track – this is called bouncing and means that, in effect, your Falcon becomes a multi-track digital recording device limited only by the size of your hard drive.

These two programs supplied together offer the home musician professional software and results at an affordable price. If you have a Falcon and are a musician then this has your name written all over it. ***stf***



The screen is full of windows all displaying information in various formats, don't worry though, *D2D Edit* doesn't always look this crowded. Here we are playing back the highlighted section of the *Houses of the Holy* sample.



At last, an affordable high quality direct-to-disk recording system. Everything in *4T/FX* is accessed from this screen. The track names are entered in the fields at the top right of the screen, this creates the file on your hard disk.

The effects

Apart from the recording and playback facilities of *4T/FX*, there is a full suite of special effects you can use to manipulate your sound track. Effects can be used in real time while monitoring a sound source or used to modify your playback. The sliders determine the effect on the sound source.

The effects include digital delay, stereo reverb, flanger, chorus and ring modulation. In addition, there are six different types of reverb ranging from hall effects to small room. Each effect can be customised by a set of four sliders, although not all effects have four parameters to adjust.

GET CLOSE TO THE EDIT

While 4T/FX enables you to record and mix tracks together, D2D Edit is the perfect companion program enabling you to edit sound samples and tracks

You use the program in much the same way as a standard sound sampler except that the data is recorded directly to the hard drive, this means that recordings large enough to fill up your hard drive can be made with a Falcon with 1MByte of memory.

D2D Edit uses a series of windows to control the various functions of the program:

Clock: checks to see if the external MIDI time code is correct.

Cuesheet: enables a sequence of samples to be strung together.

Editing window: this is where you cut and paste your samples into exciting new configurations.

Input level: monitors the input level of the audio source.

Markers: insert markers into a file so that you can find a specific point in a sample, so that you can playback from the exact position or time.

Toolbox: accesses the other window functions.

Transport control: tape controls with counters in standard SMPTE format, you can also adjust the sample rates between 32KHz, 50KHz and external hardware rate.

4T/FX

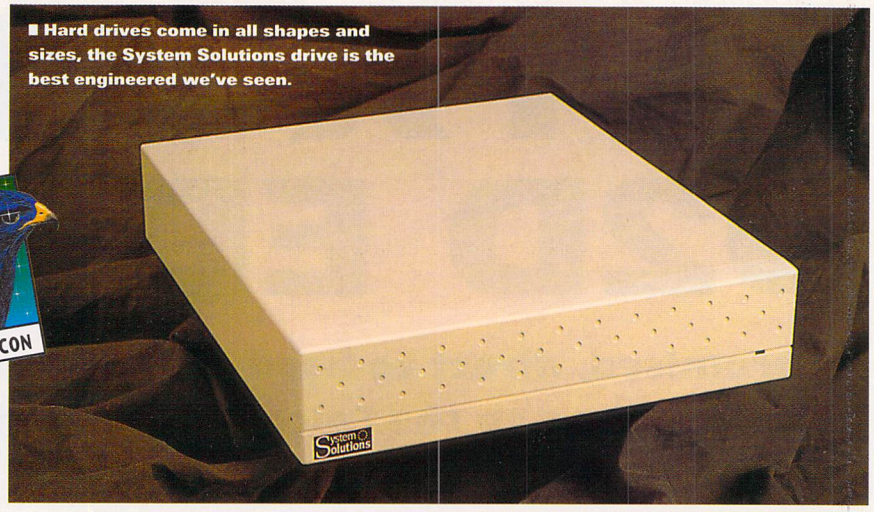
£299 D2D Systems
☎ 0223 420252
Falcon030 with a hard drive

Highs
- Very easy to use
- Excellent recording quality
- Affordable

Lows
- You need a hard drive with loads of room to record anything of any substance.

What else?
- Nothing yet, but a similar package called *DigiTape* is coming from TradeIt in Germany.

S120F HARD DRIVE



■ Hard drives come in all shapes and sizes, the System Solutions drive is the best engineered we've seen.

Let's face it, the 64MByte internal hard drive supplied with the Falcon is an excellent idea, long overdue on other Atari machines. The only problem is that it doesn't take very long to fill up, because a 64MByte drive is not that large these days, especially considering the huge data files involved with 256-colour and true colour graphics.

256 colour XIMG files vary in size between 50K and 200K, and 300 dpi TIFF files (Tagged Image File Format) generated by programs like *DA's Vector* can be well over 2MBytes. Musically, too, if you're doing direct to hard drive recording you fill up the internal drive in about five minutes.

The solution

An external drive is the solution. There is a new range of SCSI hard drives from System Solutions, the one we tested has a capacity of 120MBytes, but System Solutions can build you a drive to order.

The drive is superbly engineered and mounted in a compact steel case with simple controls and connectors: the power switch, the SCSI device ID switch, and connectors for the power cable, SCSI in and SCSI out. The drive mechanism used is a Quantum LP120S; Quantum make about the most reliable hard drives you can get. The S120F is quiet and efficient to use with an average access time of around 18ms and the average data transfer rate (measured using *ICD Professional Utilities)* was about 1,415K per second – that's fast!

The only way you know that the drive is running is the by spotting the drive activity light blinking away on the front and the power indicator – you don't need a noisy cooling fan inside this machine because the drive mechanism doesn't get hot enough to worry about.

Our drive was supplied with a SCSI2 to SCSI lead, these are quite expensive if you buy them separately. Setting it up is simple because the drive comes ready formatted – just plug it into your Falcon, switch on and boot up. Your Falcon spots the drive on booting and you can immediately install the Desktop icons for the four partitions.

The drive was used constantly over a period of four weeks without a single problem, and you can't ask for an easier installation method than plug in and go!

CLIVE PARKER

SCSI 120MByte hard drive

£399 inc SCSI2 lead
For Falcons only
System Solutions
☎ 0753 832212

Highs
■ Small, neat, quiet, fast, plug-in and go.

Lows
■ Too small to use as a monitor stand.

What else?
Gasteiner supply a similar 120MByte drive for £469 including SCSI2 lead.

ST FORMAT RATING 85%

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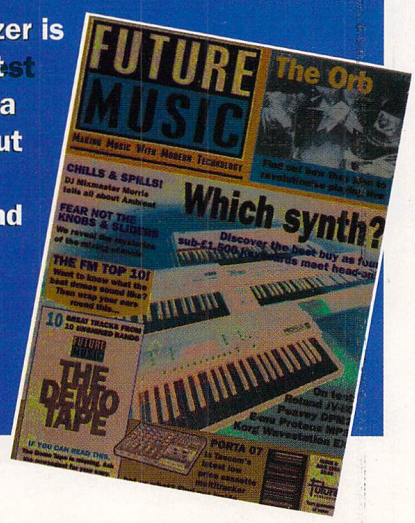

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- Epson, IBM and NEC P6 Emulation
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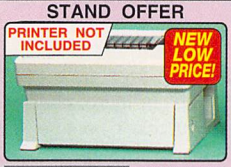

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THE *STF* ADDRESS

Send all your ST related problems to ST Answers, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW. Don't forget to indicate the type of problem on the envelope.

BEGINNERS
So, you've just bought your ST and you're not quite sure which bit goes where. Look out for this icon for related questions.

COMMS
Have you got problems with baud rates, modems or comms packages? Well, check out this icon for more details.

DISKS
Floppy disks are not meant to be treated roughly, so take care of them. Look out for this icon to find out more.

GRAPHICS
Do you know the difference between vectors and bitmaps? Good. If you're having other problems look out for this one.

HARD DRIVES
When a device can store such large amounts of memory, you have to make sure that nothing goes wrong.

PRINTERS
Surely, all you have to do is select print, sit down and watch it at work. Er, no. Printers can cause lots of problems actually.

PROGRAMMING
Problems in *STOS, GFA Basic* or assembly are dealt with by our experts in their separate panels. Other languages are welcome.

SOUND
With more of you getting into music after reading this month's feature, there's bound to be loads more queries...

ST PROBLEMS
Having undefinable problems with your ST or your Falcon? Check out this icon, you might find the right type of answer.

STEs and CD-ROMs, compatible or not?

Is it possible to use a CD-ROM drive with a standard STE? If so, what does this entail?
J R Price, London

stf: *SCSI CD-ROM drives can actually be used with a standard STE using the ICD Link and the ICD Hard Drive Utilities v6.0.8 supplied with it. The utility disk is supplied with an Atari CD-ROM driver called MetaDOS which enables STs to communicate with CD-ROMs which use High Sierra Group Standard or ISO 9660 protocols, the two major systems of data encoding for CD-ROM discs. You can get the Link from Power Computing (☎ 0234 843388) for £69.95 or from Ladbroke Computing (☎ 0772 203166) for £69.99.*

The down side is that although your STE can communicate with a CD-ROM drive, most of the programs and data on the majority of CD-ROM titles are in PC or Mac file formats.

The good news is that Codehead Software in the US are working on an interface to enable the Falcon to read Microsoft Bookshelf CD-ROMs, these are a collection of encylopaedic and reference titles. The latest information we have is that Microsoft Bookshelf Front-end software will be STE compatible.

Falcon blessed

I have just bought a Falcon030 with 4MBytes of RAM and a 65MByte hard drive. It doesn't seem to have an option to turn off the cache as stated in the manual. Is this true for all Falcons or have I got an old developer's machine?

Also, the *Audio Fun Machine* and, more importantly, *MultiTOS* were absent. Will Atari offer me this software at a later date and will it be free?

I think the Falcon is far superior to the STFM but is not that much faster when running ST software. Will there be any reasonably-priced accelerator boards for it?
David Clifford, Surrey

stf: *The cache cannot be disabled from the Xcontrol Panel on the Falcon, even though the manual does say that the general setup CPX can have different options enabled for different systems. This is because the cache option will probably be switchable in later versions of the machine. Floppyshop's (☎ 0224 586208) disk UTL3614 is full of Falcon PD utilities and includes a program to toggle the cache on and off when booting up.*

With regard to the "missing" software, Atari have said that all Falcon owners should write to them enclosing the serial number of their machine, details of the place of purchase and a photocopy of their proof of purchase. The Audio Fun Machine and MultiTOS will be supplied free of charge to all Falcon owners supplying these details. Find out more about the release of MultiTOS in this month's news section on page 7.

The first accelerator board for the Falcon that we have seen is being developed by GE Soft in Germany. The board offers a 32MHz processor, eight SIMM slots and a VME slot enabling other expansion boards to be added. The board plugs into the internal expansion slot of the Falcon and costs £599 excluding RAM. UK distribution is through Gasteiner Technologies (☎ 081 365 1151).

Mouse decelerator

When my old Atari mouse finally died on me, I bought a third party replacement. But it's just too fast for me! It has a resolution of 280 dpi and I find that I don't have the degree of control that I am used to. Is there a mouse decelerator program that I can use to slow the beast down?
Robin Ball, Wiltshire

stf: *A 280 dpi mouse is rather pedestrian these days, with 400 dpi rodents becoming more popular. If you really want your mouse pointer to go very slowly, get a genuine replacement Atari mouse. Gasteiner Technologies (☎ 081 365 1151) have the original Atari mouse for just £8.*

MUSIC AND MIDI

Problems getting your head around MIDI? Andy Curtis is here to help

Over too soon

I have a 520 STFM connected to a Yamaha Clavinova CLP-50. I use *Sequencer One* to enter music scores and then play them back. However, I am unable to play back any note longer than a crotchet despite the right note length being displayed. Why is this cut off happening?
Chris Clarke, Brighton

stf: *The best advice we can give you, Chris, is to check the setup of your CLP-50. We tried step entry of minims and semibreves into Sequencer One and it worked perfectly well. Exactly the same values were sent out as were put in. Just make sure that you have the gate set at around 75% in the step entry section of Sequencer One.*

How to score

Could you please tell me if there is a music program which can enable me to display a sheet or line of music stave and position notes and chord symbols onto it with a view to printing out when the sheet is complete?
A Bliss, Dartford

stf: *If you have an interest in MIDI sequencing, then it's a good idea to purchase a sequencer program with a scorewriting and print facility built-in. The advantage of this is that you can add to your score by using direct MIDI input as well as step entry. With this setup you can also listen to your scores when they are complete, this could well help you to spot errors as well. For this type of application get yourself a copy of Notator SL, £329 from Sound Technology (☎ 0462 480000). This is as good an implementation of the sequencer and score-writer marriage as you could ever wish to find.*

If, on the other hand, you really just want to write out scores in a dedicated score-writing package there are a number of great programs for your ST. A good entry level program is Copyist Apprentice, £119 from Zone Distribution (☎ 071 7385444). This program enables you to write and print professional looking scores with up to five pages per score. You can also import MIDI files to get you going. It has a big

Box of delights

When we bought our second-hand ST we came across a strange box called a Parsec Board. We first thought it was a hard drive but it isn't. What is it, how do you work it and where can I get the software to run it and manuals for it?
T J McDermott, Leeds

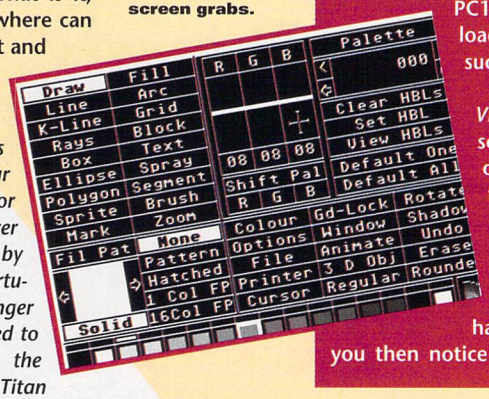
stf: *The Parsec Board is the first 16 million colour graphics board developed for the ST. It originally cost over £900 and was produced by Elmtech Research. Unfortunately, this company no longer exists, but we have managed to track down a source for the items you need. Contact Titan Designs (☎ 021 414 1630), they can supply the manuals and software for the Parsec Board for a nominal fee to cover their costs. Be warned though, you need a VGA or SVGA monitor to use the board, it cannot be used with an Atari colour monitor or TV.*

No response

I think I've got a problem with my floppy drive. With some disks I get a "drive is not responding" alert, and when I select Cancel, the system reboots.
D G Phillips, Dorset

stf: *This message normally appears when the data on the disk is corrupted or when you try to read a protected games disk from the Desktop. Test the disks on a friend's machine to see if they are OK. If they are, then you have a disk drive problem. Contact Analogic Computers, they run an approved ST repair service. You can call them on ☎ 081 546 9575.*

■ *Canvas'* main screen where you can use Jeremy Hollinshead's tip to regain the lost detail of your *VideoMaster* screen grabs.



Mastering the video

When grabbing full screen pictures in *VideoMaster* you may have noticed that the quality of the picture is reduced when saved as either *Degas* PI1, PC1 or *Neochrome* files and loaded into an art program such as *Canvas*.

The problem is that *VideoMaster* grabs a full screen picture in 16 shades of grey, and when you save the picture fewer shades are saved and some of the detail of your picture is lost. To regain the lost detail, load a picture you have grabbed into *Canvas*, you then notice that five of the shades of grey are duplicated in pairs in the colour menu bar along the bottom of the screen.

Select the Colour option, this displays the RGB value of the current selected colour. Where two shades are the same, say both have value 888, change the colour values of the first shade to the next value higher, in this case 999, by moving the sliders. Repeat this process for the other duplicated colours and save the palette, then save your picture. Everytime you load a *VideoMaster* grab you can re-load the saved palette to convert the picture to 16 shades of grey, as it was originally, and then save it for future use.
Jeremy Hollinshead, Buckingham

Is it cheaper?

Is it cheaper to buy a hard drive for the Falcon rather than spending an extra £400 (as advertised) to buy a machine with a 65MByte hard drive installed?
Jamie Young, Scotland

stf: *Yes. The Falcon has a SCSI2 port built-in, making it directly compatible with any SCSI1 or SCSI2 hard drive. Any Macintosh or PC compatible SCSI external hard drive works with the Falcon, and 42MByte drives are available now from System Solutions (☎ 0753 832212) for £299. Give them a ring if you're interested in hard drives with more storage space.*

As a bonus, external SCSI drives are actually faster than the Falcon's very own 2.5inch internal IDE drive. Something to remember when buying a hard drive though, is that most companies charge extra for the SCSI2 to SCSI1 cables – these can cost anything from £20 to £50 due to the high cost of the SCSI2 connector.

brother called Copyist DTP, £249 also from Zone Distribution. This package handles up to 100 pages per score and includes many advanced features.

General drumming

I am having problems with *Cubase V2*, I have a Yamaha PSS-790 connected up to it. When I load in a song file, an .ALL file for instance, when I play the song the voices are alright but the drums are all mixed up. I also have a Roland synth and the drums work fine on that, but not on the Yamaha. For example, the hi-hat comes out as a snare, I have tried using transpose but the drums are still mixed up. I am a newcomer to MIDI and need help because music isn't music without drums.
Paul Brandon, Manchester

stf: *We suspect that you are using drum tracks which adhere to the General MIDI standard. This means that the drum tracks expect to find specific drum sounds assigned to certain notes. On Roland synths these standards are nearly always implemented while Yamaha are not so accommodating, particularly on their earlier modules and keyboards. The solution is to separate all the drum sounds on to individual tracks and then to transpose each one till the sound is correct. This sounds a little fiddly but it does work. Good luck.*

Tidying up

I am having problems with the quantise feature in my sequencer. A friend of mine told me that a value of eight was needed to make the drums sound good, but whenever I do it I seem to lose a lot of the hi-hat parts that I enter. Where are the notes going to and how can I get them back? If I try a value of 16 then the parts sound very jumpy and not any better at all. I am fairly new to sequencing and I use *Cubase v.2* with a Yamaha SY77 keyboard.
Derek Foulds, Halifax

stf: *Quantise is the system by which a sequencer corrects input from the user. The value of eight to which you refer means that the sequencer pulls all the notes to the nearest quaver beat of the bar. If you have written 16 notes in the bar then all of them are crushed together so that they occupy only eight beats. Now you can see that your notes have not disappeared at all, they are simply on top of one another.*

You can undo the quantise feature by selecting that option in the quantise drop-down menu in Cubase and your notes return. If you then quantise using the 16 setting (semiquavers) and the music sounds uneven, this means that your initial input is not in the range of successful quantising. If this happens, all we can suggest is that you go back and have another stab at it. While quantise is, indeed, a wonderful thing, it cannot change water into wine! Keep practising and you'll soon get the hang of it.

Misinformed

I want to purchase an Atari STE and a synthesiser with the *Cubase sequencing* software. I don't have any experience with Atari computers but I do have experience with keyboards and sequencing. I am puzzled over other music software available in shops and through various magazines such as yours.

What sounds can I purchase on disk for the Atari STE? Would I be able to use other synth sounds regardless of what synth I have? A sales assistant in a local music shop told me I would be able to use disks with sounds for Korg and Roland even without the relevant synth, as long as they were on Atari self loading disks with their relevant editors.
J Cole, Cornwall

stf: *There's no doubt at all that your choice of computer and sequencing software is spot on.*

It's unfortunate, however, that your music store has advised you so badly regarding what your ST can do for you. You say that you have experience with sequencers, if this is so then you understand that the sequencer itself makes no sound whatsoever, it merely controls your synthesisers or sound modules. In this respect your ST is no different to any hardware sequencer.

Editors for different keyboards or modules are only ever of any use to you if you own the requisite gear. In this respect your music store has completely misinformed you. The power of your ST lies in the way in which it controls external MIDI devices, please don't ever let anyone fool you into thinking that when running a MIDI program it is your ST making the noises.

Syntronix info

Could you please give me the address and phone number of the the people responsible for the Syntronix Editman Super VHS you mentioned in *STF* 44?
Salomon Bomberg, Amsterdam

stf: *Syntronix are based at Burlington House, Prime Industrial Park, Shaftsbury Street, Derby DE3 8YB. Their number is ☎ 0332 298422.*

Musical labels

Is there a program that prints labels for music cassettes? I have some PD software but it only prints cassette inlays. I need to print continuous labels with the name of the band and the title of the music.
John Cox, London

stf: *There is no program available that does this as such, but there is a simple solution to your problem. All you need to do is write a small routine in GFA Basic (or similar) using simple* `Lprint` *commands. The distance between the top of one label and the next is usually 12 lines, all you need to do is experiment until you get it right. You can use printer control codes (listed in the printer manual) to set enlarged, bold and italic text or the printer's internal fonts using* `Lprint Chr$(x)` *commands, where* `x` *is the Escape code. The routine should look something like this;*

```
For a=1 to 100
    (the number of labels to print)
    Lprint
    (blank line at top of label)
    Lprint "The Running Dogs"
    (name of band)
    Lprint "Once more.
    round the block"
    (title of tape)
    Lprint  (blank line)
    Lprint  (blank line)
    Lprint  (blank line)
    Lprint  (blank line)
    Lprint  (blank line)
    Lprint "produced by.
    STF Records"
    (info line)
    Lprint  (blank line)
    Lprint  (blank line)
    Lprint  (blank line)
Next a
```

Dead machine

I have a 520 STFM that no longer works. When I switch it on the drive doesn't run and the screen fills with garbage. I can't really afford to get the machine fixed professionally, is there any cheap way of getting it fixed?
Mike Oakes, Devon

stf: *Unfortunately not. There are no shortcuts to fixing a dead ST unless you're very technically minded and know exactly what your ST's made of. Most repair centres have a fixed repair rate, with certain limitations, so you're going to have to save up. Ladbroke Computing International have an excellent repair service with a minimum charge of £35.25 plus parts. Call them on ☎ 0772 561071.*

True colour?

Is it true that by using a standard VGA or SVGA colour monitor I can obtain all of the Falcon's resolutions and colours? Do I have to worry about things like multisync or is this mode standard in a VGA monitor?
Steve Davies, Mid Glamorgan

stf: *A colour VGA monitor displays all of the possible Falcon resolutions including the three standard ST modes, although at the highest resolution (640x480) only 256 colours can be displayed on-screen at once. VGA monitors are not multisyncs and should not be confused with them – a multisync monitor is designed to be switchable between many frequencies while a VGA monitor runs at a single fixed frequency. This means a multisync operates with different output rates making it compatible with different machines and graphics standards.*

Small and hard

How do I format my Falcon's internal hard drive? Can I do this from the Desktop or do I use a program supplied by Atari?
Mick Farren, Co Durham

STOS CORNER

So, you're writing a program, and you're stuck on a crucial section. Don't worry, just put it to Billy Allan

Bouncey bouncey

I am trying to produce an effect whereby a control panel "falls" from the top of the screen down to the position I want it to be on, but I cannot get it to work. Please could you help.
Brett Grace, Australia

stf: *Try this little routine. It makes a 320 by 48 pixel panel bounce from the top of the screen and come to rest at the bottom of the screen.*

```
10 key off : hide : 
    curs off : mode 0
20 reserve as screen 14 :
    cls 14
30 cls start(14),1,0,0 
    to 320,48
40 logic=back
50 Y=-50 : OLDY=Y : SY=0 :
    DESTY=152
60 rem> main loop <
70 screen copy
    14,0,50,320,98 to 
    logic,0,OLDY
80 OLDY=Y
90 if SY<12 then inc SY
100 Y=Y+SY
110 if Y>DESTY then Y=DESTY
    : SY=1-SY : if SY=0
    then end
120 screen copy
14,0,0,320,48 to logic,0,Y
130 screen swap : wait vbl
140 goto 70
```

Audio problems

I have recently purchased *Audio Sculpture*, but I cannot get the replay to work in *STOS*. Whenever I run it I get a bus error.
David Turner, Longleton

stf: *I'm afraid to say that there isn't a lot you can do – all of the replay routines supplied with Audio Sculpture are faulty. All we can do is suggest that you write directly to the authors of the program or else try something like the STOS Tracker extension or The Gap tracker replay routine, both of which you can get from most PD libraries.*

The missing extension

I have written some games in *STOS* which I now want to compile, but whenever I try all I get is

GFA BASIC

Come rain or shine, Mac Marsden is always here to answer any GFA Basic queries you may have

Dumping ground

I am using *GFA v3.5* to learn and develop programming skills. As a beginner to programming I find the command `DUMP` very useful for debugging but I have some questions about it.

Is there any way to hold the screen to prevent the list scrolling out of sight? Can I direct the `DUMP` command to place the output to the printer? Is there any way of removing from the `DUMP` listing variables that are no longer used?
Ian Pentland, West Sussex

stf: *Well, Ian, we have been unable to stop the scrolling ourselves. We get around this problem by writing the information to a file which is then written to disk, use the command,* `DUMP TO "A:\DUMPINF.DMP"`. *Then we can read the result in a text editor, or send it to a printer. The command to send the result from the* `DUMP` *command straight to the printer is,* `DUMP "" TO "PRN:"`.

Yes, you can remove variables from the `DUMP` *listing, if you save your program with the* `SAVE.A` *command, then* `MERGE` *it back into the interpreter, all redundant variable names are then erased permanently.*

Time waster?

I want to write a program which involves loading 40 or more compressed *Degas* pictures, digitized from video. These need to be loaded into memory, then each screen needs to respond to MIDI note on/off messages to call up the picture. I have 1MByte of memory. How many compressed *Degas* screens fit into 1MByte of RAM? Because of the number of pictures involved in my program, would there be any room to program a simple type of MIDI file sequence player?
Robert Sixsmith, West Yorks

stf: *The number of compressed pictures that fit into 1MByte of memory varies, it's a bit like asking "how long is a piece of string." Compressed Degas files differ widely in size, from as little as 6K to over 24K per picture, making the memory needed anything from 240K to 960K for the number of pictures you want to use.*

As for the MIDI file sequence player, the answer is the same, MIDI files can be any size depending on the amount of data stored in them. The best way to plan a program is to sit down, turn the computer off and work it all out on paper first. Everyone likes to go straight to the coding, but working everything out on paper before hand saves time. For example, if you have graphics to be drawn in your program, put them down onto

an error saying "Extension not present in line 10,000."
Derek Payne, Codsall

stf: *This error occurs when you have an extension installed in your STOS folder, but not in the Compiler folder. There should be a list of files in your STOS folder with the extensions ".EX?" and a matching set for the compiler with the extensions ".EC?" so it should be a simple matter to find the missing Compiler extension and put a copy of it into the correct folder.*

Hidden information

Are Mandarin going to be producing a version of *STOS* for the Falcon? I noticed while using *Knife ST*, that I could hide files. Would I still be able to load them in from *STOS*?
Colin Ballantyne, Balloch

stf: *It is a little difficult to get any specific information from Mandarin Software, but we have heard a rumour that a Falcon version of AMOS Professional, the enormously succesful version of STOS implemented on the Amiga, is being developed. You can still access hidden files from STOS as long as you know the file and pathname to enter in your load command 'cos they won't show up in fileselectors or a directory listing.*

A musical type

A few issues ago, you printed a listing which would play back *Mad Max* music on interrupt. Could you tell me how to play other types? Also, is there any way to stop my ST resetting everytime I erase a memory blank?
Stuart Ferguson, Finhorn

stf: *To play back music you need to know the correct offset to jump to every vertical blank. Here's the basic idea for the most common types.*

```
10 COUNT_Z=6
11 MAD_MX=8
12 BIG_ALEC=4
13 LAP=MAD_MX
14 TAO=BIG_ALEC
15 MEGATIZE=MAD_MX
19 rem> Main program <
20 OFFSET=COUNT_Z
30 dreg(0)=1 : call ↵
     start(10) : wait vbl
40 loke $4D2,start(10)↵
     +OFFSET : wait vbl
50 repeat : until inkey$=" "
60 loke $4D2,0 : wait vbl
```

The reason that your ST resets when you erase a memory bank is that the music keeps track of the address of the next notes, but when you erase a memory bank all the other banks are moved around to fill up the freed memory. This means that the address the music thinks the next note should be at is just a random piece of memory, and playing these usually crashes your machine.

Slow blitter

On one of your previous Cover Disks you gave away the STE extension. I had assumed that using the BLITTER chip was faster than using normal *STOS* commands, but I have now discovered that the BLITTER chip is slower than some existing *STOS* commands! Do I have a slow BLITTER chip or is *STOS* extremely fast?
Andrew Macmillan, Aberdeen

stf: *Neither actually... Even using the BLITTER chip it's still possible to write slow commands.*

Using the DMA chip

I am writing a game which uses a lot of samples. Although the game runs on a normal ST I want to add "enhanced" features for the STE. Can I play back samples using the STE's DMA chip?
Henry Rawlinson, Brighton

stf: *Yes, it is actually possible to play back samples on the STE by simply poking a few values into the DAC (Digital to Analog Convertor) chip. This listing plays back a 25KHz sample from memory bank 10:*

```
10 ADR=start(10)↵
     : SIZE=length(10)
20 FREQ=2 : rem> 0=6.25,↵
     1=12.5, 2=25.0, 3=50.0 <
25 rem> set start address <
30 poke $FF8907,peek(varptr↵
     (ADR+3))
40 poke $FF8903,peek(varptr↵
     (ADR+1))
50 poke $FF8905,peek(varptr↵
     (ADR+2))
55 rem> set length <
60 poke $FF890d,peek(varptr↵
     (SIZE+3))
70 poke $FF890f,peek(varptr↵
     (SIZE+1))
80 poke $FF8911,peek(varptr↵
     (SIZE+2))
90 bset(7,FREQ)
100 poke $ff8921,FREQ
```

stf: *When you buy a Falcon with an internal hard drive it is supplied preformatted and ready to use. Atari do supply a hard drive utility program but you should have no need to use it.*

If you choose to buy an external SCSI hard drive it is also supplied ready to use, but check with the dealer you are buying it from to make sure. Hard drive installation software is always supplied with a brand new external hard drive.

Jagged edge

I have an ST and a Canon BJ-10e printer, but I have never been able to print a picture without "jaggies" appearing on the diagonal lines. What can I do to get better results?
Matthew Hosanee, Kent

stf: *The problem with printing pictures from the ST in low resolution is that each individual pixel displayed on-screen is quite large. When the image is transferred to paper, you are copying an image that is only 320 dots wide across a width of 205mm, making each pixel over half a millimeter in size – leading to the grainy effect you were talking about. Even though the BJ-10e has a printing resolution of 360 dpi, it cannot improve or enhance the original image. To achieve better results you can either print out smaller pictures or use a high resolution drawing program which has twice the resolution. For this, you are going to need a high resolution monitor or a mono emulator.*

Cue playback

I have an STFM and I am getting the *Quartet* sample sequencer. What is the Playback Stereo

graph paper then you are able to transfer the coordinates straight into your code. It does work.

Users fonts

I was pleased to find the *GFA* listing in *ST FORMAT* issue 41 for loading GDOS fonts into *GFA Basic*, but regret to say after countless attempts and configurations I am still unable to load the fonts, please help! Also, once I am able to load in the fonts I want, how do I display them on the screen?
M Nicholson, Cambridgeshire

stf: *When you install GDOS you must also include the fonts in the folder GDOS.SYS on the disk and also include ASSIGN.SYS which informs GDOS which fonts are available for the particular resolution you are working in.*

A quick way of doing this is to use the GDOS installation from Hyperpaint, which uses GDOS, and sets up fonts to be used. Then run the GFA Editor and load the program from issue 41. The program also demonstrates how to display them on the screen using `DEFTEXT` *and* `TEXT` *or* `ATEXT`.

Atari windows?

I am writing an Accessory program for text input using *GFA Basic*. But having tried `XBIOS(21)` and `CHR$(27)+"E"`, I cannot enable the cursor. Could you tell me how to do this?
Albert Halliday, Glasgow

stf: *You are correct to use* `XBIOS(21)` *and* `PRINT CHR$(27)+"E"` *but the GFA manual states that the VT52 Control codes, which you are accessing, can only be used for screens that do not contain windows. These control codes work perfectly well outside a window. The small listing we have included below shows you exactly how they work outside a window.*

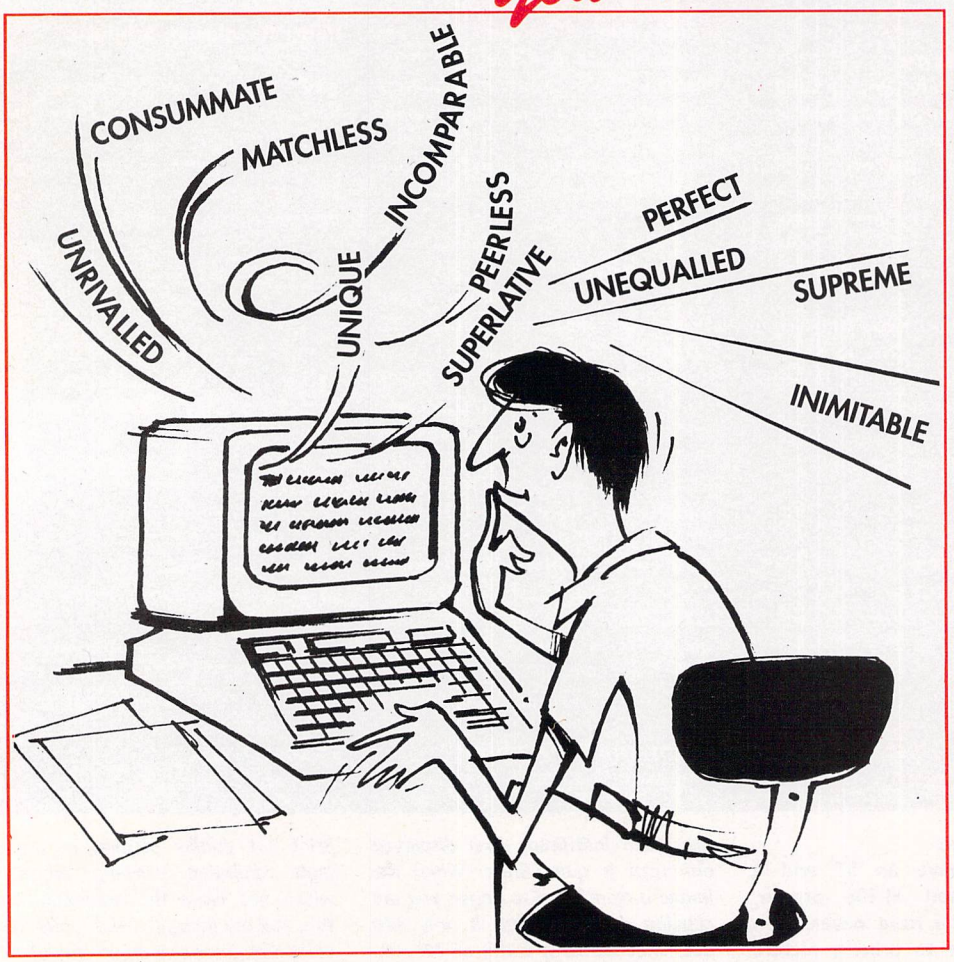
```
CLS
PRINT CHR$(27)+"e" ! enable cursor
~XBIOS(21,2,15) ! set blink rate
FOR f=32 TO 128
    PRINT CHR$(f); ! print ASCII character(f)
    PAUSE 20 ! Slow down loop
NEXT f
```

If your program needs to run within a window, here are a few options you may wish to consider. Make your own window and confine the cursor and text within this box. On selecting your Accessory, you take a picture of your screen using `GET 1,1,639,399,A$`, *and clear the screen. Once finished with your program replace the original screen with* `PUT 1,1,A$`.

To save memory you can just grab the area where your window or box is and then replace it afterwards. If you still want to use a window, initialise your own cursor and print it in front of the text being displayed.

PROTEXT 5.5

"You won't be lost for words" . . .



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New version of Prodata now with pull-down menus, mouse or keyboard operation, automatic record numbering, merge database, instantaneous filtering, prologue form, edit fields in any order, 2-across label printing. Full details available from Arnor.

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Sound Cartridge and can I use it with my machine? Do you have to have MIDI equipment to use *Quartet* and *Playback?*
Jamie Brown, Co Durham

stf: *The Playback cartridge provides stereo sound output for STFMs as long as the software it's used with has been written specifically to use the cartridge – Quartet has. The cartridge plugs into the port on the left side of your ST and provides two connections so you can listen to your tunes through your stereo system. Check out our mail order section on page 98, and save yourself £20 by ordering Playback and Quartet.*

You don't need any MIDI gear to use Quartet because it uses sampled sounds stored in your ST. That said, it is MIDI compatible and you can connect a keyboard to your ST and trigger the samples in memory.

Musical tip

In response to Christine Walker's query concerning *Music Studio* files in issue 46, I would like to point out that the ST Club (☎ 0602 410241) have a disk containing a program called *MIDI Music Maker.* This program can play various types of music files via MIDI and can also convert *Music Studio* files into standard MIDI format files, these can then be imported into sequencers that use MIDI files. The disk code is MID.51 and it costs £1.45.
Craig Dodson, Hull

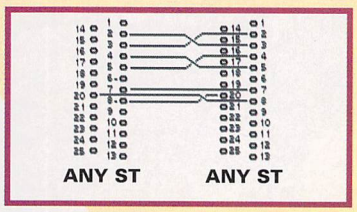
Connectivity

What type of computer do I need to use a null modem cable? Does it have to be a Falcon?
C J Wilmot, Avon

stf: *Null modem cables work between any two computers as long as they have serial ports and are both running comms software set to the same parameters. Settings should be set to 19,200 baud, RTS/CTS, 8 bits, no parity. The diagrams below show the correct connections – the Mega STE and TT connections are the same as the Falcon.*

If there's anything you would like to ask our team of experts, write to ST Answers, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.

ANY ST TO ANY ST



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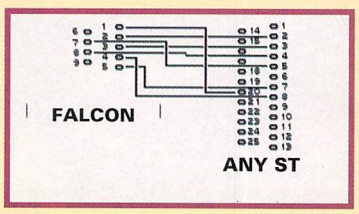

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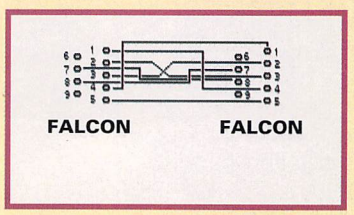

ASSEMBLY POINTERS

This month we have none other than Tony Wagstaff to sort out all your assembly niggles

Boot up

How do I write a program into the boot sector?
P Goden, London

stf: *The boot sector, side 0, track 0 sector 1 of a floppy, or sector 0 of a hard disk, is executable if the sum of all the bytes in the boot sector is equal to the magic checksum, $1234. This can be set, when writing the boot sector using the Xbios Protobt call, by making sure that the last two bytes of the sector plus the sum of the other bytes is equal to the checksum.*

The instructions starting at the beginning of the boot sector are executed, so you place a branch instruction here, which translates into machine code as $60xx, where xx is the branch offset. Your program is then placed at this offset into the boot sector, and obviously can't run beyond the end of it. Most boot sector games for instance, load some code into memory first, and then make a further jump to that code.

Over the border

Could you please tell me how to write to the borders around the screen, particularly the top and bottom ones? When do you have to change the frequency?
Geoffrey French, Basingstoke

stf: *The BORDER.S listing on the Cover Disk, sent to us by **Alex Johnson** of **Ely**, draws to the top and bottom edges of a low res screen. To draw over the top of the screen it installs a vertical blank routine, labelled ourvbl, which is run automatically whenever the screen is redrawn. This begins by switching to 60Hz enabling the top border to be drawn. The crucial line*

```
dcb.w 10,$4e71
```

sets up ten nop instructions, which take up just enough processor time for the border to be drawn, when we can switch back to 50Hz. This relies on an 8MHz machine, and needs to be adjusted for faster processors. Finally, timer B is set to interrupt after 228 counts. Since timer B counts the number of screen lines, the interrupt, which is labelled ourtb in the listing, occurs at the bottom of the screen. Another switch to 60Hz, and the bottom border of the screen can be drawn over.

Local link-up

Most assembly language coders are also proficient in at least one other higher level language such as C, BASIC or Pascal. If so, you are familiar with the concept of local and global variables. Local variables are useful if you write a routine that you might want to use in more than one program, or if you write a recursive routine. You can of course use data registers if you only have a few variables, but what if you need your registers for another purpose?

The 680x0 series of processors were designed with this in mind, and the link instruction was built into its command list to accommodate local variables. The link instruction loads the top of available stack into the specified address register, having first saved the contents of that register on the stack and adjusted a7 accordingly, and then adds the value of x to a7. Since the stack moves downwards through memory this value should be negative, and equal to the total size of your variables. The memory between the addresses in a6 and a7 can be used to store your locals, and a7 can be used as the stack pointer in the normal way, to call TOS and so on.

One pitfall that needs to be avoided is stack overflow. This happens if you make so many routine calls that a7 ends up pointing outside of the stack area, so check that a7 is within the stack boundary as soon as you've linked your address register. You need to leave enough stack room for any bsr's and TOS calls your routine might make when checking for overflow:-

```
myroutine
.offset equ 6 *this should equal
      the total size of your locals
      rsset -.offset
      .local1 rs.w 1
      .local2 rs.l 1
      link a6,#-.offset
      cmp.l overflow,a7
      blo stack_overflow
      move.w    #25,.local1(a6)
*.local1=25
      move.l    #50,.local2(a6)
*.local2=50
      .......
      unlk a6
      rts
*The following needs to present in
your main program
      data
overflow dc.l stack+$40
      bss
stack ds.b stack_size *set a7
to point initially to end of *stack
```

Reset vector

*Thanks to **Michael Kirk** of **Stevenage** for his help in answering S A Benning's query in ST FORMAT 45 regarding the reset vector. By placing the magic number $31415926 into address $426, and the address of your routine into $42A, the routine runs after a warm reset. You need to be in supervisor mode to access these addresses. Don't try to access the operating system in your routine, because it is run before the operating system itself is installed.*

A few other points to watch for are that your ST is in 60Hz screen mode, so begin your routine with...

```
move.b #2,$FFFF820A
```

...to alter it to 50 Hz mode. Your routine also has no way of quitting, so it needs to enter an endless loop, or restore the old routine originally addressed in $42A.

Finally, to force a warm reset without pushing that useful reset button at the back of your ST, use the following code:-

```
move.l $46e.w,a0
jmp (a0)
```

Once your routine is up and running it receives no help from the operating system and has to take charge of absolutely everything.

If you want to display a picture for instance, you have to put the picture's address into the screen's hardware address at $FFFF8201 and $FFFF8203 yourself.

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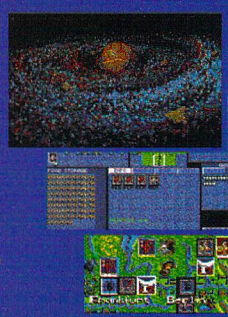

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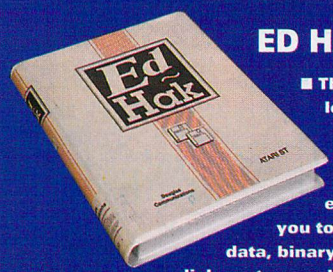

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SCREENPLAY

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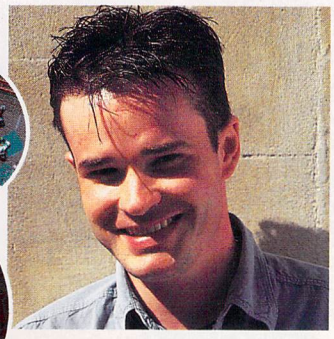
THE CHAOS ENGINE

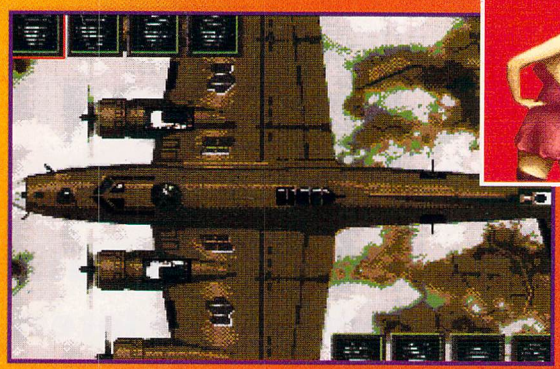
■ The most eagerly awaited shoot-'em-up of the year, *Chaos Engine* finally makes its debut on the ST. It looks fantastic and plays like a dream. Keep your curiosity in check no longer, turn to page 68 now.



■ Rob Mead plays ST games in his sleep, so for an honest opinion or a handy tip, he's your man.

B17 FLYING FORTRESS

■ Relive the excitement and tension of those daylight bomber raids over Europe with Microprose's new flight sim. The next plane leaves on page 72.



FIREHAWK

■ Can Codemasters produce more than just platform games? You bet, and *Firehawk* proves it. Show the bad guys who's boss in this tale of organised crime and fire-spitting helicopter gunships. Page 76.

Gamebusters - page 83

■ If you've been having trouble playing the excellent *Dungeon Master*, we give you the complete solution on the Cover Disk.

More hints, tips and cheats for those hard-to-beat ST games

■ The *Dungeon Master* solution gets the Cover Disk treatment.
■ *Grandad's Search for the Holey Vest* is solved and mapped.
■ A complete solution to space adventure, *Starglider 2*.
■ Part Two of our guide to *Operation Stealth*.
■ And stacks of invincibility cheats, hints and tips for more games than you can shake stick at.

STF REVIEW POLICY

■ It is *ST FORMAT* policy to only review completely finished games – that is, games you could actually buy in the shops, never incomplete or demo versions.
■ We won't be rushed into reviewing unfinished games to beat our "competitors."
■ We assume all games run on 520 STFMs unless otherwise stated.

Captain Blunder - the ST gaming wonder

Superheroes don't come much more super than this. No matter what your ST gaming problem, Captain Blunder's here to sort it out. Turn to page 86 to find out more

AVAILABILITY
You've heard how brilliant this game is but you can't find it anywhere. Just ask Captain Blunder for help.

CHEAT
Everybody knows cheating isn't a particularly fulfiling way of winning. But when you've spent hours trying to solve a problem and you still can't finish off the level, you need to ask Captain Blunder for a cheat.

GENERAL
So you've got a gaming problem, but it's nothing to do with any of the other four categories. No worries, Captain Blunder also looks at general gaming problems, so just send them in if you want them sorted.

TECHIE
Is your ST giving you grief when you play your fave game? Captain Blunder loves technical hitches.

TIP
You don't want to cheat, but you wouldn't mind a helping hand – Captain Blunder gives just that.

The characteristics of Chaos

You can pick two of the six characters available for hire in Chaos Engine, so here's the lowdown on the low-life

1 Mercenary

The Mercenary is a good all-rounder, but less able than the Brigand in many ways. His machine gun has a good scatterball effect and he gets plenty of special weapons.

2 Gentleman

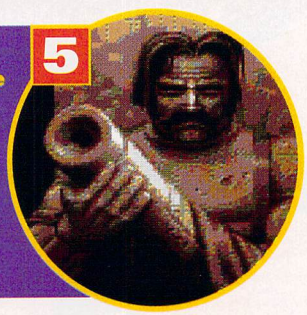
A sophisticated wit, the Gentleman kills with his wit, rather than by brute force. He's no wimp though, and his weapon is one of the most powerful in the game.

3 Thug

What the Thug lacks in speed and skill, he makes up for with brute force and plenty of powerful weaponry. Team him up with the Mercenary for a wicked gun-totin' twosome.

4 Brigand

Equipped with a long-range weapon, the Brigand has equal abilities in all the main attributes. He's a ruthless killer, but not as resilient as the Thug or Navvie.



5 Navvie

This chap is the best fighter of the lot with a host of powerful weapons and special abilities. Unfortunately, he's not very fast or very clever.

6 Preacher

The Preacher is the most intelligent of the mercenaries, but also the least trustworthy. Despite owning a powerful weapon, he's not very resilient and dies easily.

When the going gets tough, the

At the end of every second and fourth level you can spend your well-earned gold boosting your characters' attributes

1 Character's available lives
How many lives you have left.

2 Character's attributes
Tells you the state of their stamina, wisdom, skill and speed. The yellow bar indicates the maximum level a character can attain while the green bar tells you the current level.

3 Character's portrait
Shows the picture of the selected character.

4 Weapon held
Tells you which weapon your character is using.

5 Character's cash balance
Tells you how much money you have to spend.

6 Weapon power
Shows you your weapon's alien-stopping ability.

7 Special ability held
Tells you which Special Ability weapon your character is using. Press the left <Shift> key to change Player One's currently held weapon and the right <Shift> key to change Player Two's.

8 Inventory
Shows the weapons and special abilities available to you.

9 Special power
Gives the power rating of the selected special ability.

CHAOS

Disorder and confusion reign supreme in the latest offering from the Bitmap Brothers. Rob Mead tries to make sense of it all

The Bitmap Brothers' name is synonymous with quality software. They've produced some phenomenal games for the ST – *Speedball, Speedball 2, Xenon, Xenon 2, Magic Pockets, Gods* and *The Bitmap Kid*, so it's no surprise to discover people have been whipping themselves up into a frenzy over what could be the Bitmap's greatest game yet.

The Chaos Engine tells the tale of a dotty inventor who creates a powerful machine only for it to turn on him and unleash the malevolent forces of darkness upon the world. It's your job to hire and guide a pair of trained assassins towards Fortesque Mansion where the engine is buried and destroy it before it threatens the survival of the planet. However, between you and the mansion are hundreds of crazed beings and psychotic machines prepared to do anything to stop you reaching your objective and completing the game.

At the start of the game you're presented with six hired guns to choose from – the Brigand,

Fortesque Mansion contains some of the weirdest-looking creatures you've ever seen. The Addams family ain't got nothing on this.

tough go shopping

10 Extra life
Extra lives cost 500 credits. Buy as many of them as you can afford.

11 Player One portrait
Shows your character's picture.

12 Player Two portrait
Controlled by your ST if you're playing a one-player game.

13 Skill increase
Boosts a character's ability to handle new weapons.

14 Stamina increase
The stronger your character is, the less likely a casual run-in with a baddie is going to kill him.

15 Speed Increase
This increases the character's speed level.

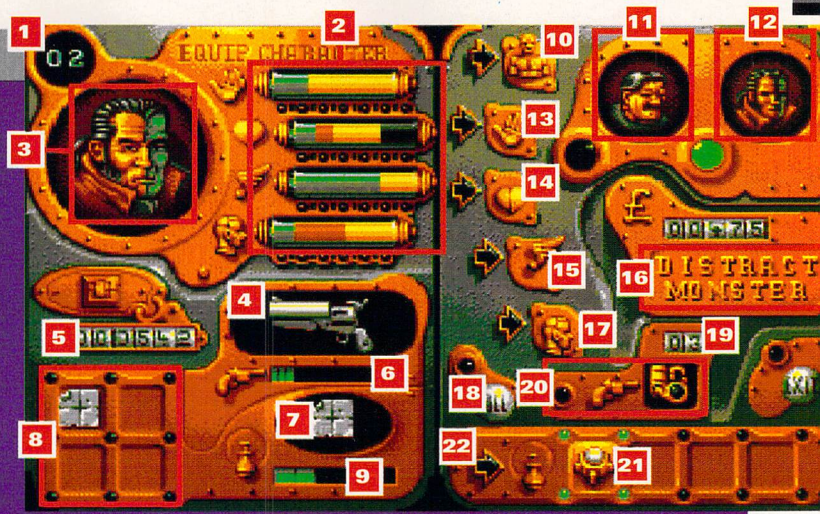
16 Item description
Tells you what each selected item is.

17 Wisdom increase
Determines an ST-controlled character's ability to play effectively.

18 All
Your ST chooses which of your character's attributes need most money spent on them. However, it doesn't purchase weapon power-ups or special abilities for you.

19 Weapon power-ups available
Tells you how many power-ups are available for the weapon you're holding.

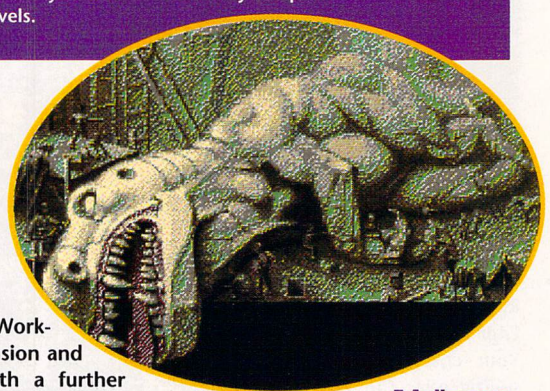
20 Weapon power-up
Tells you what kind of weapon power-up is available.



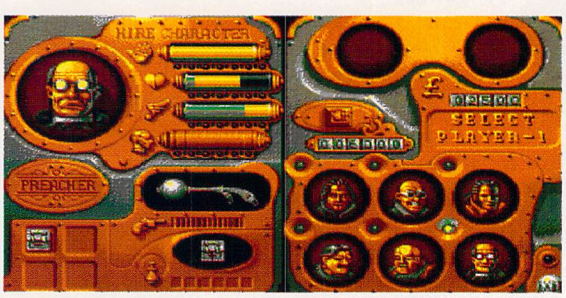
21 Special abilities for sale
Special abilities include Shields, Repel Monsters, dynamite and maps. These are dead handy when you find yourself in the higher levels.

22 Special power
Enables you to buy power-ups so that you can keep using your special ability weapons.

ENGINE



■ A dinosaur falls victim to the forces of evil in the Bitmaps' brilliant *Chaos Engine*.



■ The character selection menu. From here you can choose two hired killers to help you complete your quest.

the Gentleman, the Mercenary, the Navvie, the Preacher and the Thug. Each character has various attributes associated with him, including wisdom, skill, speed and stamina. They also come armed with a wide variety of weapons of differing strengths – see the Characteristics Of *Chaos* box for more information. The key to choosing which pair of chaps to hire is the degree to which they complement each other's abilities – it's no use picking the Navvie and the Thug because of their high stamina and powerful weaponry only to be let down by their lack of speed and mental agility. Stick a more sophisticated character in – like the Gentleman – and you find they get on like a house on fire.

In single-player mode you control one of the chosen pair, while your ST controls the other. How well you and your ST operate as a team is determined by the level of wisdom the ST-controlled player has – a low level of wisdom means he wanders around aimlessly and becomes more of a hindrance than a help. Wisdom levels can be boosted on the Character Attributes screen – see the When The Going Gets Tough box above. In two-player mode, *Chaos Engine* enables you and a pal to work co-operatively if you're to complete a level – a refreshing change from the adversarial combat found in most other shoot'em-ups.

"There are various collectibles lying around which enable you to boost your team's abilities"

The four worlds

Once you've chosen your characters, it's time to enter the land of *The Chaos Engine*. The action takes place over four different worlds – The Forest, The Workshops, Fortesque Mansion and the Cellars, each with a further four sub-levels. Every world has different hazards and opportunities associated with it. The Forest world finds you under attack from rock monsters, leaping frogs and bullet-spitting gun emplacements, while the Workshop world sets you against swarthy giants, lizards and exploding blobs.

Once you get into Fortesque Mansion and the Cellars you find yourself overwhelmed by disembodied hands, boulder-throwing hulks, whirlwinds and berserk robots. As you expect, the nasties get progressively harder to kill the further through the game you get. This is where your hired assassin's weapons, special abilities and collectibles come in.

As you progress through the game your character's various attributes enable him to handle more and more powerful weapons. Specifically, the increases in his skill level enables a character to take advantage of the special weapons at his disposal. For example, the Brigand can use a Repel Monsters weapon, while the Navvie operates a ground mine. There are also various collectibles lying around each level which enable you to boost your team's abilities – for example, food icons increase your stamina, while weapon collectibles increase your firepower.

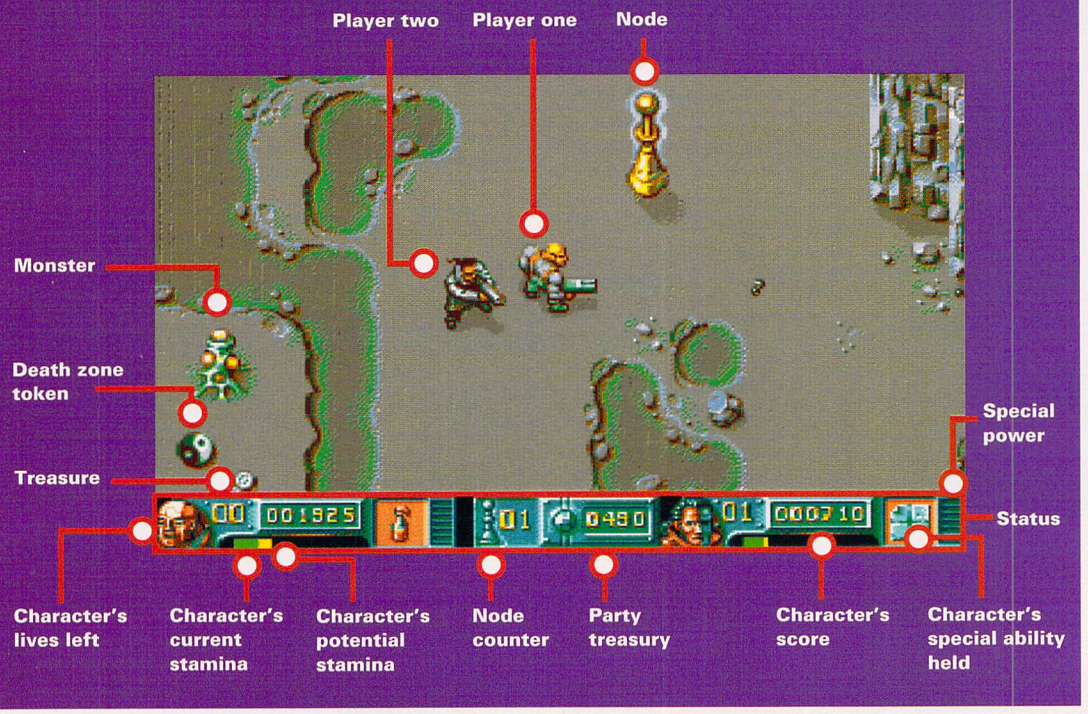
Other collectibles include treasure – so you can buy power-ups for your team – and quantities of gold or silver keys which create access routes or reveal hidden goodies. However, the most crucial collectible is the Death Zone Token – it saves your game position, so you don't have to start a level again if you die. Finally, you must also ensure you activate the set number of nodes on each level, so you can find the level exit gate.

Double trouble

Level Three of Fortesque Mansion finds you battling against the weirdest baddie of all – yourself. Things get confusing as you have to decide who's who during the heat of a firefight.

THE BITMAPS' KILLING FIELD

Chaos Engine's game screen is a confusion of goodies, baddies, bombs, bullets and a whole range of collectibles... not to mention a team sub-menu on top of all that



What's it like, then?

Right from the word go, *Chaos Engine* looks and plays like a dream. Your characters move slickly and swiftly over the 2D backdrop and there's never a hint of jerkiness in the gameplay. The diagonal moves are sometimes difficult to get the hang of, but this is more likely to be because of your joystick than any unresponsiveness in the eight-way scroling.

The great thing about this game is all the surprises it plays on you. Doors open and close without warning, previously accessible rooms suddenly seal up when you get near them and nasties leap out at you from every conceivable direction. Despite its strictly linear structure, the game never actually repeats itself – there's always something different lurking around the next corner.

The one and two player modes also work really well. When you play with your ST, you can safely send its character into those impossible situations you're too cowardly to get into and then nick all the goodies before it does. However, the best way of ensuring your survival is by forming a team with one of your pals – that way both of you can make the most of each character's strengths and get a lot further through the game than you could on your own – selfishness is rewarded with death.

■ Power-ups and food are in great supply, but can you kill the baddies and collect them without getting killed yourself?

Everything in *Chaos Engine* is controlled largely by joystick, including the various menu screens, so moving your characters around is simply a case of pointing the joystick in the direction you want them to go. However, diagonal moves can be difficult to achieve, although this can be attributed to the quality of the joystick you're using rather than any unresponsiveness in the gameplay. Using your special weapons couldn't be easier – simply hold down the <Fire> button for a couple of seconds until the icon on the menu bar flashes, then release.

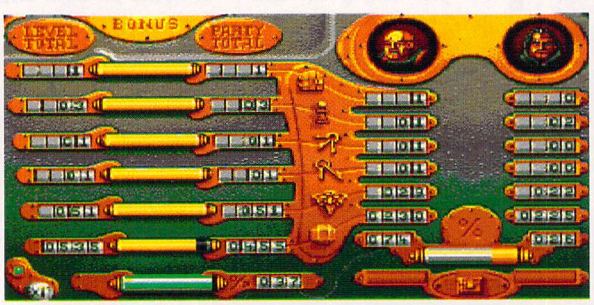
"The game never repeats itself - there's always something different lurking around the corner"

Graphically the game covers the same kind of Victorian/Jules Verne territory explored in *Transarctica*. The characters and weapons look curiously old-fashioned, lending a familiar, but distant atmosphere to the game – it's a bit like putting on your grandad's old suit and strutting your stuff down the local nightclub – it looks weird, but somehow seems to work. The sprites are large and well animated – especially the creepy dismembered hands, while the backdrops are filled with the kind of incidental detail which turns a good game into a great one. In the Sewer world, for example, water gushes realistically from pipes and splashes into green pools below.

Wherever you find yourself, there's always something happening on-screen – the world of *Chaos Engine* feels like a real world, not an ST-generated one.

The sound effects are sparse, but well thought-out with realistic gun-fire and explosion effects. There's a slice of sampled noise from rave band Joi at the start of the game, although the remainder consists of chip music bleeps.

If you play on an STE, the *Chaos Engine* automatically detects its advanced features and runs an enhanced version of the game with faster, smoother scrolling and an increased colour palette. With 1MByte of RAM on board, the game requires fewer disk accesses and you get background screens on the selection menus so it's worthwhile getting that upgrade you always promised yourself.



■ At the end of each level this screen appears to tell you how well you and your mate are doing.

Verdict

Chaos Engine is brilliant. Superb graphics and sound effects combine with incredibly addictive gameplay to produce a playing experience like no other.

You're gripped right from the start and – as the tension mounts – you know there's no way this is going to be a short-term love affair. *Chaos Engine* is wild, sprawling and packed with atmosphere, but most of all it's original – a rare thing for a shoot-'em-up to be.

There's no doubt, the Bitmap Brothers have done it again. Quite simply, *Chaos Engine* is one of the best shoot-'em-ups you can get your hands on for your ST. ***stf***

Chaos Engine

£25.99 Renegade
☎ 071 702 3644
All STs, except Mega 1s. STE with 1MByte RAM recommended.
Two disks.

Highs

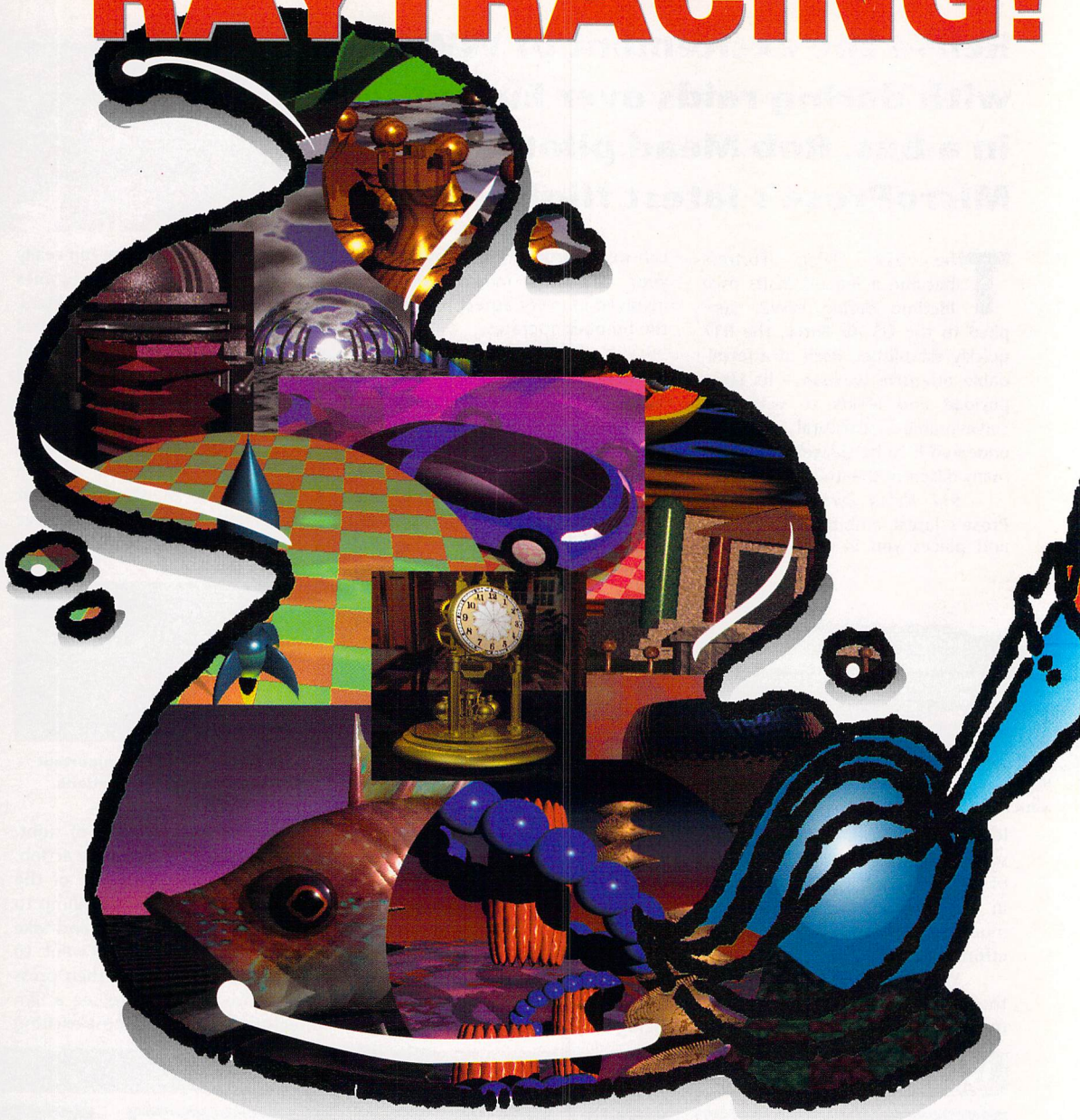
■ *Chaos Engine* is a brilliant, sprawling game which looks and plays like a dream.

Lows

■ It can take a while to get used to the controls and the game is perilously addictive.

STF RATING 94%

UNLEASH THE POWER OF RAYTRACING!



Create the most realistic pictures ever to appear on your ST using amazing raytracing techniques. We show you exactly how with next month's step by step guides and Cover Disk program. You'll be utterly amazed by what you can do!

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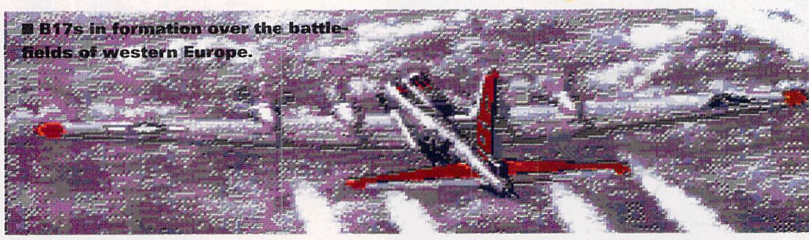
- The software houses who are looking to a bright **Atari** future
- **MultiTOS** - the ultimate lowdown
- ***Ishar 2*** and ***Lemmings 2*** - the ***completed*** versions reviewed
- **and much more!**

ON SALE TUESDAY 13 JULY 1993

ST FORMAT

B17 FLYING FORTRESS

Relive the excitement of WW2 with daring raids over Europe... in a bus. Rob Mead pilots MicroProse's latest flight sim



■ B17s in formation over the battle-fields of western Europe.

The B17 Flying Fortress became a legend in its own lifetime during WW2. Supplied to the US Air Force, the B17 quickly established itself as a formidable offensive weapon – its large payload and ability to withstand considerable structural damage endeared it to battle-weary pilots in many different theatres of combat.

B17 Flying Fortress is MicroProse's latest ambitious flight sim and places you in control of this legendary aircraft. Your role is to successfully lead a small formation of aircraft against Allied objectives in Occupied Europe, wreaking as much damage on the German war effort as possible.

■ Take command of the war in the skies with MicroProse's *B17 Flying Fortress*.

You don't just play the pilot, though. There are nine other crew members on board your B17 who can be controlled either by you or your ST. This means you get involved in every aspect of the way the bomber operates.

Taking off

At the beginning of the game you can either dive straight into your first mission, or take part in a series of smaller training missions. These enable you to get the hang of the different aspects of your complex aircraft, as well as discovering the relative strengths and weaknesses of your crew. It's a good idea to move the crew around the different compartments of the aircraft, so they build up skills in all the different aspects of bomber flight – navigation, bomb-aiming and defence, for example. A well-trained, competent crew is essential for maintaining morale and crucial during combat – an injured bomb-aimer can then easily be replaced by another member of the crew.

Once you're fully trained up, it's time to embark on your first mission. A feeling of real trepidation comes over you as you cross the channel and feel your aircraft being buffeted by the first waves of enemy flak. However, the fun really begins when your flight comes under attack from enemy fighters. At this point you can take control of any of the B17's eight guns located in various positions around the aircraft. The German planes first appear as specks in the distance, but approach rapidly firing tracer and cannon at your aircraft. Keeping track of them in your sights is not easy and you only have a few seconds to shoot at them before they disappear out of sight. You needn't miss out on the action, though – simply press one of the dedicated function keys to jump to another gunner's position and take over there. If you don't want to participate in the battle then press <Alternate> and <M> to see a film director's view of the most exciting pieces of action, including the German fighters' perspective.

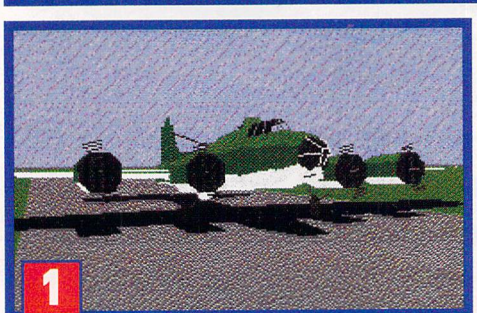
■ Your crew is the most important part of your airborne operations.

As you approach your target, you can take over the bomb-aimer's job. This involves holding your objective steady in the cross-hairs of your Norden bomb-sight until the Bomb Release Cue light illuminates. Only then can you be sure your bombs are going to hit the target. This is the trickiest job on the aircraft and even your ST's crap at it most of the time, preferring to drop the bombs in the sea than on the heads of the bally Hun.

Since you usually fly without fighter protection, your aircraft often sustains heavy damage before it even gets anywhere near its target. Engines catch fire, crew members are injured and control of the aircraft can be lost as a result of wing damage – it's even possible for gun emplacements or the bomb doors to jam.

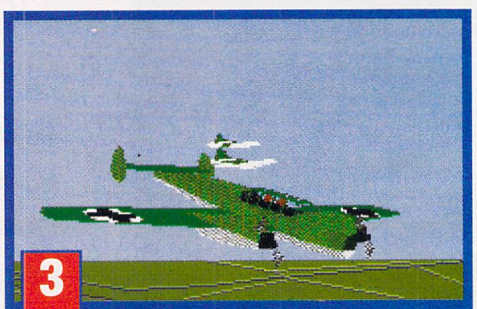
Luckily, you can deal with most eventualities thanks to the on-board fire-extinguishers and manual controls for unjamming fault equipment. Sometimes the damage is too much and you have to bail out, leaving injured crew members behind.

DEATH OF A BOMBER

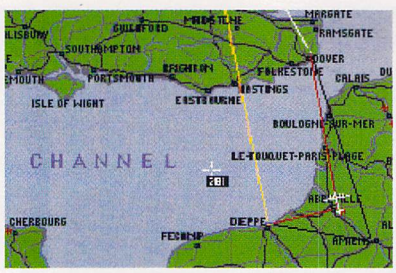


1 The Memphis Belle soars into the air, heading for a daylight raid on a Dutch power station.

2 The lumbering bomber teams up with the other members of its flight and strikes out over the North Sea.



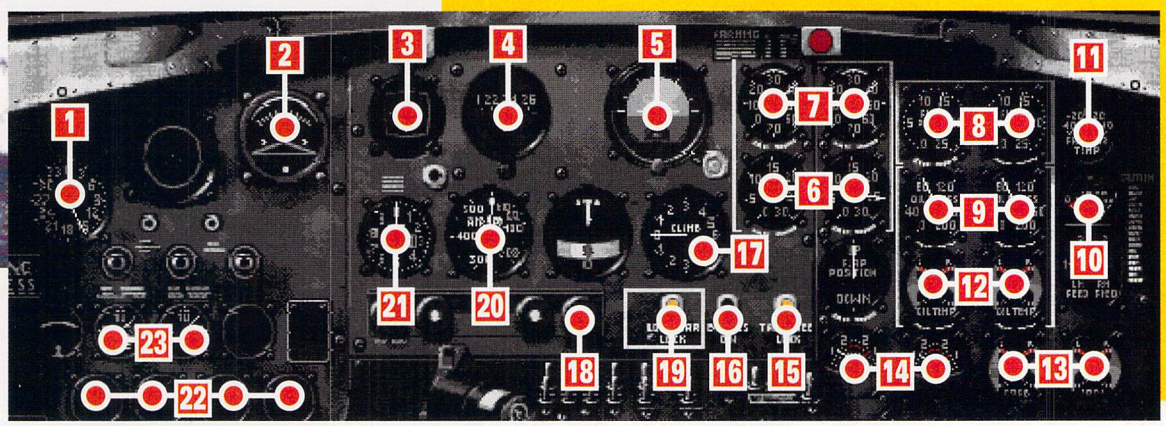
3 Alerted to the Allied raid, the Luftwaffe launch their fighters after you into the skies over Belgium.



■ **The navigator keeps tabs on your formation's position and objective with the help of this waypoint map.**

It's enough to turn you instrumental

The B17's instrument panel contains crucial information about the well-being and status of your aircraft



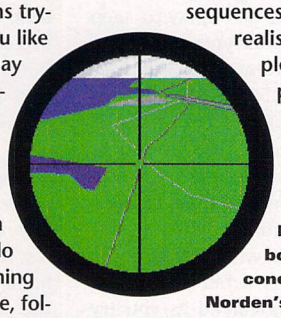
1. Radio compass
2. Directional indicator
3. Localiser indicator
4. Directional gyro
5. Flight indicator
6. Tachometers
7. Manifold pressure
8. Fuel pressure
9. Oil pressure
10. Fuel gauge
11. External air temperature
12. Oil temperature
13. Carburettor air temperature
14. Cylinder head temperature
15. Tail wheel lock
16. Brake light
17. Rate of climb indicator
18. Cigarette lighter
19. Landing gear indicator lock
20. Airspeed indicator
21. Altimeter
22. Pilot/co-pilot oxygen flow
23. Emergency oil and hydraulic pressure

Damage assessment

There's certainly plenty for you to do in *B17*. Where most flight sims only give you the chance to fly the plane, *Flying Fortress* enables you to do everything. It's all a bit bewildering at first as you toggle between the different positions trying to decide what to do. If you like shoot-'em-ups you could play the tail-end Charlie and hammer away at incoming enemy aircraft without getting involved in the other bits.

Piloting the B17 can be a bit dull. It's not like flying a fighter where you get to do somersaults and stomach-churning dives – you just have to sit there, follow the navigator's waypoints, wait for the bombs to drop and head home. It's a bit like going on a charter flight really – you have to keep an eye out for the odd engine fire and keep a sick bag handy.

Like most flight-sims on your ST, the scrolling in *B17* is not all that it could be – bomb-aiming or taking pot-shots at enemy fighters is made a lot harder by the constant disk-accessing and the jerky movement of your targets or gunsights. However, it all adds to the challenge and the combat sequences feel extremely realistic. For example, take up a particular gun position and you can only move your guns in a certain trajectory before your view is obscured by the bulk of your aircraft. The enemy also closes in extremely rapidly and you can feel the terror welling up inside you as you realise how vulnerable you and your crew are – it's a thrilling and addictive ride.



■ **Begins your bombing run and concentrate the Norden's cross-hairs on the rapidly-approaching target.**

Oh yes - controlling it...

Control of the gameplay in *B17* is a mixture of keyboard, mouse and joystick moves. The mouse is used to access the various in-game menus, while the keyboard is used for the different aircraft controls and views of the action. The joystick controls the piloting, bombing and shooting elements.

Graphically, *B17* consists of a mixture of static screens and filled 3D vectors – a standard feature on nearly all flight sims. However, the 3D sequences are well-animated and there's enough detail in the aircraft sprites to make the whole thing realistic. Unfortunately, the sound effects are more disappointing – the engines are reduced to a series of farty noises and the militaristic chip music sounds laughable – it's a bit like the Dambusters march being played on a kazoo.

B17 Flying Fortress

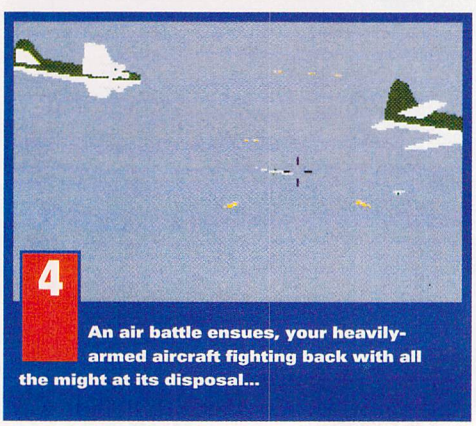
£34.99 Microprose
☎ 0666 504326
Two disks

Highs
■ *B17* is a challenging, original flight sim with plenty of thrills and spills.

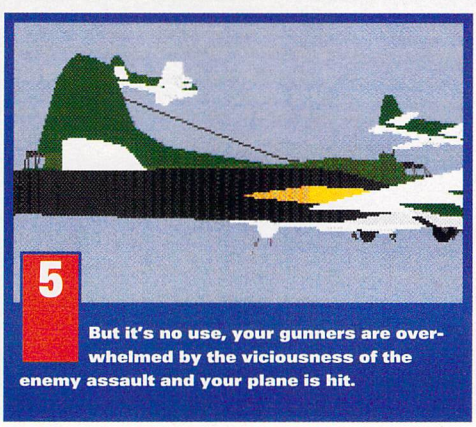
Lows
■ The game's extremely daunting at first and you crash a lot.

Verdict

B17 is an absorbing and challenging flight sim which is as much a test of your management abilities as it is of your flying and combat skills. It realistically conveys the excitement of those daring raids over Europe, with excellent graphics. MicroProse have another winner on their hands. ***stf***



4 An air battle ensues, your heavily-armed aircraft fighting back with all the might at its disposal...



5 But it's no use, your gunners are overwhelmed by the viciousness of the enemy assault and your plane is hit.

6 The war's over for the Memphis Belle, but your crew bailed out and live to fight another day.

SUPER CAULDRON

An evil sorcerer has subjected the people to his tyranny in *Super Cauldron*, the latest platform game from Titus Software.

With spit of slug and eye of dog another platform concoction is brewed up. Rob Mead tries it and turns into a frog

Forget the Hannibal Lecters or Adolf Hitlers of this world, there's an evil sorcerer on the loose. He's unearthed the Chest of Curses and subjected the people of Cauldron to his tyranny. Even worse, he's roped in the cuddly plants and animals to do his dirty work for him and turned them into violent, vindictive little snots. Unsurprisingly, doom and gloom soon spreads across this once tranquil land.

Super Cauldron is a platform game with a female heroine as its star. You play Zmira, a wise old witch who's been left with the responsibility of defeating the evil sorcerer and returning the land to peace and prosperity. You have to cross four worlds – the Enchanted Forest, the Field of Spells, Zythum and the Haunted Castle – in search of a key which unlocks a chamber to a magic book. Collect all four magic books and the evil sorcerer is defeated, and your mission is accomplished.

All this leaping over hot coals is exhausting work - Zmira pauses for a breather before she jumps into the great unknown.

With all these bad vibes going around, you know Zmira's going to need something to defend herself with. At the start of the game she's only armed with a humble Stone weapon, but you soon find more power-ups as you cross each level – everything from Fireball weapons to Magic Bridges. You can also find potion bottles – which boost your rapidly diminishing energy levels – and cauldrons which give you extra lives if you need them.

The big problem with *Super Cauldron* is that there's a long and illustrious history of platformers on your ST and this game simply can't compete. Recent games like *Sleepwalker* showed the way for the future with its original plot, sexy graphics and staggering gameplay, yet *Super Cauldron* falls down on all these points. It feels curiously old-fashioned, owing more to old ST games like *Elf* than its contemporaries – you just can't help feeling you've seen it all before, yet this doesn't stop *Super Cauldron* from being an enjoyable game to play.

There's enough tension and frustration in the gameplay to keep you at your ST as you guide the cute little witch around the four different worlds and their associated sub-levels. There are plenty of baddies for you to take pot shots at, even if it does take a heck of a long time for some of them to die – try experimenting with your weapons to see which ones work best. There's also a fair amount of detective work involved as you try to solve some of the puzzles and hunt everywhere for those hidden collectables and sub-levels.

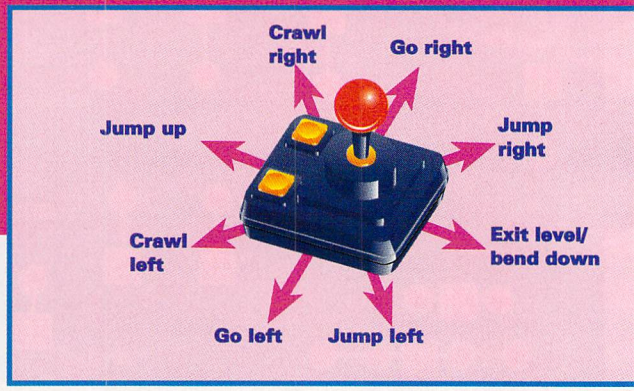
All of Zmira's moves on-screen are controlled by your joystick, including access to her Spell Book inventory. The graphics are well drawn but uninspiring, while the sprites' collision detection is competent. Annoyingly, there's no way to turn the in-game music off and keep the sound effects on, but you don't really miss them. One good feature is the ability to save your current position on the game disk, although you can only do this at certain stages – try to save just before a dangerous leap and you find the game has saved the start of the sub-level instead.

Verdict

Super Cauldron isn't going to win any awards for originality, in fact it's hugely reminiscent of *Elf*. The linear plot positively creaks under the weight of its forebears and there's nothing particularly startling about the gameplay – it's just the usual leaping around, shooting baddies and picking up collectibles. However, Zmira and her pals make up for the cornball with addictive gameplay and a pretty high frustration factor. ***stf***

Who's a control freak?

Keep Zmira out of trouble with these great joystick controls



That's magic

Fly around on your broom for a bit and you discover a bonus screen containing lots of handy frogs and cauldrons.

Hubble, bubble and loadsa trouble

It's easy to keep an eye on Zmira's progress thanks to the little menu bar that appears at the bottom of the game screen

1. **Currently selected spell** There are up to 12 different spells at your disposal.
2. **Spell power** Hold down <Fire> to increase the power of a spell
3. **Spell energy reserve** Collect the frogs released after a baddie dies for more spell energy.
4. **Current score** Er, this is your score.
5. **Energy level** Collect loads of potion bottles to boost your flagging energy levels.
6. **Lives left** Collect all the cauldrons to increase your number of lives – you can only have up to a maximum of three.

Super Cauldron

£25.99 Titus
☎ 071 700 2119
One disk

Highs
Super Cauldron is addictive and fiendishly difficult to play.

Lows
It's completely devoid of any originality and you have to start again when you die.

STF RATING 62%

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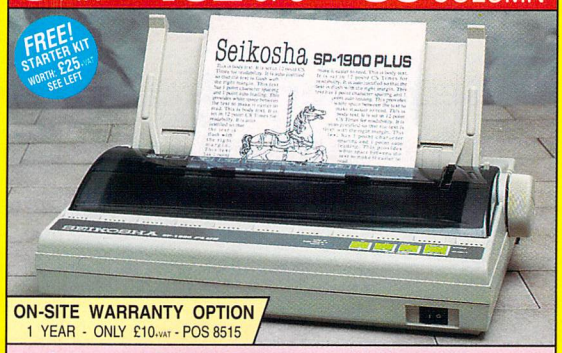

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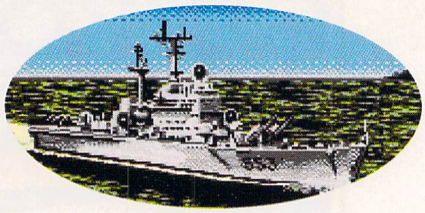
FIREHAWK



■ The assault ship Excalibur is the base for all seven missions.

Codemasters ditch Dizzy and opt for helicopter gunships in their latest arcade game. Rob Mead takes a look

■ Just look at the state of these two chaps - proof positive that drugs do you a lot more harm than good. Codemasters teach the kids to just say no in their latest arcade game, *Firehawk*.

The Lafian government is in trouble – their fragile democracy is under threat from a cartel of ruthless drug barons who are prepared to do anything to maintain their illicit trade. In an act of desperation the Lafians call upon the might of the US Army to help them deal with the problem and this is where you come in to play.

You're the pilot of a helicopter gunship based on USS Excalibur. Your mission is to retrieve US agents from behind enemy lines and cause as much damage to the drug dealers' operation as possible.

Firehawk is an arcade shoot-'em-up which features seven increasingly difficult missions centred on the islands of the Lafian Republic. You're given three lives and a wealth of ammunition to start with, but this soon turns to nothing as you get bogged down in the drug barons' awesome firepower. Unfortunately, keeping your finger jammed down on the <Fire> button isn't an option – you soon run out of ammo if you do, and have to rely on your consummate skills as a pilot instead.

To help you there are various power-up icons and weapon collectibles which at least ensure you're going to stay in the air that bit longer. As you fly over the

HELP! MY PANTS ARE ON FIRE

Firehawk's a tricky game to play, so here's our guide to that dead important cockpit layout

1 Fuel gauge
Too much aimless flying about wastes fuel. Always ensure you've enough left to get back to the assault ship.

2 Bullets
Tells you how many individual bullets and cartridges your gunship has left.

3 Lives left
How many gunships you've got left.

4 Agents to be rescued
Tells you how many agents you still have left to rescue on a particular mission.

5 Agents on board
When you collect an agent, an icon appears here so you always know how many people your gunship's carrying.

6 Agents rescued
This tells you how many agents you've successfully returned to the USS Excalibur.

7 Score
Tells you what your current score is. You need an incredible 100,000 points to get another gunship.

8 Bombs
Tells you how many bunker-splitting explosives you have left.

9 Shields remaining
Each ship has three shields, lose them and "Danger" starts to flash on and off alarmingly. One more direct hit now and you're a goner.

AIR SUPPORT

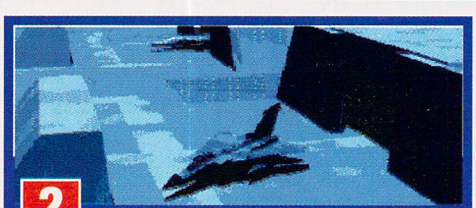
Do you believe in the North-South divide? Why don't you take a leap into the future to find out if it exists? Rob Mead did and didn't like what he saw

It's the end of the 21st Century and you're in a world riven in two by another cold war. This time the hostilities are divided along the Equator – North vs South. For too long Third World countries in the South have felt exploited by their fellow humans in the affluent North, so they decided to do something about it. The South now represents a mighty superpower with highly sophisticated weaponry at its disposal. Welcome to Psygnosis's latest release, *Air Support* in which you have to ensure the North doesn't fall under the onslaught of the South's might.

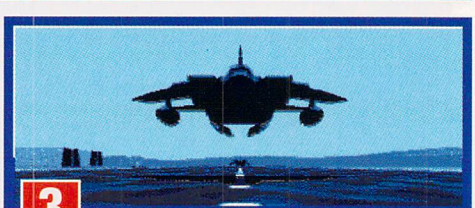
The weird thing is, there are no real wars in the future. Well, not

In the beginning... the most graphically interesting part of the game

1 A remote sentry spots a squadron of incoming enemy aircraft. Without hesitation he reaches for the phone and contacts Defence Complex HQ.



2 With lightning reactions, the Defence Complex commander mobilises his forces against the invaders. And sends them off into battle.



3 The brave pilots face unfavourable odds, but their comprehensive training on the Air Support Battle Simulator should see them through. Hopefully.

■ The drug barons seem to have collected some mighty firepower over the last few years. Are you hard enough to take the heat?

■ Destroy bridges, roads and railroads to stop the drug barons.

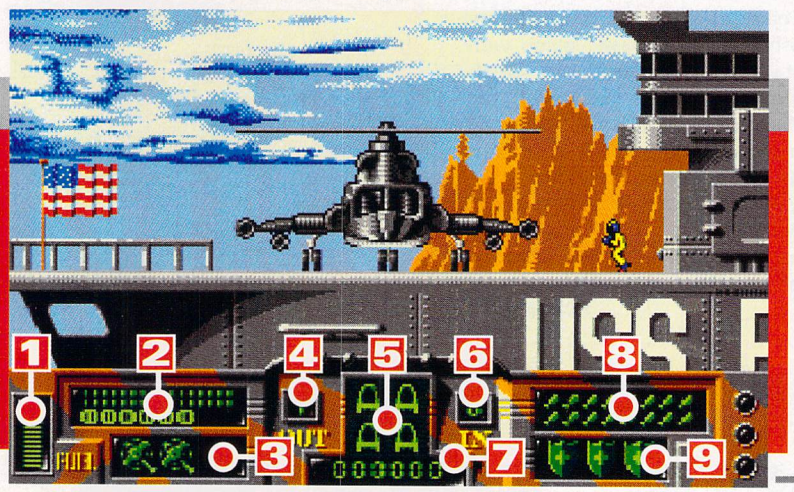
■ Enemy helicopters fly thick and fast, while you rescue an agent.

islands an arrow guides you towards a stranded agent. Once there, the arrow turns into a target square and you enter the next part of the game – the Para Rescue section. A rope is lowered, ready for the agent to climb up, but suddenly you're attacked by a squadron of helicopters – you have to keep them at bay, until the agent climbs the rope and then you can return to the safety of the USS Excalibur.

Surprisingly enough, *Firehawk* turns out to be a frighteningly addictive game. OK, so the plot's not up to much, but there's enough action and tension in the gameplay to keep you glued to your ST.

As you manoeuvre your gunship around the islands you're attacked by enemy planes, helicopters, tanks, boats and bunkers – you really have your work cut out trying to stay one step ahead of the opposition. Rescuing the agents is no easy task either – they run for cover when the enemy choppers loom into view and, even when they're nearly home, they can still fall off the rope and you have to start again. You die often and, frustratingly, there are no continues or passwords, so you have to start all over again.

The joystick controls are difficult to get the hang of at first – pushing up moves you only in the direction you're currently facing, so you have to do plenty of manoeuvring to get to where you want to go. Graphically, *Firehawk* isn't startling, but the sprites are well animated and with 360 degree scrolling, there's more than enough variety in the gameplay. The sound effects are pretty good too.



■ Congratulations! You've died and got on the high score table. Too bad you have to start from the beginning all over again, isn't it?

Verdict

Firehawk is an exciting shoot-'em-up with plenty of arcade thrills and spills. The plot's hardly original, but the game offers plenty of addictive gameplay and is going to have you screaming at your ST and pulling your hair out in frustration. ***stf***

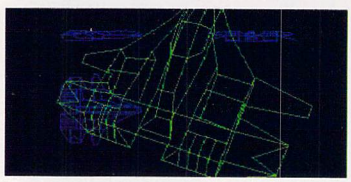
Firehawk

£19.99 Codemasters
☎ 0926 814132
One disk

Highs
Addictive and frustrating in equal measure, *Firehawk* is going to have you perched on the edge of your seat.

Lows
The joystick controls are a bit tricky at first and you have to start all over again when you die.

STF RATING 83%



■ You can access *Air Support*'s database to get to all the different wire-frame views of your defences. Exciting stuff, or what?

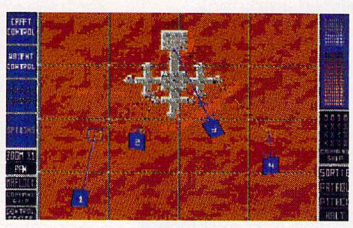
the conventional kind with humans slugging it out on a blood-spattered battlefield anyway. These days powerful computers run huge defence complexes with automated weaponry – before you can get your hands on this lot though, you have to undergo an intensive period of training on the Air Support Battle Simulator (ASBS).

The battle simulator consists of 20 increasingly complicated missions based on a strategic map view screen and a 3D arcade game. On the map view you place waypoints for your vehicles to move to, while the 3D arcade section enables you to pilot vehicles individually and attack the bad guys. Successfully complete all 20 missions and you're rewarded with another 40 missions and a real defence complex to control. Sounds like fun, doesn't it? Well it's not.

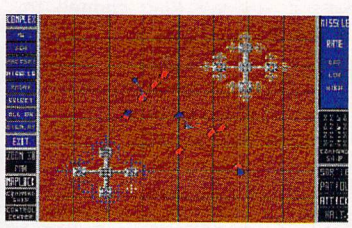
The strategy side of the game proves to be challenging as you try to shelter your fledgling defence complex from the attacking hordes. Effective use of radar, missiles and carefully-laid mines is crucial if your power generation and factory facilities aren't going to be wiped out with the first enemy onslaught. The major drawback is that you have to overcome equally strong defences when you launch an attack on your enemy's positions.

The problems really start when you delve into the arcade side of the game – it consists entirely of badly-drawn wire-frame graphics, last seen in the coin-op version of *Battlezone*. To make matters worse the gameplay is incredibly slow and you jerk along a dodgy landscape like a slug with hiccups. It's crap. Just thank your lucky stars there's an Autopilot so you can let your ST do the flying for you. Even more bizarre is the pair of 3D specs you get with the game – select the Stereo option and all the wire-frame lines split into two so you can view the game in true 3D perspective. It doesn't work... and you look like a prat. The sound effects consist of pure chip rubbish – all pings and meaningless thunks, although you do get garbled robotic speech if you have an STE.

Getting around in the game is not simple. The sub-menus are confusing and you have to use different combinations of mouse, keyboard and joystick depending which part of the game you're in. It's no good running to the manual for help 'cos its layout and writing make it difficult to understand.



■ There's only one way to hammer these baddies - pile in there with missiles-a-go-go.



■ Build up your defence complex as quickly as you can, otherwise you stand no chance.

Verdict

Let's be honest. *Air Support* is hardly the most stimulating game in the world. The challenging strategic element is sadly let down by the arcade bits – the wire-frame graphics and sluggish controls make all the flying sequences totally farcical. ***stf***

Air Support

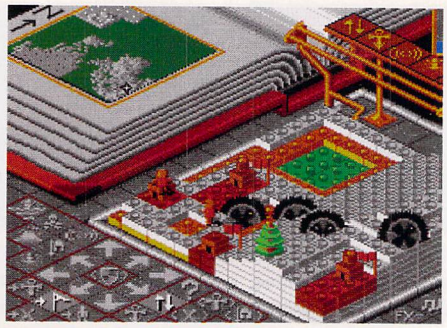
£25.99 Psygnosis
☎ 051 709 5755
Two disks

Highs
The strategy side of *Air Support* can be quite challenging.

Lows
Wire-frame graphics and unimaginative gameplay makes this game one big snooze.

STF RATING 51%

POPULOUS AND PROMISED LANDS



■ There's a war going on in your toybox, only International Rescue can save you now.

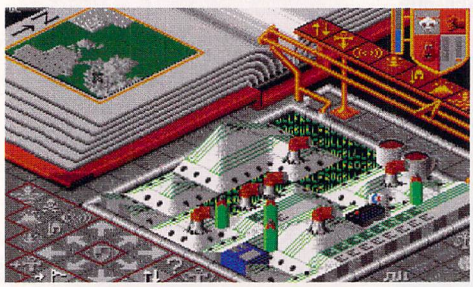
Some people worship gods, others just think they are gods. Now's your chance to get in on the heavenly act with the help of the budget release of this great god game from Bullfrog.

You play a mythical deity who controls the destinies of a small group of worshippers. It's your job to level the land and provide them with the means to lead happy, contented lives. In return, they invest more of their spiritual belief in you and so you become more powerful.

Unfortunately, a rival god has similar plans to your own, so you have a battle on your hands. As you gain strength from your worshippers you can unleash all kinds of disasters on your enemy's population – everything from earthquakes to volcanoes and hellfire.

There's a certain amount of strategy involved if you're to win and *Populous* turns into a highly-addictive and rewarding battle against totally impossible odds.

Promised Lands is a data-disk which offers five new worlds for you and a friend to squabble over – the Bit Plains, Blockland, the French Revolution, Wild West and Silly World. The French Revolution and Wild West worlds are the most similar to the original *Populous* game, except their stars are Breton-shirted Frenchmen or cowboys and indians. Blockland looks like something out of a cranky Lego set and the Bit Plains is stuffed with computer-based images like holey paper and floppy disks. Silly World is just bizarre – it's like a surrealist's nightmare with little green men roaming around a cross-eyed chequered background.



■ Computer peripherals are the main theme for the Bit Plains world.

Populous is controlled entirely with a mouse and – once you've got the hang of the icon system – is a doddle to play. Graphically, the game still looks superb, especially when you see your opponent's cult members go up in smoke. The sound samples are sparse, but highly effective.

Verdict

Populous's pedigree is well-established – it's a classic game with stacks of playability and great-looking graphics. However, the *Promised Lands* disk seems more of a gimmick than a serious attempt at creating new worlds for *Populous* addicts. Despite that, this pack is well worth £12.99 of anyone's money, just don't make a martyr of yourself.

ROB MEAD

Populous/ Promised Lands

£12.99 Hit Squad
Platinum ☎ 061 832 6633
Two disks.

Highs

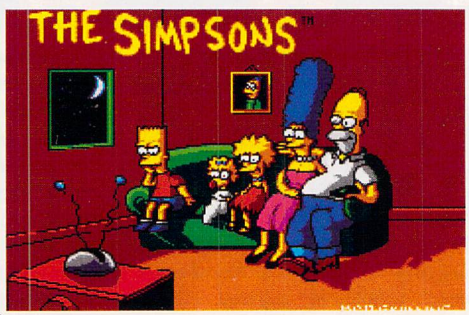
■ You can now get one of the best ever god games at a budget price.

Lows

■ Some of the *Promised Lands* are positively headache-inducing and a bit gimmicky.

ST FORMAT RATING 87%

BART SIMPSON VS THE SPACE MUTANTS



■ Spray and skateboard your way to fame, fortune and eternal gratitude from the inhabitants of Springfield in *The Simpsons: Bart vs The Space Mutants.*

"Save the earth!" is the cry from Bart and Ocean's budget label Hit Squad. You might think you've stumbled into another of those supposedly green games, but no, you've got to believe some half-baked story about space mutants and their desire for purple objects. Yes, really.

The space mutants have come to Springfield, Bart's home town and you, as Bart, have to stop them building the ultimate weapon with which they intend to take over the world. To build this weapon the mutants need a very strange selection of objects – purple things in Level One, then hats, balloons, exit signs and power rods in the subsequent levels so you have to either change their colour or collect, destroy or hide 'em. That's the basic idea at least, although there are other activities to get involved in along the way.

You can try to enlist the help of the rest of the *Simpson* clan by jumping on the heads of people whose bodies have been taken over by the mutants, you can work out different methods of changing the colour of objects from the rather obvious spray-painting and you can just try to control Bart and his rather lively skateboard.

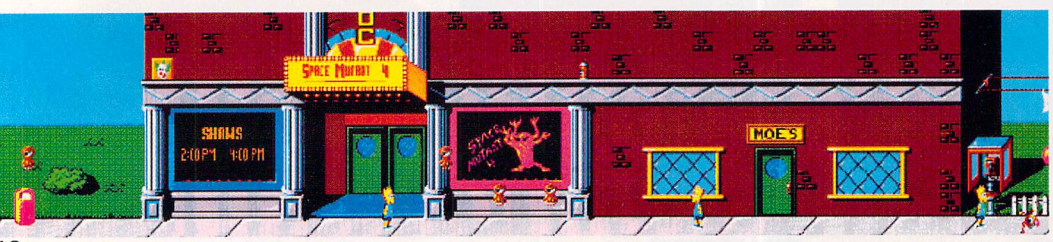
The puzzles are probably the best bit in the whole game, but don't spend too long trying to work them out because there's always a time limit ticking away – that's if you live long enough to run out of time.

Verdict

Bart and his family look very much like the cartoon on which this licence was based which makes the game look attractive (except when Bart blends in with the background when things just get plain confusing) but you tend to spend so much time repeating parts of the game you've already achieved, you're going to get bored with it pretty soon.

No better or no worse than any other platform game unless you happen to be an avid *Simpsons* fan, in which case it could well be the answer to all your *Simpson*-related ambitions.

PAULA RICHARDS



■ Find the spray cans and then use them on all purple objects... makes sense!

The Simpsons

£9.99 Hit Squad
☎ 061 832 6633
One disk

Highs

■ Some good puzzles and bright graphics make this instantly appealing.

Lows

■ Lacks long term interest. It's nothing special.

ST FORMAT RATING 61%

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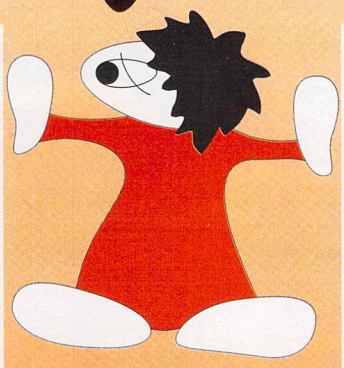

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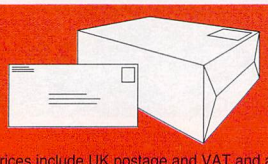

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NO SECOND PRIZE

Bike racing sims don't come much better than Thalion's *No Second Prize*, so it's great to see the game make it on to the Falcon.

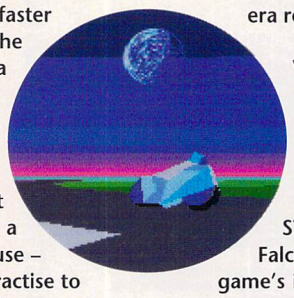
You play one of six worldly-wise racing fanatics who has to take part in one of the most gruelling competitions the racing world has ever seen. There are 26 different circuits to complete and you have to win every single one of them to get your hands on one of the rarest, most beautiful motorbikes ever built.

The ST version of *No Second Prize* proved to be an exhilarating experience, with its slick 3D vector graphics and nail-biting gameplay. It was justifiably awarded an *STF* Rating of 87% in *STF* 46 – turn to page 62 to order your copy if you missed it. However, the Falcon version is identical – it's merely been converted from the ST version. There are no extra colours, although the intro sequence looks as if it's been tweaked, and the in-game graphics are certainly no more detailed. Even worse, there are no sexy sounds or music samples. You're left with the mind-numbing din of chip noises blaring through the Falcon's internal speaker. The only discernible difference between it and the ST version is slightly faster gameplay, but then the original was already a little too fast for comfort anyway.

There are 26 tracks of knee-scraping excitement in *No Second Prize*, the excellent bike racer now available for the Falcon.

The game's still tricky to control at first – after all not everyone drives a motorbike with a mouse – and it takes a lot of practise to get round the track in one piece, let alone win. All too often you end up kissing the side of a burger van or mowing down isolated pockets of spectators. Still, you can always console yourself by looking at the different views of your disasters with the excellent remote camera replay.

Thanks to the remote helicopter view, you can keep an eye on the leaders while you bring up the rear.



Verdict

No Second Prize is a great bike racing sim, but Thalion win no awards themselves for porting the ST version across to the Falcon. Graphically the game's identical to its ST twin and even retains the aggravating chip music and sound effects.

ROB MEAD

No Second Prize

£25.99 Thalion
☎ 021 442 2050
Falcon030 only
One disk – not hard drive installable.

Highs

- The Falcon version of *No Second Prize* is fast with smooth scrolling vector graphics.

Lows

- It's exactly the same as the ST version.

STF RATING 71%

TRANSARCTICA

The Indian city of Bhopal used to be a sub-tropical paradise, now it's a frozen wasteland, fit only for trade in mammoths.

The threat of global warming has inadvertently plunged the world into a nuclear winter. Scientists tried to correct the greenhouse effect by detonating A-bombs at the earth's poles, but it's gone horribly wrong.

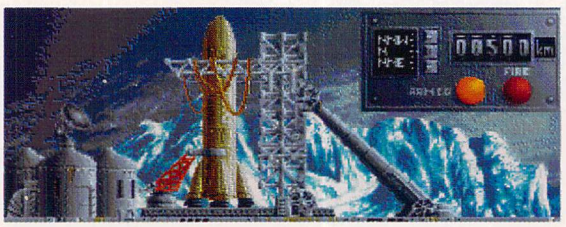
The world is now in thrall to the Viking Union, a hugely powerful organisation which controls the only means of transport – huge lumbering trains inhabited by the few human survivors of what was called Operation Blind.

Transarctica is the story of one of those trains. You're responsible for traversing the world, trading with remote human colonies and trying to uncover the mysteries of a forgotten past – do this and you can ensure the world literally has a brighter future. The first thing you notice about the Falcon version of this game is the sound effects and music – they lend a whole different atmosphere to the game than in the ST version. This is particularly evident in the train battles where ear-shattering explosion and machine-gun samples raise the tension level.

The graphics have also been enhanced – there are more, richer colours on-screen and the whole game feels much more realistic.

What you can't ignore is that *Transarctica* is seriously flawed as a game concept – guiding the little train around the rail map remains tedious and a succession of pretty static screens don't really compensate for a lack of action.

Even the train battles fail to grab the imagination as you shunt backwards and forwards trying to take pot shots at the Viking Union train alongside.



As you build up your train you fall under constant attack from the Viking Union, hence the missile launcher.

Verdict

Like *Ishar*, *Transarctica* takes the Falcon's extra capabilities and tries to make something of them – there are more colours, great sound samples and quicker gameplay. However, it's hard to get worked up about trains and this version is unlikely to do it for you.

ROB MEAD

Transarctica

£29.99 Silmarils/Daze
☎ 071 328 2762
Falcon030 only
Three disks
Hard drive installable

Highs

- More colours and faster gameplay turns *Transarctica* into a more exciting proposition.

Lows

- But the whole concept doesn't quite gel and leaves you uninspired.

STF RATING 62%

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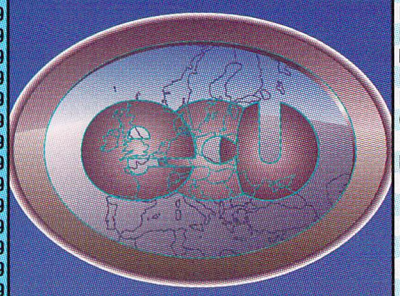

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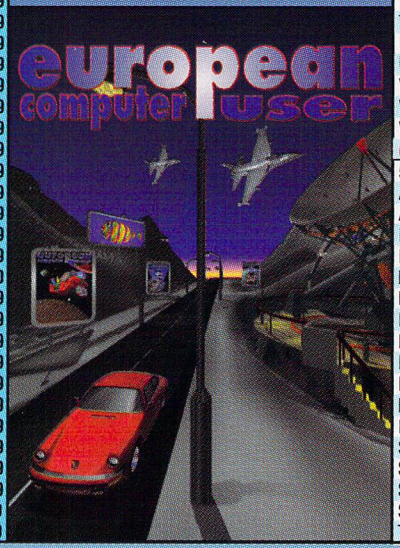

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POST FORMAT

GAMEBUSTERS

Got any top tips, cheats or solutions to those excellent ST games? Then send 'em in and win loads of dosh in our all-action game-bustin' game show, with your host, Rob Mead...

Dungeon Master

Manchester lad Gordon Longley astounded all in the ST FORMAT offices with his complete Dungeon Master solution

It took him a whole week to put together so we have stuck it on this month's Cover Disk. Gordon wins £50 for

Grandad and the Quest for the Holey Vest

PUBLIC DOMAIN

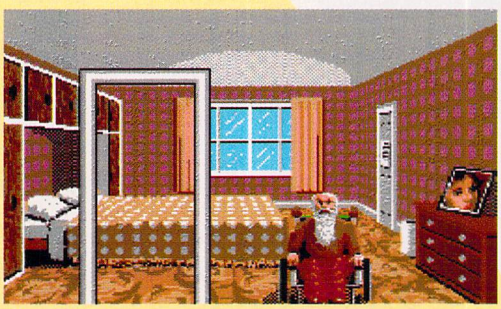
Andy Candsell has sent in the complete solution to this hilarious adventure all the way from Wellington in New Zealand

Look at the picture on the wall and get the key covered in dust. Look at the climbing plant and get the wire. Go to the northern side of the shrub and look at it. Get the trowel and go over to the spotty kid. Look at the boy and tell him to "disappear," by doing this you get a ball.

Go inside to the crack in the wall, use the wire to free the key, then use it on the left door. Go through the door and use the tennis ball on the pipe structure to obtain another key. Go to the end of the hall and look out the window – there's a key here. Get the key and go back to the main hall.

Use the tarnished key on the northern door and go through into the kitchen. Look in the washing machine and get the underpants. Look in the fridge and get the butter. Use the small key in the right door and go in.

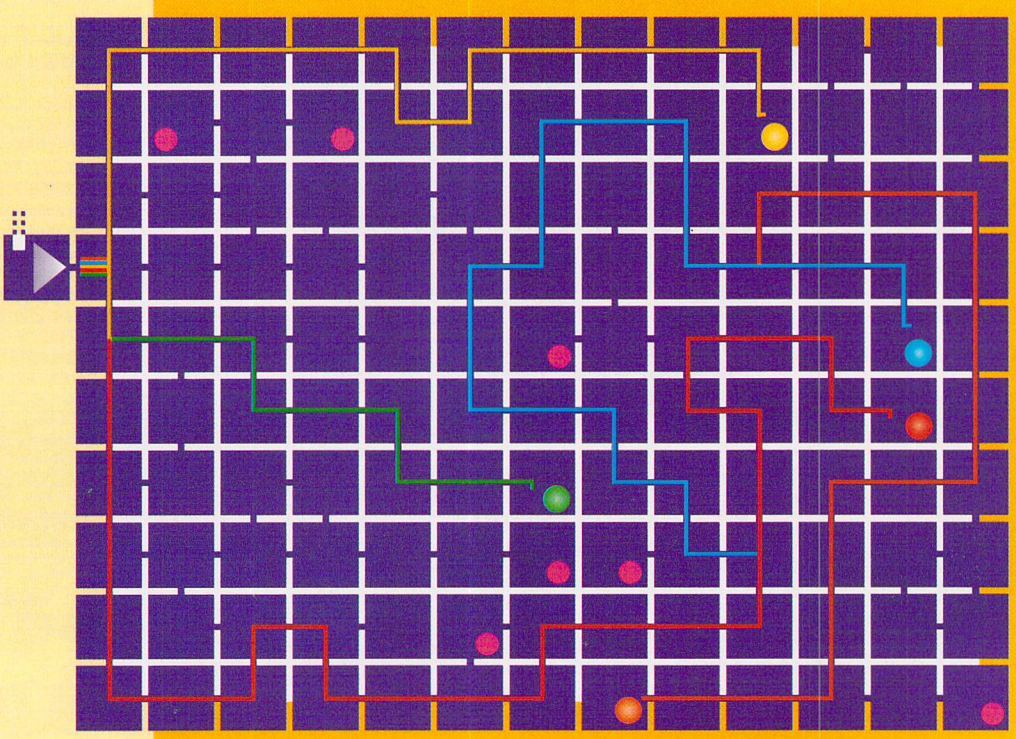
Look behind the door and get the key you find. Look in the box at the end of the room and get the hairpin. Go back to the main hall and use the hairpin on the left door. Go in and get the lighter from the ashtray. Look at the settee and get the key stuffed behind the cushion. Go to the kitchen and use the large key on the front door. Go out to the back garden and look at the large woman over the fence.



Back in his bedroom, Grandad discovers a key behind Sharon's photo and a dog-eared heap of *Big and Bouncy* XXX magazines.

Grandad's a bit of a grumpy old sod, don't you think?

The essential guide to Grandad's basement



Along with his complete solution Andy Candsell sent this map to help you find various goodies and show you around Grandad's basement

KEY

- BARREL
- ROUTE
- 1 - DRILL
- 2 - KNIFE
- 3 - BATTERY
- 4 - PLIERS
- 5 - TORCH

PSYGNOSIS

not cheating by sending in somebody else's solution. Cheers Gordie. Now you can also delve deep into this classic RPG, beat the giant scorpions and send Lord Chaos packing at last.

Keep those cheats, hints and tips flooding in. We are especially interested if you've got complete solutions for *BAT 2, Caesar, Civilization, Sleepwalker* or *Transarctica*. You could win yourself some cash!

Cheats, tips and complete solutions must be your very own – that is not copied from the Public Domain or from cheat books.

■ *ST FORMAT* finally slay the Dungeon Master beast with a complete solution on this month's Cover Disk.

Give her the butter. Now for the slightly tricky part...

Go east of the gnome named Eden and south of the tree at the end of the garden. Dig around this area with the trowel and find a key. Use the dirty key to enter the garden shed. Get the bucket and go to the end of the main hall. Fill the bucket with water using the water tap. Empty it into the barrel. Do this again and go out to the back garden. Ask the woman to fill your bucket with water.

Go back to the end of the main hall and empty the bucket into the barrel. The lift creaks and you find yourself on the ground floor. Use the code which is supplied when you register on the inputter on the wall. Now follow the route on the map to number five – the torch.

When you get there look in the barrel and get the torch. Use the route on the map to find the other objects. It's best to get the battery second – if you're running low on energy – and use it.

When the lighter runs out use the torch. Once you have all the objects go back to the first room and use the knife on the sandbags and drill on the barrel to go back to the surface. Go back to the entrance hall and use the dusty key on the locked door. Go in and get the spare fuse from the box on the table. Use the pliers on the fuse holder to get the broken fuse. Put the new one in its place.

■ Hold your breath 'cos Grandad is just about to find his vest that has been rotting in this old chest for... well, for a hell of a long time.

Go to the end of the main hall and get into the lift. When you get to the top, look at the loose floorboard in the top right corner and get the key.

Go to the first door in the main hall and use the old key. Go through the door and use the knife on the photograph to get another key. Use this last key on the right door and go in.

Look at the dressing gown and get the glasses. Use the rusty key on the chest in the corner and then use the wire on it to hold the lid open. Get the key inside. Go back to your bedroom and look at the northern left side of the bed to find Grandad's naughty magazine. Get the magazines and go to the part of the main hall where the rubber plant is. Put the magazines under the door and go to the end of the main hall.

Use the black key on the right door and go in. Get the towel, the soap from the sink and the screwdriver from the plughole. Go back to the room with the rubber plant and use the screwdriver on the door. Use the yellow key you now possess to open the door. Go through the door and use the glasses on the rope. Get the key from the box and go to the second door. Use the dull key on the door.

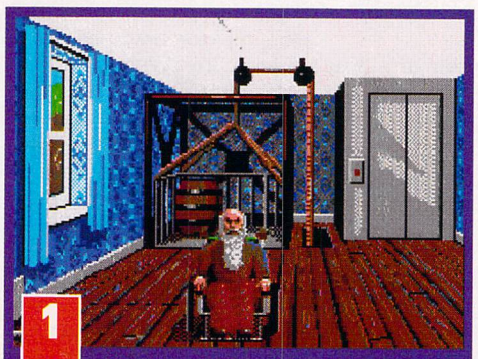
Go in and tell the nurse you're sorry, then ask about your vest. She gives you a key. Once she's left the room look at the box and get the sticky tape attached to it. Go to the spare bedroom, use the white key on the locked door and go in. Use the sticky tape on the light switch and look in the pair of overalls on the rack to find a plug spanner. Get the plug spanner and go to the end of the main hall. Look at the panel with a hole in it. Put the soap inside, followed by the plug spanner. The panel opens.

Go inside and look at the clue on the wall. Go back down the lift and into the lounge. Look for a book entitled *How I Became Beautiful* by Jeremy Beadle. Use the knife on the book and you find another clue. Go to the conservatory and look at the red hanging pot plant. You find a note. Go to the front garden and look at the drainpipe for another clue. Go to the back garden and dig around the row of flowers with the trowel for yet another clue.

Go back upstairs and go to the first painting in the main hall entitled Jugs. There's a clue here. Look at it again for the last clue. Go to the room with the rubber plant and look at it. You find a key.

Go to the secret room and use the key to open the chest. Get the vest. Congratulations! You've completed the quest.

I can't get no... Sanatogen



1 Grandad knows he's got to get upstairs to find his vest, but the lift is broken. Can you help him fix it?

2 ... He's made it. But who's the girl on the wall? More to the point, what's that noise coming from the bathroom?

3 Silly Grandad! He's accidentally bound and gagged poor Nursie before stuffing her in a trunk and losing the key.

CAPTAIN DYNAMO

CODEMASTERS

Type in PURPLE RAIN for infinite lives. Press <+> or <-> to skip levels.

FINAL BLOW

SALES CURVE

Pause the game and press <F10> six times to render your opponents brain-dead.

GAZZA 2

EMPIRE

Shoot from the centre circle to score every time.

GOBLIIINS

COKTEL VISION

Thanks to **Paul Skyrme** of **Templeton, Pembrokeshire** for these level codes to this cutesy French puzzle-'em-up:

Level 1	VQVQFDE
Level 2	ICIGCAA
Level 3	ECPQPCC
Level 4	FTWKFEN
Level 5	HQWFTFW
Level 6	DWDNDGBW
Level 7	JCJCJHM
Level 8	ICVGCGT
Level 9	LQPCUJV
Level 10	HNWVGKB
Level 11	FTQKVLE
Level 12	DCPLQMH
Level 13	EWDGPNL
Level 14	TCNGTOV
Level 15	TCVQRPM

As you walk into your pal's house, you quickly discover that his relatives are a far cry from being the average British family.

Level 16	IQDNKQO
Level 17	KKKPURE
Level 18	NGOGKSP
Level 19	NNGWTTO
Level 20	LGWFGUS
Level 21	TQNGFUC

CLASSIC SOLUTIONS

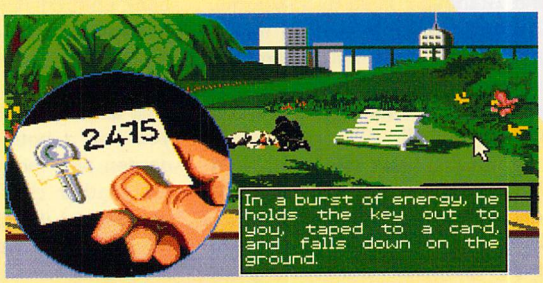
Operation Stealth

US GOLD/KIXX XL

Welcome to part two of the classic complete solution to this FORMAT Gold rated adventure game

You should have reached the labyrinth scene by now. Get through this on the same principle as the Palace labyrinth. At the shower, operate the soldier. Examine his shoes and take the shoelaces. Take the towel and use it on the soldier, then use the laces on him. Take the shoes, the clothes and the glass, then leave the room.

In the corridor go towards the exit at the bottom on the left. Next, go towards the opposite door and enter. In the stockroom examine the third drawer up on the left. Operate it, examine it again and take the laces. Use the laces on John. Examine the bottom drawer on the right. Operate it, examine it again and take the stamp, then leave the room.



This is classic adventure game stuff. Some bloke hands you the all important key with a four digit number - and before he can tell you what it's for, he curls over and dies. Great!

In the corridor go towards the exit on the right, then go into the door opposite. You're now in the Guardroom. Examine the clothes, take the orders (the sheet of paper). Use the glass on the water fountain, operate the untidy desk, take the lifeboat and leave the room.

In the corridor go towards the exit at the top on the right. The officer asks you to get him a glass of water. Go towards the exit at the top on the right, then towards the exit top left. Go through the first door on the right.

Use the full glass of water on the officer. As soon as he turns round, take the stamp and leave. In the corridor, go towards the exit on the right, then towards the exit at the bottom on the right. Then go through the door.

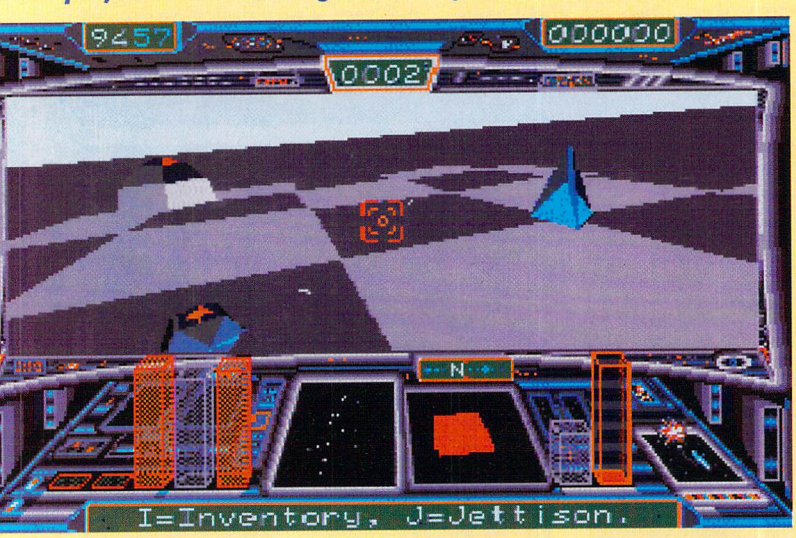
You're in the guardroom. Take the ink pad – between the chair and the untidy mess on the desk. Use the stamp on the pad and use the inked stamp on the orders sheet. Operate the cigarette case and examine the cigarette. Operate it and use the cigarette paper on the glass. A fingerprint appears. Now leave the room.

You're in the corridor, go towards the exit at the top on the

Starglider 2

RAINBIRD

Tim Chapman from Wolverhampton is going to answer a lot of people's prayers with a load of general tips, hints and his complete solution to this brilliant FORMAT Gold winning space adventure



Don't stay on a planet for too long - they're all pretty dangerous, and you're bound to find out exactly why if you don't get moving quickly. Oh, and another thing, when you launch the Neutron bomb, don't stick around. Run!

General Tips

1. Save as often as possible.
2. Try and plan your routes so you don't have to go so far.
3. Watch your fuel level – remember you need some spare to reach a refuelling place.
4. If you have a mid-space collision, just press <D> to keep on going.
5. Bouncing bombs are made of Castron.
6. Missiles are made on Milkway's seven moons and on Apogee.
7. Use fixed sights when firing – it's much easier.
8. Practice refuelling. It's a vital technique. The easiest way is to fly along just above the electric pylons and hold an asteroid in your tractor beam until it explodes. Read the manual for details of where power lines can be found.
9. Beware of volcanoes – they're deadly.
10. Draw a map or learn the tunnel layouts. Most are quite simple.
11. All the tunnel layouts on Milkway's moons are exactly alike.
12. Remember to keep your speed up in the tunnels.
13. Shoot the barriers in the tunnels to proceed.
14. Whenever possible blow up the projector bases on Milkway's moons. To do this, fly low and fairly fast towards them and use a bouncing bomb. Remember the bomb comes up again, so time your release so the bomb hits the base. Use rear view to check what happens. If you miss carry on ahead – the landscape wraps round, so you are right on course for the next attempt.
15. It's better to run if you're badly damaged than to die fighting.
16. Pirate ships have useful items if you collect their cargo canisters by tractor beam.

NIGEL MANSELL'S WORLD CHAMPIONSHIP

GREMLIN/*STF* COVER DISK 45

Fed up with only being able to do three laps on the Cover Disk demo? Then take this tip from **Michael Andrew** from **Bradford.**

When you get onto the third lap, go into the pit lane and a few seconds before you pass the finish line hit the brakes. When you go past the finish line, keep on braking until the Pitstop selector appears. Choose the type of tyre you want to fit on your car and you can do an extra lap. Repeat the process every time you want to race another lap.

■ **Check out Michael Andrew's tip if you want to race more than three laps in the *Nigel Mansell's World Championship* demo we gave away in issue 45.**

■ **In *Operation Stealth* you get to travel in all sorts of luxurious and unbelievable machines...**

right. Use the fingerprint on the keypad and go through the armoured door. Go towards the other exit on the right. In the laser room use the stamped orders on the letter box and go through the laser doors. In the corridor use the electric cable on the electric socket. Operate the electric socket to turn it on. Use the razor on the wastepaper basket. Go towards the exit on the right and now you're in the Control room.

Wait for the message from the razor: "Explode, one, two..." As soon as the message appears, put the red cigarette on the computer. After the computer has exploded, operate Otto. After John has fought with Otto, use the compact disc on the laser reader. Then go towards the door at the top on the left.

At the helicopter scene, use the elastic band on the bomb. Let yourself fall to the ground. When the second screen appears, operate the lifeboat. And there you go, that's all there is to it.

RAMPAGE

LYNX

Pause the game on the Player Selection screen. Now unpause it. Start the game as usual and hold down <Option> when the newspaper page appears. Moving the joypad now enables you to select different levels.

SENSIBLE SOCCER

RENEGADE

Jim Smith from **Paisley** in **Scotland** has come up with the latest in a long line of tips for this most excellent footie game

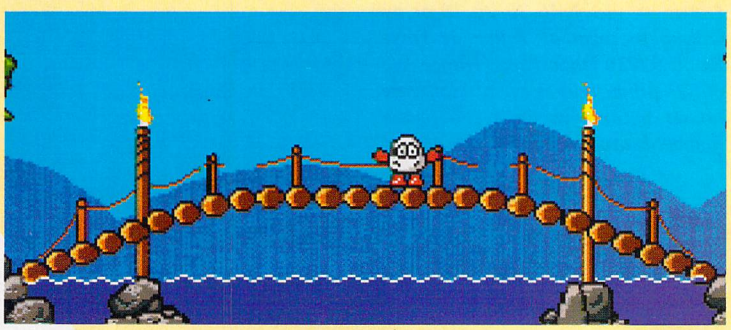
When you play in a special tournament you can change the opposition's team. If you're about to play AC Milan then, when your fixture comes up, exit and go to Friendly. Choose AC Milan to be played by you and another team to be played by your ST.

When the Formation screen appears put the forwards in goal and the defence up front, basically destroying the formation. Start to play. When the teams come on press <Esc> and return to your tournament. View the opposition's team and you find that AC Milan are playing with your altered team formation. So long as you've changed the keeper, he drops everything and it's easy to score.

TREASURE ISLAND DIZZY

CODEMASTERS

Press <C> and then move the joystick to skip screens.



■ **"What are you smiling at egg?" Bounce, bounce, bounce! "Hey, egg, what are you bouncing for?" "..." - Another rivetting conversation with Dizzy.**

17 Always keep an eye – and an ID – open for objects you need just lying around the planets.

18 Use the Painting With Rolf option to find out what all the objects look like.

19 It's usually best to ignore enemy attacks since they usually have an unbeatable force.

20 Only stay on a planet as long as you have to.

Solution

First enter the tunnel system on Apogee – the start planet – and locate the ground crew. Press <y> when asked to make them build the bomb and jot down all the items you need.

Leave Apogee and stardrive your way to Broadway, round the back of Millway. Enter the tunnels here and locate the ground crew. Talk to them, then fly out to the planet's surface. Here you must find the small Emma 2 craft Professor Taymar is driving around in. Lock onto it with tractor beams and press <C> to pick him up – you can jettison the car if you want. Taymar fits an energy cube launcher to Icarus automatically.

The main part of the game starts. You have to fly around the planetary system trying to collect the objects needed for the bomb and deliver them to the ground crew on Apogee. The places where the objects can be found are listed in the panel on the right.

Once all of these objects are delivered the bomb is ready. Pick it up and fly to the small yellow moon of Q-Beta. This disappears as you approach – it's really just a deceptive disguise.

Ensure you blow up all seven orbiting sentinels around the central space-station – this can be done with missiles.

Lock the Neutron bomb into the central part and fire. It's a good idea to run away at this point. You've now completed *Starglider 2.*

Where to get those goodies

It's not easy to find everything you need to complete Starglider 2, so here's a list of where it all is

Object	Location
Nuclear Fuel	Aldos planet surface. Espirit, swapped for Icarus pilot couch.
Mineral Rock	Q-Beta planet surface. Pirate ship cargo. Apex, swapped for a Blue Pyramid
Pyramid	Enos – and others – planet surface.
Castrobars	Castron, swapped for a petrified tree.
Petrified Tree	Enos planet surface.
Vistan Wine	Vista planet surface. Pirate ship cargo.
Egron Mini Rocket	Aldos planet surface. Q-Beta planet surface. Westmere, swapped for an asteroid.
Asteroid	In space, mainly between Apogee and Millway.
Flat Diamond	Vista planet surface. Questa, swapped for a mechanical whale.
Mechanical Whale	In the upper atmosphere of Millway.
Cluster of Nodules	Dante planet surface. Synapse, swapped for an Egron duck.
Professor Taymar	Broadway planet surface in an Emma 2.
Icarus Repairs	Wackfunk, swapped for any object.

CAPTAIN BLUNDER

Here is Captain Blunder – the ST gaming wonder to sort out all those annoying games problems...

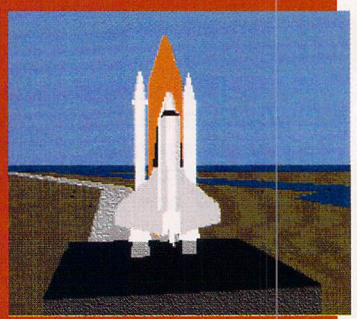
Missing baby

I've tried to get a copy of *Baby Jo* after seeing the demo on *STF* 30's Cover Disk, but I can't find it anywhere. Why don't you publish addresses of software companies when you review games?
Jef Neefs, Belgium

CB: *You can get a copy of Baby Jo direct from Loriciel by phoning France, ☎ +33 1 46 88 28 28 or by writing to them at 7 Rue de Fosse Blanc, 92230 Jennevilliers, France. We don't print addresses of software houses because we believe a phone number is usually sufficient.*

TECHIE TROUBLE

I've recently bought *Shuttle* and appear to have come across a bug in the program. The problem is that successful re-entry into the atmosphere is almost impossible, because the orbiter nearly always explodes after the "You have successfully entered the atmosphere" message appears on the teletyper. I've tried the game on an STFM, a Mega STE and an STE, but the problem's always the same. Can you help me, please?
Oliver de Peyer, Winchester



...And ten hours later you're still waiting for the damn thing to take off.

CB: *This is quite a common problem and occurs on early versions of the game. Simply return your copy to Virgin Games, 338a Ladbroke Grove, London W10 5AH (☎ 081 960 2255) with a note explaining the problem and they'll be quite happy to supply you with a replacement.*

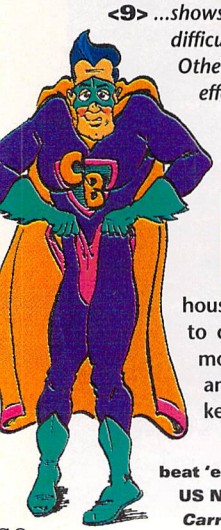
Carry on cheating

Have you any cheats for *Carrier Command*?
David Burman, Essex

CB: *Sure. This cheat only works on the Rainbird version of the game. Simply pause the game and type GROW OLD ALONG WITH ME. Now press these keys on the numeric keypad for the following*

<+> .....*turns manta and walrus protection on*
<-> .....*removes manta and walrus protection*
<7> .....*moves you at very high speed*
<8> .....*shows the colour palette*
<9> ...*shows you the current difficulty level*

Other keys have different effects. Try them out.



Wakey wakey

I need to get on the roof of the haunted house in *Elvira 2* to cast the Summon Storm spell and wake Frankenstein, but I always get killed by the vampire when I enter the attic.
C Markoulakis, Bristol

"What are you looking at, big boy?"

CB: *Use the tuning fork from the room and the attic window breaks, allowing sunlight to flood in and fry the vampire. Drop the ladder, climb onto the roof and put the copper rod on the chimney. Now cast the spell.*

Number matching

Which one of the numerals do I have to break through in *Indiana Jones: the Graphic Adventure*?
Mark Birchall, Manchester

CB: *Look in the ST version of the Grail Diary and match the number which appears on the picture with the Roman numerals. You should now be able to tell which slab to break through. Still stuck? Then check out Jaz Pearson's complete solution in STF 41 – turn to page 62 to order your copy if you missed it.*

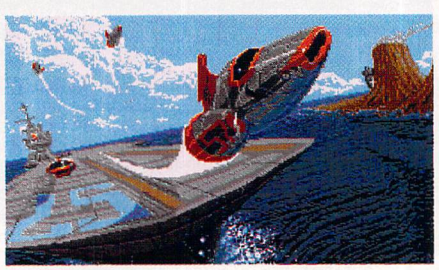
Two Nigel Mansells?

Are *Nigel Mansell's Grand Prix* and *Nigel's Mansell's World Championship* different games? Which is best?
William Bateman, Cambridge

CB: *As far as we know there's only one ST game starring Nigey and that's Nigel Mansell's World Championship (STF Rating: 69%). Perhaps you're thinking of Microprose's excellent Formula One Grand Prix which was given 81% in STF 36.*

Total cheat

Have you got any cheats for *Total Recall*?
A Clements, Newbury



If you can't beat 'em - cheat. The US Navy strikes in *Carrier Command*.

CB: *Type LISTEN TO THE WHALES SING when Arnie's face appears for infinite energy. Typing LIFE STILL GOES ON on the high score table has the same effect. You could also try leaving the game alone for an hour – this activates the cheat mode.*

Passage through time

How do I find the secret passage in *Future Wars* and get to the Middle Ages? My inventory includes a red plastic bag, red flag, small key, insecticide and a sheet of paper.
Ann Kukla, Cardiff

CB: *Open the desk drawer and take out the pile of paper. Examine the map and use the red flag on the hole. The secret passage opens and you can go through it. Now examine the panel next to the door and enter the numbers 4, 0, 3, 1 and 5. The door opens, so go through it quickly. In the next room use the pile of paper on the photocopier, then operate the green button followed by the red one. Get the documents and go to the white circle on your right. You're in the Middle Ages.*

Transarctica on the move

I can't find *Transarctica* in the shops and the phone number you gave in the review is out of order. How can I get a copy?
Debbie Edwards, Manchester

CB: *Daze actually moved shortly after we printed the review – you can now reach them on ☎ 071 328 2762.*

Ask me anything...

Send all your ST games problems to Captain Blunder – the ST Gaming Wonder – at *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW and he'll do everything he can to answer your query. If he can't, he'll try and find someone who can.

If you have any cheats or tips send them to Gamebusters, *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW – you could win yourself £25, if they're good enough.

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UTIL 42 - Intro Maker
UTIL 46 - STOS Shoot 'em up builder kit
MUSI 23 - Sound Merlin, Mozart Dice Waltz 'H'
BUSI 1 - Invoice & Statement generator demo, Namenet (1 Meg), Sales Controller 'H'
UTIL 39 - ST to PC, Calendar 4.7, Desk Switch, Form, Autofix, System 2, D Format, GDOS select + many more 'A'
LANG 5-9 - GNU C++ v2.1 Development System. 5 disks, Hard disk and 2 Meg needed **£6.50** 'A'

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As well as these disks listed we also cover clipart, education, fonts, programming, on-disk magazines etc. We are official distributors of Budgie UK, Shoestring Software (education), Organised Chaos (adventure/strategy), and we are the ONLY distributor of Creative Influence disks.

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ARC14 HOME, and L'ORB 2 super pinball games. GALTIC RANGER, unusual shoot em up. MONKIES & BALLOONS, bounce the clown and burst the balloons. FIRESTORM, another good arcade game rescue the humans. LAZERBAL, super game and interesting version on the pinball theme. Also on this disk LOST TREASURE, WIDOW MAKER, SLALOM & BREAK OUT.
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ART 08 ANI ST Great animation package formerly sold at £80.00 now PD, VAN GOGH Paint package with animated sprites. 4 LANDSCAPE Generators including GENASIS and a CAD Package.

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ARC 04 TETRIS, superb tetris game (see review in issue 1 of this mag). KLAX TRIX, WELTRIS & TETSIDE, 3 more good games on the tetris theme. MR DICE, COLLAPSE & BURGER, 3 more good games to fill this super value disk.

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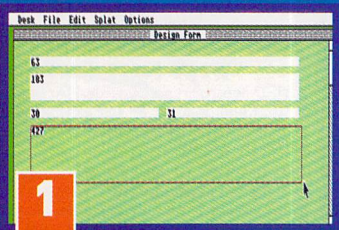
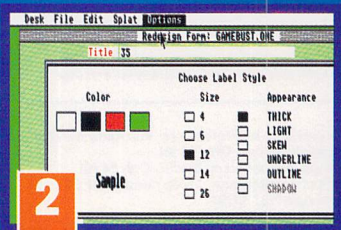
MAKE YOUR OWN DATABASE EASY TO USE

Before you get started, you must decide on what purpose your database is going to serve

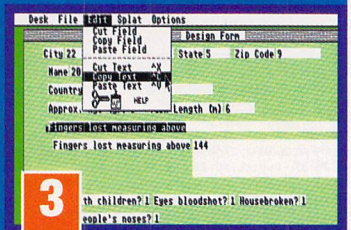
DB Master One comes in two main programs, MAKEONE.PRG and USEONE.PRG. Before you can start entering your data, you need to create the database and design the form for each record. When you've finished your design, select Save from the File menu and you are ready to move onto the second program used to enter and manipulate the data. Unlike a lot of database programs you can change the record format without losing all your data. Run the MAKEONE.PRG in either medium or high resolution.



1 **When you first run the creation program, a blank window appears. You can place the fields anywhere on it. Click where you want the top left corner to be. Two small black boxes appear at each end of your new field. Click and drag on the left box to position the field or on the right hand box to resize it, the number is the number of characters you can fit in the box.**



2 **To give your fields labels, just type away and press <Return>. To edit the text again just click on it. From the Options menu you can choose to alter the text style on the label for your field or the data you type in, enabling you to give your database an interesting look and draw attention to more important data. In medium resolution you can assign colours too.**



3 **The Splat menu puts predefined fields into your database. A quick way of building the record format is to select a field from the menu and click where you want it to go. Both labels and text can be cut and copied from each field. The text is copied by highlighting it with the mouse first before selecting Copy Text, then click on where it is to go and select Paste.**

DB Master™ One MASTER

***DB Master One* approaches the sometimes over complicated world of databases and quietly eases you into it. Before you know it, you're editing records with the best of them.**

If you're looking for a simple and flexible database from the Public Domain, then look no further. Here's *DB Master One* and here's Chris Lloyd to show you how to use it

There is no substitute for a database to store and sort through large amounts of information. If, for example, you happen to have all of the Cover Disks and you want to be able to pick a specific program out of the hundreds we have given you, then unless you like lots of frustrating searching, use a database.

Databases hold the data in records – each record consists of a number of fields and each field holds a piece of data. You could have a record for each program in your collection, for example, with fields for the type of program, minimum memory needed and which Cover Disk it appears on. You can search through the database using the fields. It would take only moments for example, to pick out every arcade game that runs on an STE – something that would take ages if you had to go through all the Cover Disks, and check the Cover Disk pages in *STF*.

There is an excellent range of databases available in the Public Domain. Many offer zillions of functions, but *DB Master One* stands out as being easy to use and flexible. You can give each of your database files an attractive design,

SIX EASY STEPS TO MAKING YOUR DATABASE CREATE REPORTS FOR YOU

One of the most useful features of a database is the ability to design and create your own reports - and this is how

Analysing the data using reports is where the real advantage of keeping your data on your ST lies. You can isolate the records you want using the filters and control the look of the final report, which fields appear and in what order. Each file can have a number of report designs attached to it, these are saved and loaded along with the data. Although you can output to the screen, a printer really does come in handy. Select Design New from the Report menu and a dialog box pops up at the bottom of the screen with four buttons.

1 **The Form button selects the basic format of your report. Columns prints each field in... columns. Page puts the fields into paragraph form. Record prints the records as they appear on-screen and Mailing List only prints out the fields from a mailing list Splat, if you haven't included this as part of your record, then it's greyed out. Just click on the type of report you want.**

2 **If you have selected Columns or Page as the report format you want to use for a particular database file, then you can select which fields appear where by using the Fields button. All you need to do is click on the fields you want in the report from the main screen and up pops a form. The form that appears depends on which format you are using.**

3 **The third button, Find, sets up your filters in exactly the same way used to search through the records. With three different types of filter and the ability to use all three of them simultaneously, you can fine tune your report to suit your exact needs. Click on the type of filter you want, then the field it is to apply to and then enter your parameters.**

GENTLEMEN, YOU CAN NOW START TYPING

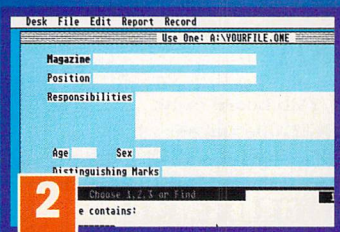
Once you've created the basic format of your database, it's time to start entering the data

Run USEONE.PRG in the same resolution that you used when you created your database and start adding those records. Once you have a set of records you can select Find All from the Record menu and then browse through them using the <Control> and <N> or <B> keys.

The real power lies in the ability to pick out a selection of records using search filters. From a database containing hundreds of records you can pick out the exact one you're looking for in a matter of seconds.

1

Select Add from the Record menu or press <Control> and <A> and the text cursor appears at the start of the first field. Pressing <Return> takes you to the next field. Text can be cut, copied and cleared by highlighting it with the mouse and using the Edit menu. To edit an existing record just click on the text you want to change and the cursor appears.



2

Now you can get serious. The Find function enables you to , er, find a record or group of records. Select Find Some from the Record menu and a dialog box appears. To isolate records you need to specify a field and some parameters for *DB Master* to use to sift through the records. Click on a field and select either Equals, Between or Contains.

3

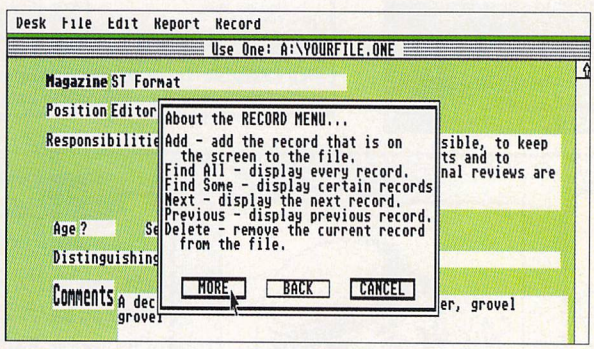
Enter something that distinguishes the records you want from the others. Click on the numbered boxes on the right to define three different filters. Equals looks for an exact match, Contains selects fields that have your filter as part of the data and Between enables you to define two values. This filter selects all the *FORMAT* Golds from a database of *STF* reviews.

THE MASTER

even using different sized fonts for the text. It makes full use of GEM, with the familiar menus and windows, and it's very easy to use.

Unlike with some most databases, *DB Master One* enables you to use any of the fields for your search filters. You don't have to worry about key fields when you design your database. You also don't have to worry about making sure you've included every possible field in a record.

You can redesign the form and add a field or two after you've started using the database without losing any data. It's intelligent too, whenever you alter a database file it warns you if you try to quit without saving the file first. If you've avoided databases because you thought they were a little too "serious" and difficult to use, then give *DB Master One* a try and get yourself sorted. ***stf***



Help is available. At the bottom of each menu is a Help option that brings up this dialog box with brief descriptions of each menu item.

JARGON BUSTERS

Between filter – Enables you to enter two filters and only records containing them or characters between them are selected. The parameters can be letters or numbers.

Contains filter – Enables you to enter part of the field as the search parameter. Any record containing it is selected.

Equals filter – When searching through a database, only records where the field matches your filter exactly are selected.

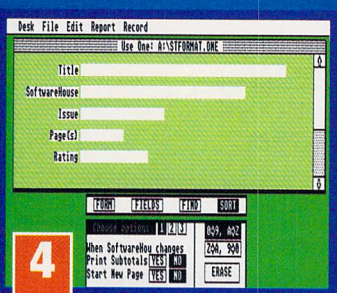
Field – Each record is made up from a number of fields, each field can hold a definable number of characters.

Filter – To sort through the database for specific records or groups of records you need to apply filters to narrow down the selection.

Label – Each field is given a label or title, the text appears next to the field on the record.

Record – One set of data from a database, consisting of a number of fields holding the information itself. *DB Master One* records appear in a friendly GEM window.

Report – A list of database records generated using one of a number of formats. You can select the records that appear and what fields are used.

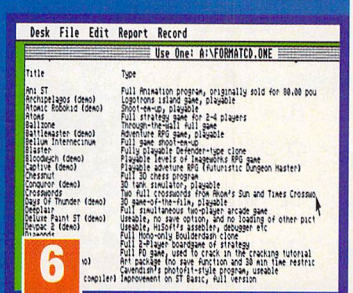


4

The final button enables you to sort the chosen records in a report. Select the main field, you can use the buttons on the right to select the sorting order. You can ask for subtotals or a new page when it changes. Click on the little buttons marked 2 and 3 to add sorts within sorts. When you've finished defining your report, select Print from the Report menu...

5

... and a box asks you to name the report. Each file can have a number of reports, so you can replace an existing report or select Save As New. The available reports then appear. You can send them to the screen, to a printer or save them. It's the power and flexibility of the report generating function that makes *DB Master One* such a useful tool.



6

Select Screen for the output and your carefully crafted report is previewed on-screen. Although adequate, it really needs a printer to make the most of it. If you design your reports carefully you won't need to edit them when you add records to your database. Your precious data can then be manipulated and viewed from all angles.

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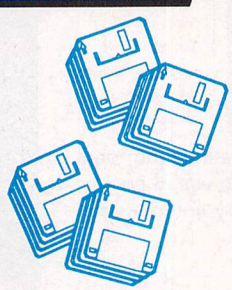

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Access

PUBLIC SECTOR

If you're looking for cheap, and sometimes brilliant software then have a good rummage in the Public Domain – we did, and this is what we found

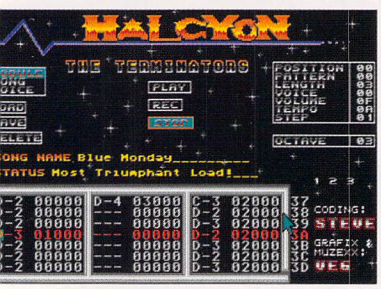
ART AND MUSIC

HALCYON TRACKER

CALEDONIA PDL
DISK MU 71

Bleepy sound chip tunes are for the most part rather awful. The *Halcyon Tracker* is a tool for creating the less awful ones. You have three tracks to play with and notes can be entered in step time from the keyboard. There's a voice editor to create your sounds first. Everything is represented by numbers, which is confusing at first if you're used to musical notation, but easy to use once you get to grips with it. There are plenty of parameters to play with: tempo, pitch, volume and the like. The results, however, are at best passable. If you're into programming games and demos and don't want to rip off someone else's music then this is worth looking out for.

STF Rating: 70%



■ ***Halcyon*** **looks and feels exactly like one of the many sample trackers but uses the Yamaha sound chip instead, ideal for writing annoying tunes to accompany platform games.**

LINE UP 1

FLOPPYSHOP
DISK ART 3649

■ **The horrific results of badly adjusted digitised red, blue and green screens.** ***Line Up 1*** **takes the pictures and snaps them back into shape. If it still looks dodgy, you've obviously been at the Night Nurse.**

You've either been crying out for this sort of program or you're never going to use it. Digitisers like *VIDI-ST* and *Videomaster* perform colour digitising by producing three separate screens for red, green and blue. These are then combined into a single glorious colour image. The trouble with doing this from video recorders is that the less than perfect pause function usually leads to vertically misaligned pictures. *Line Up 1* is a simple utility that loads all three pictures and, using a clever split screen, enables you to align them accurately and save them back out again. A godsend if you're into digitising.

STF Rating: 61%

TALKING PICTURE CREATOR

MERLIN PD
DISK MPD 1297

As the name might suggest, this program enables you to create talking messages to accompany a picture. It uses the classic voice synthesiser that first appeared with *Fast Basic* and has migrated to every other language. It works reasonably well but sounds a bit funny with some words. You choose a picture, write in your message, position the text and set the colours cycling, fiddle with the voice parameters and save it to disk. Pop the program into an Auto folder and you have, er, a crap demo. You can often get better results from the speech program if you mess about with the spelling, unfortunately, this would also appear on-screen. The single picture is a little limiting too. Good one to let the kids loose on so they can send rude messages to each other.

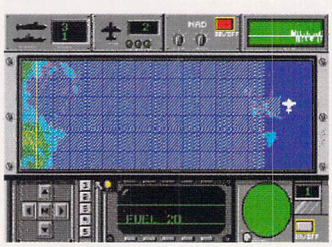
STF Rating: 52%

■ **The cunningly named** ***Talking Picture Creator's*** **main screen. You can enter any text and hear it spoken back to you in a robotic voice while you look at your favourite picture. Now that's handy.**

GAMES

HUNT FOR GREY NOVEMBER

AQUILA
DISLK ACT 27



■ **Use your Viking's sophisticated radar detection facilities to hunt down enemy subs in** ***Hunt for Grey November.***

A band of desperate terrorists have stolen the world's top submarines and only you can stop them. As pilot of a Lockheed Viking aircraft, you're an expert submarine hunter who has to comb the seas in search of your prey.

Hunt for Grey November is a mouse-controlled arcade game which places you on a map-view screen in search of the missing submarines. You have to find them and prevent them from attacking friendly shipping. The game's simple, yet addictive and – with seven difficulty levels to plough through – is going to keep you at your ST longer than most Public Domain games.

STF Rating: 72%

SUPER MATCH MAKER

CALEDONIA PDL
DISK GM 165

■ **Pair off the symbols to complete the level. Sound's easy, doesn't it? Well, there's more to** ***SMM*** **than meets the eye.**

Coded and written in *STOS* by David Cobbledick, *Super Match Maker* is the sequel to the successful *Match Maker* puzzle game.

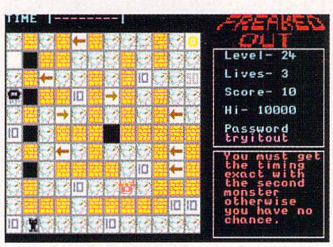
The idea's perfectly simple – you just have to click on a series of squares and pair up the matching symbols. Naturally, there's a time limit and *Super Match Maker* is as much a test of memory and intelligence as it is of reflexes.

Within *Super Match Maker* are four sub-games – *Mix 'n' Match, Match 'n' Match, Avoid a Match* and *Super Match* – each with different puzzles to be solved. It's a simple idea, but one that proves to be addictive and infuriating.

STF Rating: 68%

FREAKED OUT

MERLIN PD
DISK MPD 1360



■ **Can you collect the points and dodge the monsters? This puzzle game is going to freak you out totally!**

Freaked Out is a puzzle game which places you in control of a little beastie who has to zoom around a series of levels collecting as many points as possible. Of course, things aren't that simple and you have to avoid all kinds of pitfalls and monsters who're determined to make you fail.

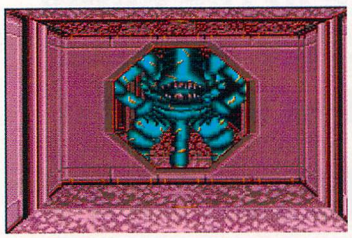
Although the graphics are a little crude, *Freaked Out* more than makes up for it with some nail-biting gameplay as you zoom around each level against an exacting time limit. The puzzles are well thought out and become increasingly difficult to solve. Thankfully, there are passwords for each level when you die.

STF Rating: 65%

EVEN MORE GAMES

BIO HAZARD DEMO

FLOPPYSHOP
GAM 3658C



Gulp! Just one of the meanies you meet in the Princetastic purple corridors of *Bio Hazard*.

Remember the old *Xenomorph* game where you had to roam around a series of dimly-lit levels in a spacesuit and hunt down bad-tempered monsters? Well, this is its PD equivalent.

This Shareware demo contains two complete levels and you need at least 1MByte of RAM to run it. Getting around is easy, thanks to the *Dungeon Master*-style mouse controls. There's also a save facility if an attack of the killer crabs proves too much.

Although the game's very derivative, the demo's been put together well and there's enough tension here to keep even the most hardened RPG fans happy.

STF Rating: 63%

RIVER OF NO RETURN

AQUILA
DISK ACT 21

Shoot the tanks, sink the ships and rescue the chaps in *SEUCK* game *River of No Return*.

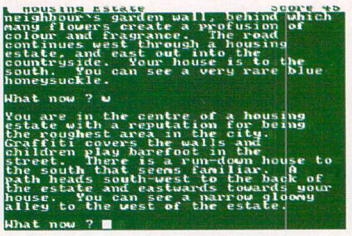
One of four shoot-'em-ups on the same disk *River of No Return* finds you zooming over a lush riverside landscape blasting the crap out of every boat, tank and plane that gets in your way. *River* isn't very easy though, because you also have to rescue as many stranded soldiers as you possibly can without getting blown to smithereens yourself.

River's a competent enough shoot-'em-up, but suffers from the usual *SEUCK* problems – monotonous vertical-scrolling, no power-ups and a complete lack of originality. For all that, this game's still good old button-thrashing fun.

STF Rating: 54%

DON'T BANK ON IT

WIZARD PD
ADV 31



Enter the world of sad man Harry Pratt in *Don't Bank On It*, Ruth Sutherland's imaginative text adventure.

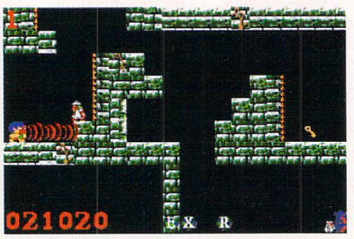
Written by Ruth Sutherland using the *ST Adventure Creator*, *DBOI* is an atmospheric text adventure starring Harry Pratt, a rather sad man who never gets the girl or makes any money. It's up to you to change all that and transform Harry's life forever.

Because *DBOI* is a text adventure it follows the familiar format of typed in commands and cryptic descriptions of your surroundings by your ST. The author has managed to instill enough atmosphere and plot twists into the story to keep the limited format interesting. Fans of text adventures are likely to find this one pretty enjoyable.

STF Rating: 51%

CUD LEE'S QUEST

CALEDONIA PDL
DISK GM 163



Splatter the baddies and collect the goodies in *Cud Lee's Quest*, an educational platformer from Caledonia.

An educational platform game? Sounds like a contradiction in terms, doesn't it? Well, *Insectroid* programmer Robert Dytmire's latest Shareware platformer *is* educational.

The poor pixies have been abducted and doused in evil magic, so it's your job to rescue them. There are the usual objects and power-ups to collect and baddies to destroy. The tutor mode also asks a series of education-related questions.

This good idea is let down with some sloppy gameplay – the joystick controls are hit and miss at best, while the collision detection is appalling. At least it's a bit different.

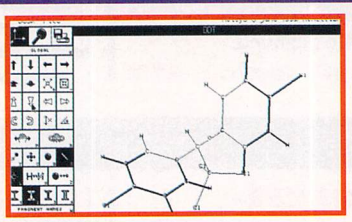
STF Rating: 46%

UTILITIES

If your plants are covered in greenfly just show them a printout of this DDT molecule and they'll immediately leave.

MOLSYS

CALEDONIA PDL
DISK SC1



MolSys is a molecular modelling package for your ST and requires a mono monitor or emulator but runs with just 512K of memory.

It's a powerful chemistry design tool and is very easy to learn and use. A large .DOC file on disk takes you through all the basics required to enable you to develop new and unusual substances and compounds. Molecules can be directly printed or saved as *Degas* or .IMG files which may be imported into DTP packages and documents.

This demo version is restricted to 100 molecules, so if you need any more, then you better register with the author who'll supply you with the full version.

STF Rating: 82%

Ahh, isn't it sweet? You don't have to use twee saccharine designs like this though, use a *T2* picture for shock.

STITCH MATRIX

EMERALD CITY PD
DISK SN26

Continuing with Emerald City's line of unusual software, this disk contains two low resolution programs enabling you to print cross stitch designs.

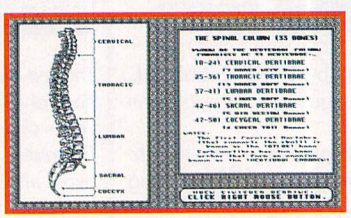
Cross-stitching is one of the most popular stitches used in embroidery – the art of creating patterns with needle and thread on a grid. *Stitch Matrix* uses your ST to generate the grid pattern – it enables you to import designs as *Degas* pictures and the exact section you want to be cropped and printed out as a standard cross stitch chart. All you have to do now is cut out your favourite game character, load it into *Stitch Matrix* and get your Mum to stitch it into your shirt. *Lemmings* anyone?

STF Rating: 75%

So you think you're spineless, eh? In that case, please take this small set of vertebrae with our compliments. All parts are listed, batteries not included.

THE HUMAN SKELETON

FLOPPYSHOP
DISK BUD3638



Clavicle, occipital, coccyx, scapula and metacarpal, all familiar terms to students of Osteology but probably not part of your day-to-day vocabulary. They are all names of various bones in the human skeleton, clearly described and explained in this unusual Australian Budgie release. An educational program that actually educates, uncanny! *The Human Skeleton* takes the form of a tutorial combined with a multiple choice testing facility. The tutorial is simple to run, you click on a bone in the skeleton and a detailed description is displayed, the test section rewards you with sampled round of applause when you get a correct answer.

STF Rating: 70%

The demonstration database files supplied with the program feature the countries of Europe complete with national flags and maps.

JIMBASE

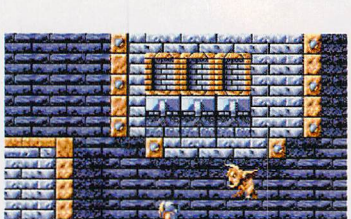
FLOPPYSHOP
DISK UTL3620

Jimbase is a Shareware card file database that enables you to link graphics and pictures to an entry for illustration – descriptive text files can also be linked to and accessed from individual records. Creating a new database is a simple process, you pick up fields with the mouse from the field icon and drag the field to a suitable position on the card, releasing the mouse button places the field. Fields can hold numbers or text and you can enter specific templates. Text files, graphics and notes are linked by clicking on their relevant icons. It's all very clever stuff and is bound to gain a following among avid collectors who like to catalogue their beloved goodies.

STF Rating: 65%

NOSTRAM

AQUILA
DISK ACT 34



■ Looks mighty familiar, doesn't it? Has *Gods* really gone PD? Nope, it's just *Nostram*, a ripoff from Aquila PD.

The good gods have been defeated and the demons have taken control of the Earth. They've built a tower – Nostram – from which you have to recover five crystals and destroy the demons' power.

Nostram is a clone of *Gods*, the Bitmap Brothers' wonderful platform game. The graphics and sprites have the same look and feel, but *Nostram* falls down in gameplay. The joystick controls are unresponsive, so leaping around from level to level is extremely frustrating. The other main drawback is the absence of hardware scrolling – the screen goes black for a bit every time you walk off-screen.

STF Rating: 38%

RUMBO

AQUILA
ACT 36

■ Playing *Rumbo* is just about as exciting as playing hide and seek by yourself. Useless.

Rambo fans, watch out! Your hero's name is being taken in vain. *Rumbo* is the macho rodent hero of this rather pathetic platform game.

The problems are apparent from the off – the sprites are much too small and the graphics are incredibly gloomy and totally uninspiring. Once you take control of *Rumbo* you immediately realise how stodgy and unresponsive the joystick controls really are – it's like BSE has made it onto your ST.

The collision detection is pretty crap too and, sadly, so are the sound effects. *Rumbo*'s a case of an appalling idea poorly executed.

STF Rating: 15%

PD Highs and Lows

Highs

Seeing the results of a 12 hour *POV Raytrace* for the first time and realising you've created a masterpiece. It's just so beautiful, it takes your breath away.

Knocking up a few designer labels using *Stitch Matrix* so your granny can sew them into all your clothes.

Using *Word Finder* to cheat at those anagram word puzzles while you're out of the room then wander back in pretending you thought of them all by yourself. Cheat.

Getting a series of matches together in *Super Match Maker* and kidding yourself that it's due to your amazing powers of intuition.

Getting to a really tricky bit in a *SEUCK* game and getting away with it – even though a bullet went right through your ship... and failed to kill you because you're so damn skillful. Jammy sod.

Moving easily through all seven difficulty levels in *Hunt for Grey November*.

Lows

Getting shot by a bullet that was just miles away from you in a *SEUCK* game and getting sent back to the beginning of Level One again – unfair judge.

Seeing the results of a 12 hour *POV Raytrace* for the first time and realising you've created a complete mess because you left a decimal point out of the script file. Aarrgghh!

Running into a baddie right on the edge of the screen in *Cud Lee's Quest*, and losing your last life – it's just not fair.

Getting most of the way through a complex recipe from *Assistant Chef* only to realise you haven't got a vital ingredient – oh, and it's a bank holiday, the car is in the garage, you've only got 14 pence and your entire family is due round in ten minutes.

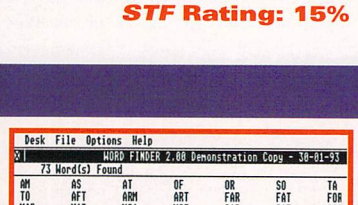
Being locked in your room for ten hours with your ST, your joystick and only one disk with *Rumbo* on it.

Composing a tune with *Halycon Tracker* which is worse than the *Birdie song*.

■ Entering the magic phrase "*ST FORMAT*" into *Word Finder* resulted in 73 words being found. Can you do better?

WORD FINDER

GOODMANS INTERNATIONAL
DISK GD1925



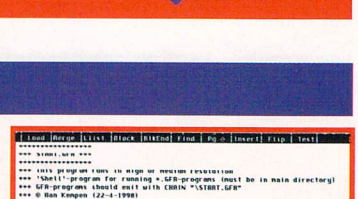
This is a great program for puzzle fans. Remember a few years back there was a spate of competitions where you had to make as many words as you could from one phrase? Well, using this program you can cheat! Select All Anagrams from the Options menu and you can enter up to 20 letters, press <Return> and *Word Finder* searches its 40,000 word dictionary and prints all the real words that can be made from the letters entered. This demo version can search for words with missing letters (handy for crosswords), find single anagrams and multiple anagrams. The only option disabled is the add word function to update the dictionary. Not bad.

STF Rating: 72%

■ Just one of the many programs and routines supplied with the *GFA Expert* disk, it's all great stuff.

GFA EXPERT

FLOPPYSHOP
DISK LAN3545



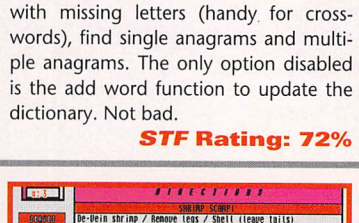
A must for all budding and serious *GFA Basic* programmers, this disk contains an extensive library of routines and information enabling you to explore the more advanced aspects of the language. Perhaps the most important file on the disk is the new *GFA Basic* manual, supplied in both ASCII and in *First Word Plus* formats. This file is a complete replacement manual for v3 of *GFA Basic* and explains the functions of each individual command in much more detail than the official manual. The example programs and procedures include a complete library of commonly used routines. If you want to print out the manual, be sure to have 110 sheets of A4 handy.

STF Rating: 72%

■ Fancy yourself as a bit of a Cordon Bleu chef? Well, how about trying one or two of these recipes?

ASSISTANT CHEF

EMERALD CITY
PD DISK SN28



If you like eating, and who doesn't, then you'll just lurve *Assistant Chef*. It's a tidy little database program that enables you to keep track of all those calorie laden snacks that your Mum has never heard of. It comes supplied with 42 exotic sounding recipes to get your taste buds tingling, and has comprehensive editing and entry options so you can add your own tasty tit-bits. The design of the program leaves a little to be desired, some of the colours used are a bit too lurid and can make it difficult to see exactly what is going on. Some of the buttons you have to select are a bit on the tiny side and are hard to select with your fork-shaped mouse cursor.

STF Rating: 58%

■ So, grab a text file, combine it with a pretty picture and you have your very own mini tabloid newspaper.

CLIP IT

GOODMANS INTERNATIONAL
DISK GD1920

Clip It is a fairly competent page designer that works in medium and high resolutions. The program needs GDOS to run, but because GDOS is a copyrighted program you have to get hold of a copy elsewhere – it is supplied with many commercial programs.

Clip It enables ASCII text and graphics to be imported from other programs, although only *Degas* high res pictures are supported. Rudimentary drawing and editing functions are available along with the ability to clip areas of text and graphics from imported files, hence the name of the program. If you want a simple page layout program then try this, but there are better alternatives.

STF Rating: 48%

FALCON

POV RAYTRACE

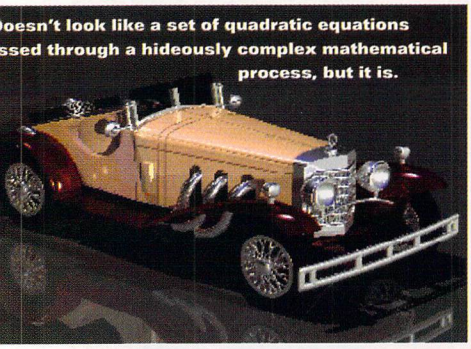
FLOPPYSHOP
DISKS 3615 AND 3616

A development of the excellent *DKB Raytracing* program, the *Persistence Of Vision Raytracer* has made an appearance on other machines and is now here and ready for the Falcon. It creates stunning 24-bit pictures, easily converted into 16-bit true colour pictures for your Falcon. It uses the same uncooperative way of working as in *DKB*. It's a job requiring dedication, there are over 400K of documents to read through. Rendering times are impressive, scenes which would take all day on your ST using *DKB Raytracing* only take an hour or two.

The list of features is comprehensive, objects are taken from a library or defined using quadratic equations. Surfaces can have a mass of parameters applied to them. You can define textures including different woods, metals and stones. You can also texture-map pictures onto objects. The potential is amazing. Unfortunately, so is the amount of work needed to get at it. There is a mass of utilities including programs to convert input files and 3D objects in from other formats including *DKB, 3D2* and *DXF* and to convert the 24-bit output files into a variety of flavours.

POV needs a command line interpreter and heaps of patience just to get it set up and running properly. It takes about 4MBytes of disk space once decompressed. Although respectably quick, a maths coprocessor gives it a huge zippiness boost. If you perservere and experiment with the script files and get it right, then you will create some of the best graphics your Falcon will ever produce.

STF Rating: 90%



oesn't look like a set of quadratic equations ssed through a hideously complex mathematical process, but it is.

■ An example of what is possible using the *POV Raytracer*, pretty amazing stuff. This picture is in true colour and uses the full Falcon palette of 65,000 plus colours.

DSP ASSEMBLER ROUTINES

FLOPPYSHOP
LAN 3611

One of the most remarkable pieces of wizardry inside your Falcon is the Motarola 56001 Digital Signal Processor. It's fast and has its own RAM and a small set of instructions. If you've a Falcon and a grasp of assembler, then no doubt you've been hungry for some information on this beast. Here it is, 17 assembler routines concerned with Fast Fourier Transformations and a56, a DSP56001 assembler, with source code to add effects to samples. None of this is for the faint hearted.

One of the things that is really going to give your Falcon the edge is if the programmers get to grips with the DSP. Given the chance, it's capable of outstanding things.

STF Rating: 67%

PRO-TRACKER REPLAY

FLOPPYSHOP
DISK SND 3633

A last a piece of software that starts to show what your Falcon is capable of in the sound department. *Pro-Tracker Replay* claims to offer 50kHz 16-bit stereo output. The five modules that come with it are of good quality. The input files still contain 8-bit samples which are converted into 16-bit. The output is short of what your Falcon can really do, but it's still going to be the best tracker player you've ever heard. Like all serious sounding Falcon stuff you really need some proper amplification. The internal speaker is good for the odd beep and squeak and the speakers fitted to monitors aren't much cop either. If you've got a stereo, get it wired up.

STF Rating: 65%

THE *ST FORMAT* PD DIRECTORY

■ Here's a list of where to go for Public Domain software – demos, games and utilities for around £3 a disk! If you write to any of these libraries for a catalogue, 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.

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AUTHORS

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You've written a lovely program. It's not a blockbusting game that the major labels are going to fall over themselves to get, and it's too specialised for the serious publishers. You want people to be able to get hold of it, so what do you do?

Well, there's always the Public Domain or Shareware, but neither offer much reward. Shareware works, but the dividends are slow to appear and can be disappointing at times. You can distribute it yourself, putting small ads in magazines – a risky and possibly expensive option. You can circulate a disabled Shareware version in the hope that people register for the full version. But the best option for specialist programs is to get a small independent label to take it on for you. These labels are often run by the bigger Public Domain libraries and are growing in popularity.

Although many of the authors only program in their spare time, the quality of independently distributed programs often match that of the full commercial releases. It's so specialised, you can often find that program you've been looking for.

If you've written a program that you think deserves a good seeing to, drop it to us at – Indie Reviews, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

OZONE 2

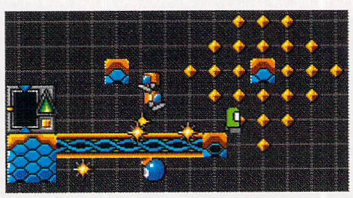
PRICE: £3.95
FROM: GOODMANS
CONTACT: ☎ 0782 335650

A follow up to the brilliant *Ozone* Shareware game, here's some more platform chicanery. It's a race against time to battle through each level with your blue blob character before the big balloon reaches the top and does something nasty to the atmosphere.

The main difference between *Ozone 2* and the original is that now you have sticky feet. You walk up the sides and along the bottom of the platforms. The controls are a little different – moving the joystick left and right walks you clockwise and anti-clockwise around the platforms. It takes a little getting used to at first but you soon catch on.

Pressing the <Fire> button sends spiked maces flying about – they shoot away from you then return. If you jump about as you fire you can get them swirling around the screen. You use these flying maces against the inevitable monster chaps – they come in a variety of flavours and walk into you and zap your stamina. Every now and again you can pick up a bonus icon – some freeze all the creepies, others turn you invisible or kill every nasty on-screen. *Ozone 2* is written in *STOS* and, before you start groaning, it's one of the fastest and smoothest *STOS* games ever. Even with lots of sprites on-screen it never slows down.

Nick Harper, the man responsible, programmed the game basically for fun. "I only intended to publish it if the quality was up to scratch." And what did he have to say about the original *Ozone* released as Shareware? "The response wasn't what I'd hoped for and I wanted to get a bit more money for *Ozone 2*."



■ **Your little blue blob chap's neatest trick, being able to walk completely round a platform.**

■ **Level One and already you're in trouble. The enemy chaps fall thick and fast from the sky. There's no point hanging around shooting them just stay out of their way.**

Verdict

One word of warning, *Ozone 2* isn't easy – there are some very difficult jumps and less experienced platform players may find themselves seriously frustrated. It's a polished and attractive game that's very playable. It's not in the same league as the original but is still a spiffing outing into platformland.

■ **When you reach the top of Level One and meet this really difficult jump, remember this bloke, 'cos he designed it.**

SPRITE WORKS

It makes sense

***Sprite Works* is Shareware, that means if you like it you should send some money to the author of the program.**

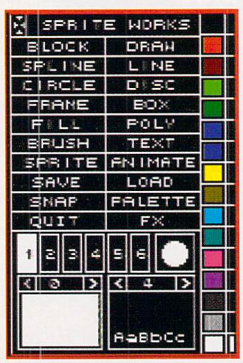
There are two Shareware fees for this particular application, for £3 you are informed of any new upgrades to the program, or if you pay the full £6 you are supplied with the basic extension kit. This kit consists of over 50 routines including a full set of fast machine code and *GFA* sprite routines, sample player routines, new fonts and a new mouse controller. All these routines can be freely used within your own programs.

PRICE: £6
FROM: NINTH WAVE SOFTWARE
CONTACT: ☎ 0279 430371
MACHINE: 1MBYTE STs, LOW RES ONLY

***Sprite Works* was inspired by *Animaster* on the Cover Disk of *ST FORMAT* 37. Terry King was impressed with the idea but thought that it should be able to run much faster. He decided to design his own program and the result is this excellent package.**

The program is actually a complete art package with all the usual arty style functions included: blocks, fills, circles, text are all there; in fact, *Sprite Works* seems to combine the best features from several popular art packages. All the main functions are pretty standard, although the Block menu has several unusual functions. Instead of the simple Cutting and Pasting options there are extra features that enable you to cut circles, stretch, rotate, recolour, erase and choose between solid and X-ray blocks.

Several zoom modes are available including a special four times real-time zoom which fills the whole screen, you use the cursor keys to scroll the picture around. Brilliant stuff.



■ **The main menu of *Sprite Works* is summoned by the click of the right mouse button, small but beautifully formed, every function of the program is available from here.**

ASTRO 22

PRICE: £55 INCLUDING ALL MODULES
FROM: D K WILKINSON
CONTACT: ☎ 0484 425843

What are you like? Do you really want to know all about who you really are? Well, get yourself *Astro 22* and get into some serious astrology.

Astrology is one of the oldest methods of character analysis and has been around in one form or another since the ancient Eygptian times, perhaps even earlier. True astrology relies on using accurate data about the subject whose chart is being worked on, such as the date, time and place of birth right down to the longtitude and latitude – it's more science than fortune telling and charts can be astonishingly accurate. By contrast, newspaper so-called astrologers only use your star sign to produce a very generalised view of your day, and can be very inaccurate.

Why astrology?

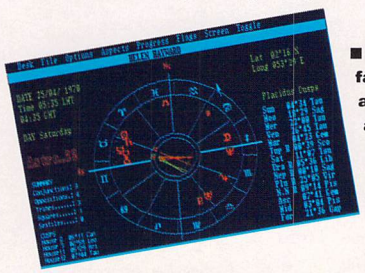
Dave's wife was interested in astrology and suggested that he write an astrology program, initially for their own use. Programming was just a hobby and Dave was looking for a project to work on – the astrology idea seemed perfect. When the program was finished the basic version was released as PD but the extra add-on modules can be purchased individually, they cost from £4 to £10 each.

The mystical bits

Astro 22 takes all the information that is needed to create the more complex charts on your ST, it accurately calculates the position of the planets, cusps and zodiac positions to within 30 minutes of arc. All you have to do is enter the basic data and the charts are generated for you, along with a full text analysis of your particular details. The text analysis can be viewed on-screen, printed or saved to disk as an ASCII file for loading into a word processor.

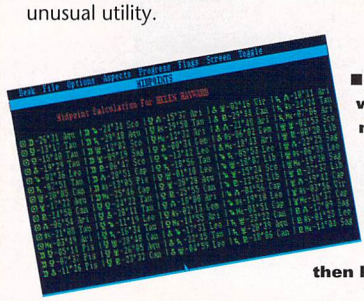
All the astrological calculations are completely accurate and can be checked against an Ephemeris, the astrologers' bible.

Astro 22 is competently written and performs its functions well. Everything is easily accessed from drop-down menus and the document files provide reasonable enough information so you can use the program almost immediately, you can use this program even if you have little or no ST or astrological knowledge. You won't be able to predict your way to fame or fortune but you can have a lot of fun working out the charts of your friends and family. An excellent and unusual utility.



■ **Using our favourite art assistant Helen as a test subject we pumped her information into *Astro 22*.**

■ **Helen's chart shows a lot of conflicts, all those planets gathered in the same houses do not bode well...**



■ **Finally, we made a midpoint calculation - if anyone knows what the hell all this means then let us know.**

BRILLIANT BOFFIN BROTHERS

PRICE: £3.95
FROM: MICROMAGIC, GOODMANS PDL
CONTACT: ☎ 0782 335650

You're a brainy thing, aren't you? Salted away in the dark corners of your brain are a squillion useless facts. Well, now is the time to bring them back to life with *The Brilliant Boffin Brothers* – a straightforward multiple choice quiz program from Goodmans PDL's very own independent label, Micromagic.

The first job is choosing from the categories – sport, science, music, people and places and potluck. Three appear at random and you have to take your pick. Then comes the hard bit, the questions themselves. You are given three answers, and you only have ten seconds to choose the right answer. Get one question wrong and you're history. It's infuriating!

If you're having trouble, there are three types of bonuses you can get. You can pass a question, gain extra time, or best of all automatically get the right answer.

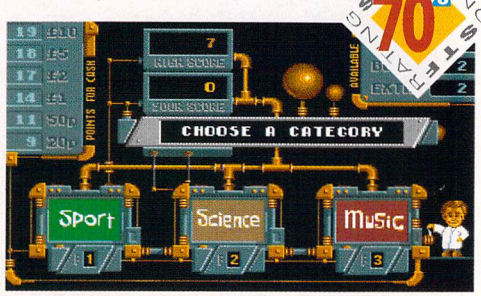
As with the old *Trivial Pursuit* board game, after a while you start recognising the questions. To make it more interesting, just use the editor to create your own set. The graphics and sound are excellent, it looks and sounds very slick. The questions are fairly sensible and the kind of thing a collector of trivial information might be expected to acquire. Overall the program is polished and works well.

There are lots of quiz programs in the Public Domain, but *The Brilliant Boffin Brothers* is swish enough to be worth that little bit extra. If you're into this genre, don't hesitate in getting it now.

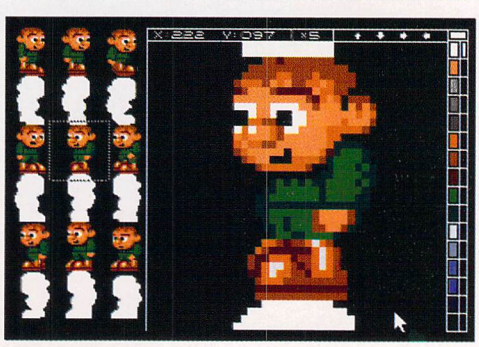
The author, Mike Afford, started work on this and other programs as a hobby. "They were virtually already written and it seemed a good idea to see if I could get a few quid from them." Since Mike works for the BBC producing computer graphics it's no wonder these are so good. "Making money's not the main reason for writing it – but it's a nice surprise to get a cheque every quarter."

Verdict

The Brilliant Boffin Brothers is a well-crafted but sometimes frustrating outing into the world of trivia. Either you'll be proud of the amount of knowledge stored away inside your head or you'll dismiss the random acquisition of pointless facts as an intellectual pursuit not worthy of your attention.



■ ***The Brilliant Boffin Brothers* ask questions from five loosely defined categories. Some of the potluck questions are rather ropey.**



■ **To ensure all your sprites are wonderfully designed *Sprite Works* has a powerful magnify function, press a function key and away you go.**

Spritey, spritey

The best way to design your sprites is to plan them out on paper and decide on the width and height of each individual sprite, then draw them one by one using the magnify options for fine detail. You can create sprites in two widths, 16 and 32 pixels, and in any height up to 48 pixels, there's also a special block function that enables you to create sprite masks instantly.

A couple of functions not normally found in an art package are the Sprite and Animation options. The sprite function is used for saving sprite data to use with *GFA* and machine code routines while the animation feature enables you to test that your sprite designs work correctly. There is a simple demo game provided with the program that shows exactly the type of professional results that can be obtained, along with several screen of sprites in *Degas* picture file format and several folders full of routines. All in all, *Sprite Works* is a more than adequate art package with a brilliant sprite designer built-in, and at £6, is excellent value for money.

ABOUT THE AUTHOR

We had a chat to the author, Terry King, to find out exactly why he was writing Shareware programs. Terry said that he normally distributes his software as PD, but because he spent three months writing *Sprite Works* he felt that he deserved some reward for his work.

Terry uses *GFA Basic* and *Devpac 2* to create the program, he has tried using *STOS* but he says; "I am disgusted by the language and the programs it creates."

He writes software primarily as a hobby, when he realised that there wasn't a combined sprite designer and drawing program available he decided to write one. He has just received his first registration for *Sprite Works* and is feeling rather pleased and hopes more registrations are on their way.

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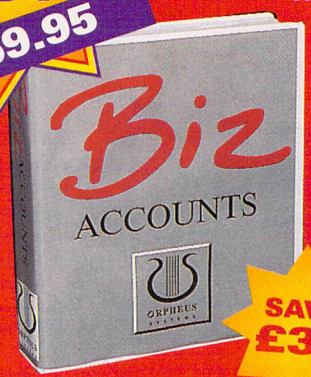

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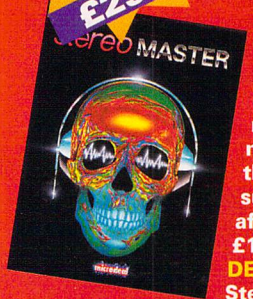

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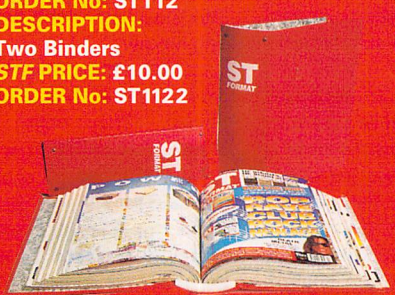

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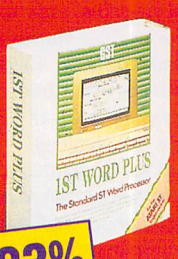

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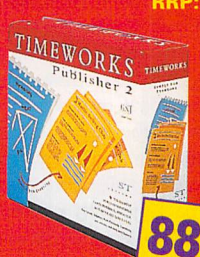

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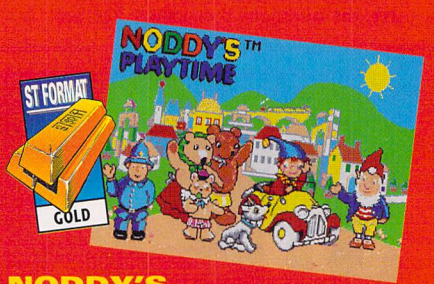

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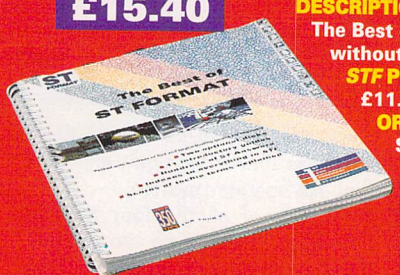

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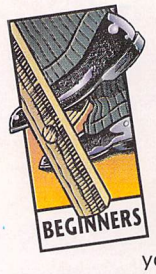
GIVE ME

Music theory's dead boring, right? Wrong. David Roberts examines the painless world of interactive music education on your ST



Music theory, eh? Dead useful when you know what you're talking about, but a really tedious subject to get to grips with. The thing is, the basics of music theory are actually quite easy to grasp. All you need is an interactive teaching environment that shows you how easy it really is – and your ST can give you exactly that.

With all the music theory jargon linked to symbols, and all the symbols representing specific notes of different lengths, pitches, intervals, rests, time signatures and accidentals, you really do need your ST to lend you a hand and make it as easy as possible for you.

In the majority of British schools for instance, the old-fashioned and traditional teaching methods are at last giving way to new computer-based interactive methods, and looking at the success of some of the software on offer, it seems like they're going down a storm.

Until recently though, the problem wasn't to do with the quality or the number of interactive music packages, but was more to do with the fact that most packages were designed for and distributed exclusively to schools. One of the leading music software distributors, Music Software Express, have decided to change all that by making the popular Soundtrack packages available to everybody.

What are they like?

Soundtrack have developed four interactive packages – *Theory Trainer 1, Theory Trainer 2, Pitch Trainer* and *Rhythm Trainer*, all reviewed below. From the very first steps of recognising the position of a low C on a stave, through to reproducing a five-note tune on a keyboard after having heard it once, it's all there. Each one of the four packages has different sections and difficulty levels to choose

■ Welcome to the wonderfully painless world of music theory lessons with the Soundtrack series.

THE SECRET OF GOOD MUSIC IS TIMING

Can't tell the difference between a crotchet and a semibreve? Here's STF's very own guide to the basics of music notation

STAVE – five horizontal lines used as a basis for all musical notation.

CROTCHET – every song has a speed which is defined in terms of beats per minute; ♩=135 for instance, means there are 135 beats per minute and the crotchet is equal to one of these beats.

MINIM – is worth two beats, that means that it lasts twice as long as a crotchet.

SEMIBREVE – This is the big one. Worth four beats meaning that it lasts four times as long as a crotchet.

QUAVER – is worth half a beat meaning that it lasts only half the time of a crotchet.

SEMIQUAVER – is worth a quarter of a beat and lasts for a quarter of the time of a crotchet.

CROTCHET REST – for every note that can be played, you can also play nothing – like a blank – but to keep the number of beats equal, there is a whole set of different symbols for rests of different lengths.

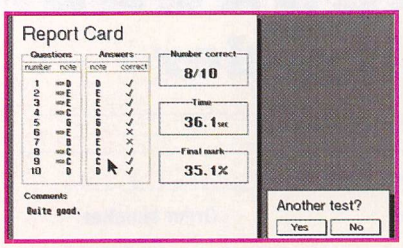
This is the crotchet rest, it lasts one beat and is equivalent to the crotchet.

MINIM REST – worth twice as many beats as the crotchet rest.

SEMIBREVE REST – worth four times as much as a crotchet rest.

QUAVER REST – worth half the time of a crotchet rest.

THEORY TRAINER 1



■ After each test you get a report card that tells you all about, er, how well (or badly) you've done and how long you took.

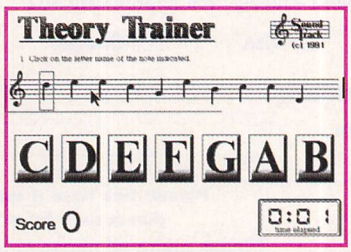
This is the program you need to start off with if your knowledge of music theory is less than minimal.

The first test asks you to recognise notes on a stave, for example, enabling you to get used to basic notation. This is an essential part of your training and must be mastered before you start using any of the other three programs.

There are five different type of tests concerned with helping you to identify notes, memorise their position on a keyboard, recognise their length and understand the use of bar-lines.

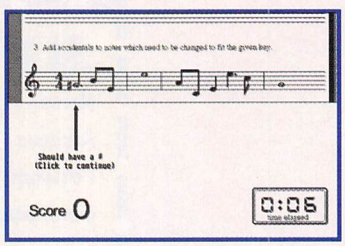
Once you have completed one of the tests, up pops your report card displaying the amount of correct answers, the time you took to answer them and an overall percentage that takes all this into consideration. Don't get too disheartened if at first your scores are below 50 per cent.

If you're a beginner in the field of music theory, *Theory Trainer 1* is a must, however, if you already know the basics, move on to one of the other three programs from Soundtrack.



■ In this test you've got to recognise the notes displayed on the stave and click on the correct letter name of that note. Good basic training.

THEORY TRAINER 2



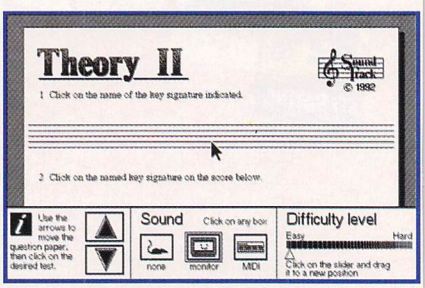
■ If you happen to get the wrong answer, *Theory Trainer 2* shows you what the correct one is.

So, you know all the basics and you want to stretch your knowledge that little bit further? Well, *Theory Trainer 2* is just the sort of program that can check if you really do have a clue about what you are talking about.

There are literally thousands of questions which help you to learn about key signatures, accidentals (sharps and flats), intervals, rhythm groupings, chords and those subtle but essential rests. The work environment is a slightly polished up version of the one used in *Theory Trainer 1*, but it still has that same point and click mouse-operated system.

Out of all the four training modules, there's no doubt that *Theory Trainer 2* gives the best value for money. It covers a wider range, has more possible questions than the other three, and ultimately, has a longer shelf life.

If your goal is to read and write music properly, then ploughing your way through *Theory Trainer 2* is definitely an enjoyable way of achieving it.



■ The intro screen, where you select the difficulty level, the type of test and whether you want to hear the sound through your monitor or via a MIDI setup.

RHYTHM!

PLUS PLUS!
For more details on how to start making music with your ST, turn to page 19

from making them essential if you're a beginner, or even if you're just a bit rusty and need to refresh your theory. At the end of each test, you get a report card which displays how quickly you answered and how well you scored.

You don't necessarily need a MIDI setup to use this software, as you can use the monitor's internal speaker instead. The clarity of the sound with a MIDI setup, however, is such that it is easier to recognise pitches and melodies.

Sadly though, what you do need is a high resolution mono monitor as the programs only run in high res and don't work with mono emulators like *Sebra* or *The Monulator* for colour monitors and TVs. This is a real pity, because it limits its appeal to serious ST users such as musicians who already own mono monitors. By their very nature though, musicians tend to be quite adept at theory already, and only require one of these packages to show off.

All in all...

What we have here is a very easy and enjoyable way of learning the basics of musical theory. If you're a beginner, keep at it and move on to the higher levels only when you feel ready – within weeks you'll find yourself reading and writing music like a real natural.

If on the other hand you just want to brush up on your theory, 'cos you feel a bit rusty, you can start on the intermediate levels and everything will come flowing back to you extremely quickly.

All four programs teach you different aspects of musical theory and you can buy each module separately for £45. If you want to know it all though, you can buy the first three (*Pitch Trainer*, *Rhythm Trainer* and *Theory Trainer 1*) for £119 or all four of them for £149. Just make sure you have access to a mono monitor before spending your money. ***stf***

SEMIQUAVER REST – worth a quarter of the time of a crotchet rest.

TREBLE CLEF – this symbol appears at the beginning of staves and indicates that the part follows the rules of G starting on the second line of the stave.

BASS CLEF – indicates a bass part that follows the rules of E starting on the second line from the top of a stave.

FORTISSIMO – play the following notes very loudly.

PIANISSIMO – play the following notes very softly.

2/4 TIME SIGNATURE – this symbol appears at the beginning of a piece or a section and tells you the number of beats to the bar. Here there are two crotchet beats to the bar, meaning that the notes or rests in the bar have to be equivalent to two crotchets. The number four indicates that the basic beat is a crotchet.

3/4 TIME SIGNATURE – the same as above apart from the fact that this one tells you there are three crotchet beats to the bar.

Jargon busters

ACCIDENTALS – an accidental is a sharp (♯) or a flat (♭) and applies only to the bar in which it appears.

BAR – also know as a measure, this is a metrical division marked by vertical bar-lines.

BAR-LINES – divides music into bars of an equal number of beats.

CHORD – two or more notes sounding at the same time.

INTERVAL – the amount of tones between two notes.

KEY SIGNATURE – identifies the key by placing sharps and flats on a stave.

Overall...

£45 for one, £119 for *Pitch*, *Rhythm* and *Theory Trainer 1*, £149 for all four.
Music Software Express,
☎ 0752 339400.
High resolution only.

Highs

- Easy to use point and click system.
- Choose to output sound through your monitor or via a MIDI setup.
- The whole set covers all you need to know about music theory, and more.

Lows

- You need a high res mono monitor, as the programs don't work with mono emulators.

What else?

- *The Ear*, £49, Harman Audio, ☎ 0753 576911. Ear training, high res only.

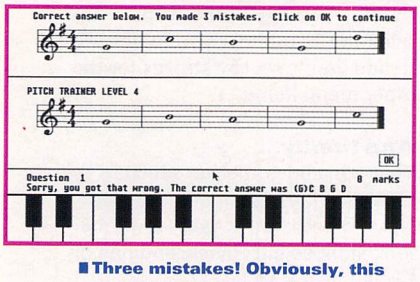
STF RATING 84%

PITCH TRAINER

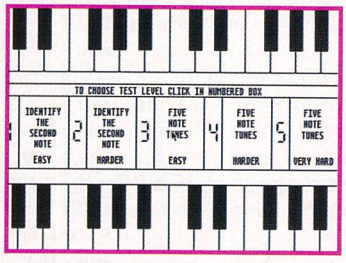
What's most impressive about some musicians is the way they can listen to a piece of music once, and then reproduce it almost exactly on their instrument.

This sort of thing takes practice, and the first thing you need to do to get anywhere near that level is train your ear to recognise different pitches.

This is exactly what the *Pitch Trainer* helps you to do. There are five different test levels; the first two ask you to identify the second note of a two note sequence, while the last three ask you to recognise a five note melody. You can reproduce the notes by either using your mouse and the keyboard on-screen, or by playing the sequence on your MIDI keyboard.



■ **Three mistakes! Obviously, this person's ear needs cleaning.**



■ **The five levels of *Pitch Trainer* - from easy to practically impossible. It does wonders for developing skills if you want to play by ear.**

All tests are against the clock. The quicker you answer, the better your score. If you're a beginner, it's wise to ignore the clock and concentrate on getting the right pitch. After a while your ear gets used to the pitches and then you can try beating the clock.

Pitch Trainer is essential for developing your aural skills relating pitch to notation displays and to your keyboard.

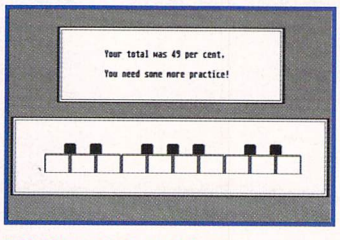
RHYTHM TRAINER

If you want to write your own music, you've got to know the difference between a crotchet, a semi-quaver and a semibreve – and that's on top of being able to distinguish a C from a B♭.

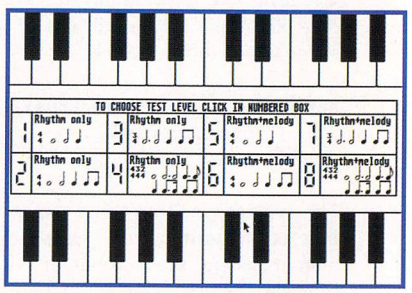
Rhythm Trainer includes well over 160 questions to teach you rhythm and melody skills essential for writing music and, eventually, composing your own pieces.

The questions come in the form of melodies that are played to you and the first note is placed on a stave. You then have to reproduce the melody exactly giving each note the required pitch and length. Everytime you click on the wrong type of note, try placing it on the wrong line of the stave, or ask for the melody to be played again, you lose points. If you're just starting, don't worry too much about playing the melody back several times because it really is a great help.

If you ever want to write music, you are going to have a good understanding of rhythm, and there's no better way than to do it with the help of your ST.



■ **At the end of each test, your score is displayed and a short melody is played on the on-screen keyboard. Very quaint!**



■ **Once you go beyond Level Four, get ready for some serious sweating as you have to identify the note being played as well as its beat value.**

THE BYTECRUNCHER'S GUIDE TO ASSEMBLY

Following on from last month, Tony Wagstaff shows you how to include windows and menus in your programs

Cast your mind back to last month's tutorial. We looked at those handy GEM routines contained in the Application Environment Services (AES) and the VDI.

This month we concentrate on three items that are essential to make your program more interactive; alert boxes, the fileselector and menus. Using these also gives you a chance to take a peek inside your ST's system variables and use a few additional commands.

Thanks to the GEM macro file supplied with HiSoft's *Devpac* kit, displaying an alert box is as easy in assembly as in any other language. All you have to do is use the following AES call;

```
form_alert #1,#string
```

The first parameter, a value between nought and three, determines which of the buttons is the default – the one selected when the <Return> key is pressed. The second parameter is the address of a string which looks like this;

```
string dc.b '[3][My Message]↵
     [button1|button2|↵
     button3]',0
```

The values in the three square brackets determine the icon, the alert message, the number of buttons and the text to appear in them.

Summoning the fileselector is a little more complicated, especially since Atari have provided a souped up selector for TOS versions 1.04 and upwards. To get around this you need to check which version of TOS is running by testing a system variable. These variables are much the same as those stored in your program's BSS and data sections – the main difference being that any program can access them regardless of which particular model they are running on.

Great, smashing, super

Since it could be disastrous if one program accidently changed a system variable, they have to be protected. This protection is provided by having two modes of operation, user and supervisor.

The supervisor mode enables you to do some things that the user mode doesn't – such as reading and writing system variables. It is very important that whenever you use the supervisor mode you know exactly what you're doing.

The Xbios `supexec` call is one way of switching to supervisor. This function runs a routine – in our case the short routine labelled `which_tos` – in supervisor mode, returning to user mode when it has finished. The system variable labelled `_sysbase` contains the address of the start of ROM – Read Only Memory – the second word of which contains the TOS version.

Calling the fileselector is similar to calling `form_alert`, the instructions beginning at `.notquit` give examples of `fsel_input` and `fsel_exinput`, the former being for the early versions of TOS.

It is worth giving some thought to the path and file parameters – these are displayed as the directory and selection on the fileselector. More often than not you'll use the current path which is found by using `dgetdrv` and `dgetpath`.

Try and make your fileselectors as helpful as possible to any potential user of your program. If you're creating a word processor for example, you might want to give your users the option to define the path where they keep their documents, saving it to an .INF file. This may seem trivial, but small details like this can lead people to prefer your particular program over a rival one.

Pass the menu

Menus can be created using a resource file editor like HiSoft's *WERCs*. If you don't want to use a resource file, you can always take a look at the MENU2ASM.TTP program supplied with *Devpac*.

Designing a menu with *WERCs* is simple. Click on the menu item from the Tree menu. Once you've named your menu, edit it using Title from the Object menu for titles, and Strings for the menu items. Select Assembly from the language dialog under the File menu before saving your file – *WERCs then* produces a file with a .I extension. If your version of *WERCs* doesn't have a language option, then you need to edit the file it produces so it looks like MENU.I.

Once you've created your resource file, you should include the MENU.I file in your listing – this enables you to refer to the menu items by the names you gave them in *WERCs*. Your program loads the resource file into memory using the AES `rsrc_load` call.

To display the menu on-screen you first have to find it by using these two lines;

```
rsrc_gaddr #R_TREE,#menu1
move.l addr_out,menu_tree
```

The label `menu1` is the name you gave to your menu in *WERCs*, and is defined in the MENU.I file. This avoids problems if you want to redesign your resource later on as *WERCs* gives `menu1` a different value. `Rsrc_gaddr` returns your menu's position in `addr_out`, one of the AES parameters we used in last month's tutorial. Having saved its location, you must pass it to the `menu_bar` call and, hey presto, your menu is displayed.

Wait a minute

All that needs to be done now is to wait for the user of your program to do something. This is done by using the `evnt_multi` call, which is a more versatile form of `evnt_mesag` that was used in last month's windows program.

The first parameter is `evnt_multi` which tells the AES what events you are waiting for. Don't be alarmed by the string of commas. They're only used because of the many `evnt_multi` features that aren't being used.

Once something does happen, you first check whether it was a key press or a menu event, and deal with it accordingly.

The listing on this month's Cover Disk gives examples of how to change the text of menu items, and how to deselect and check them. Pressing <Alternate> <Q> quits the program – you might like to add your own key strokes for the other menu items.

And finally...

That concludes the introduction to GEM in the assembly language. Next month we'll take a further look at those bits, bytes, and one or two sprites. ***stf***

OK THEN, COUNT TO TEN... IN BINARY

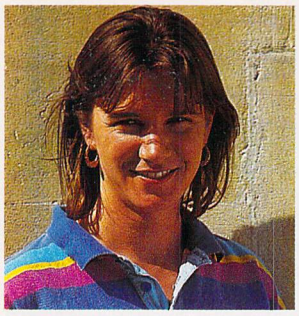
So, you know all about counting in hexadecimal, do you? Well, here's another method to wrap your head round

Like hexadecimal, binary is an alternative to decimal – using only two digits, zero and one instead of decimal's ten and hex's 16. A byte – a two digit hex number – contains eight binary digits, or bits. Binary numbers are indicated with a %, just as hex uses a $.

Binary numbers are extremely useful for passing simple yes or no information. `Evnt_multi`, for instance, can be instructed to return information about key presses, mouse events, window and menu messages and timer events, or any combination of them, simply by setting a particular binary digit of the first parameter to either one or zero.

Bit 0, the digit furthest to the right, is set for key presses. Bit 4 is set for window and menu messages and bit 5 for the timer. If you want all three, you need to pass binary `%11001` as the first parameter. If you only want window messages then you need to pass `%01000`.

There are some 68,000 instructions which act on this type of binary digits, the one most useful in this month's listing on the Cover Disk is `bchg`, which simply changes the value of a particular bit – dead useful for keeping tabs on whether one of your menu items is selectable or not.



FEEDBACK

If something in the ST world is making you smile/cry/shout/laugh (delete where not applicable) why don't you just tell us about it?

Marketing ploys

The price drop for the STFM will eat into the Amiga market, but as for consoles, Atari will have to go further. Consoles have little to go on except their name – the name of the marketing character. Sega has *Sonic the Hedgehog*, Nintendo has *Mario*. The ST is an immensely powerful machine but if Atari want to get a share in the console market, they too must bring out a character to promote the machine.
Ben Cook, West Sussex

stf: *That's a good idea which has evidently worked wonders for the consoles, but I have serious doubts about whether it would work for the ST – after all, how would you feel if your word processor or accounts package had images of a cute hedgehog all over it? Probably as if it was a very basic program designed only for kiddies.*

Atari are trying to get STs into the console market inasmuch as they want to win over the people who want to spend as much as the price of a console (although without the extortionate price of games) but who want to be able to do more than just play games.

Over-protective?

My problem concerns software design, the manuals and the software protection. You see, I'm visually impared and this can be a right sod. For example, with *The Lure of the Temptress*, the text flashes on and off the screen before I have the opportunity to read it all and quite often they refuse to repeat it. With *Archer McLean's Pool* the manual protection is impossible for me to read and with *Epic* the whole manual is impossible.

I'd like to rave a little about *Monkey Island*. Apart from being a brilliant game, it is also well thought out. It has controls on how fast or slow the text scrolls and its protection is not wholly reliant on 20/20 vision. It showed that you don't have to make something too dark or too small to photocopy to protect a game from thieves – there are alternatives. I understand that manual protection is a means to prevent piracy which is fair enough, but software houses

> ***"You don't have to make something too dark or too small to photocopy to protect a game"***

should realise that they are doing this at a cost to a minority who are doing nothing more than trying to enjoy the ST and its software.
Hugh Sharkey, Salford

stf: *Thanks for that – gives us a different perspective on how to look at games and copy-protected manuals. I've never suffered from any problems with my sight but I find it very difficult to recognise the different characters in the copy-protection bits of the manual in Lure of the Temptress.*

Healthy competition?

I was wondering if ST magazines ever co-operated with each other – the idea of rivalry between so few magazines seems pointless since I try to buy all the ST magazines that I can get my hands on. If you were to co-operate on certain subjects you could cover a wider area or maybe in greater depth.

stf: *Er, no, I can truly, honestly say that we've never even contemplated the idea...*

Deserted?

Concerning the past few Cover Disks, there have been programs which are 1MByte only and some other programs you have to transfer to another disk before you can use it – and disks cost money. I do hope *STF* is not deserting all those loyal 520 ST owners out there – are we to see a repeat of the "single-sided disk drive owners, you're out of luck" as was the loving message in *STF* 33?

stf: *You have no need to worry at all, our recent survey showed that just over 50% of ST FORMAT's readers still have 0.5MByte of RAM so we'll certainly be continuing to put games that run with this much RAM on the Cover Disk. Take this month's B17 demo as a prime example. However, many of the games and other software that is coming out only runs with 1MByte. So to keep you up to date with the latest games we will also be continuing to run 1MByte demos and programs – to get the best from your machine you should seriously consider upgrading to at least 1MByte.*

Strange connections

I have noticed that ever since *ST FORMAT* moved up in paper size in issue 27 there has always, without fail, been at least one mistake in your magazine.
Rafay Qadiri, London

stf: *So if we went down in paper size do you think the mistakes would disappear?*

Font conversion

Please could you tell me where I could get hold of *C Font*, the utility that converts *Calamus* fonts into *Write On* fonts?
Ian Singleton, Lancashire

stf: *You can get it from the ST Club on ☎ 0602 410241 for £9.95.*

STE-only, pah!

At last we have STE-only games! How wonderful! Or maybe not. Maybe Ocean have forgotten that there are a lot of STFM owners still

WHY BUY A FALCON?

Why pay all that money for a Falcon when many of us own machines that haven't really been done justice yet – that is, STEs?
Phil Mould, Kent

stf: *To answer that question, who better than a reader who has been using an STE and who has now upgraded to a Falcon? Take it away, James...*

I would like to say "most excellent" to Atari for releasing the Falcon030. Having used a 1040 STE for two years I was amazed at the enhancements to TOS and the increased speed at which everything worked. Also, finding that my existing software worked was a bonus – *PageStream v2.2* now takes minutes to produce rather than half an hour on my ST. However, I was a bit uninspired to find no *MultiTOS*, so perhaps Atari might offer this as a free upgrade to Falcon users when it comes out.
James Page, Norfolk

stf: *For details of how to obtain your free copy of MultiTOS if you're a Falcon owner, turn to page 56 of ST Answers. Next month we'll be having a look at the operating system and seeing whether it's all it's cracked up to be. To ensure you get your copy of STF order it from your newsagent by usinf the coupon on page 10 or subscribe – see page 62 for details.*

Other Falcon-related snippets from ***Iain Paterson*** *of* ***Glasgow****:*
"Atfer seeing what this machine is capable of, we wouldn't care if it was in a shoebox, the performance is better than we expected and we had expected quite a lot...

"The speed of the machine is amazing, anyone who uses DTP packages or word processors could not help but be impressed by the speed of the screen redraws...
"The Falcon is not a games machine – yes, it'll run games but it's a much more professional machine than the STE, games running on it are a bonus – anyone considering spending £1,000 is looking for a very serious bit of hardware, and will, in my opinion, find it in the Falcom."

out here – surely they can make games, like *Sleepwalker,* STFM-compatible? The STE doesn't have very many new features anyway. The colours are fairly unimportant where games are concerned. I'm not sure about hardware scrolling because I haven't got an STE but then, everyone has managed in the past so I don't see why this lack of a feature should be a problem. I assume that the DMA sound takes less processor time than the sampled sound on the STFM, but if the programmers were short on processor time in the game, they could always use lower frequency samples, or, if they were desperate, they could always use soundchip effects.
Andrew Duchy, Dorset

stf: *Actually, the STE does have quite a few important features over the STFM all of which make a substantial difference if you're playing games. The qualities that give games their atmosphere include what colours they are in. The STE with its enhanced palette can give a much greater range of subtle shades which are impossible to achieve on the STFM.*

The extra colours enhance the overall feel of a game, adding realism which means you can get more involved. Along with that goes the sound effects; the stereo sound which STEs are capable of – and the potential excellence of 50kHz samples – all add to the ambience created by your ST. Hardware scrolling controls the movement of the screen and ensures games move quickly and smoothly – and it really is a joy to use.

Obviously, if the game is more pleasant to look at, has good quality sound and doesn't jerk around you're going to enjoy it more. Sleepwalker has all of these excellent qualities which is why we gave it the 92% it so richly deserved in issue 47.

Thou shalt not be forced into piracy

I have noticed a rather alarming trend on the games front. From what I have gathered, the general opinion of the games buying public is that the prices of games should drop well below £20. Recently a lot of the better games have been increasing in price and are now starting at around £30. I hope this trend stops as it forces more people to reluctantly enter into piracy and kill the ST's commercial input within a few years, which I am sure no-one wants.
Matthew Davidson, Devon

stf: ***There is no excuse for piracy whatsoever – piracy is theft and that's that. If, say, you saw a new car you quite fancied in the showroom but you couldn't afford it, you wouldn't just go and steal it, would you? The same applies to software – just because you think it's too expensive doesn't give you the right to copy it.***

There are plenty of games available for under £20 – the budget lables like Kixx and the Hit Squad have a huge selection of games for less than a tenner, so why not choose from them? As for the price increases, you're right, there is a growing disparity in the prices of games software and I'm planning a feature in the near future to investigate exactly what's going on.

If you have anything to say about life with your ST, then write to Paula Richards, The Editor, Feedback, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW.

READERS' FORUM – WHAT DO YOU THINK ABOUT ATARI'S MARKETING?

Take this chance to become embroiled in exciting intelligent debates with your fellow *STF* readers. We continue this month with the saga about whether or not Atari are actually any good at marketing.

In summary, from last issue, Steve Braund suggested that Derek Whitely is a fool (following Derek's previous letter in which he expressed admiration for Atari's marketing skills) and that Atari are incompetent, partly, at least, because of their negative attitude towards their customer base. Thusan Kumaraswamy implied that Atari's marketing skills were laughable since they hadn't advertised in *ST FORMAT* for ages... onwards!

Atari are ace at marketing!

From **Derek Whitely** of **Slough:**
Atari made mistakes with the STE but they are the first people to acknowledge them and admit they have learned from them. They are now launching the Falcon with an established user base of 950,000 STs and a solid, albeit decreased, distribution. They are not a big company personnel-wise but are on a much firmer footing financially than previously.

When I've spoken to Bob Gleadow and Darryl Still I've been impressed by their knowledge of the industry, technical matters and of what it takes to make their company work.

Bankrupt?

Thusan shows just why he would have bankrupted such a company years ago. OK, you have 950,000 users and you want to spend lots of money advertising to them what they already own! Can the average ST owner not understand that it is in their best interest for Atari to spend money on what they are good at – producing technology-beating hardware. Atari will now be advertising the Falcon to those 950,000 ST owners – that's a sensible move!

The new case! Again Thusan shows his ignorance. So "it would not take long to design a new case" [was the implication]. Maybe this is true. Now try and fit the Falcon circuit board in it. Well, blow me, it doesn't fit, so now the circuit board has to be completely redesigned...

> ***"Atari will now be advertising the Falcon to those 950,000 ST owners - that's a sensible move!"***

Foolish?

Steve Braund suggests I am a fool. Steve, when I have a problem with Atari equipment (and yes, it does sometimes go wrong), I contact Atari and have found them to be very helpful. I feel that moves like the £159 STFM are ingenious moves aimed at putting a stop to the untrue rumours about the demise of ST software (look at MicroProse – they have announced two titles this month, over a year after I read they were pulling out!). Steve, have you ever asked Atari for help or do you just assume they are incompetent because you have read the misinformed view from someone like yourself?

As a marketing professional I study many companies as a matter of course. Believe me, ST owners, the company which supplies your machines is in the top flight when it comes to using their resources for the benefit of their user base. Over 1,000 software titles, hundreds of peripherals and a huge user base is proof enough that this is a company who knows how to market.

Atari have a lot to answer for

From **Darren Smithson, Berks:**
The current problems that the ST market is enduring are more because of the perceptions that have been created rather than the reality. Atari have a lot to answer for, but the STE is a wonderful machine, the Falcon is a world beater and the mid-range Mega STE and high-end TT are still ahead of similarly priced machines from competitors.

However, the question has to be asked – what the hell are Atari up to now?!

I know that *STF* has been positive about the sale of the STFM at £159 but this is really a bad decision by Atari. Oh sure, the price point is great and, in the short term, another 150,000 users is good news, but the long term diagnosis is not good.

The simple fact is that the STFM is a big backward step, and it will be judged as such. Many of the 150,000 new owners will soon find that the lack of memory will frustrate them so much that they will never buy Atari again. They should have relaunched the standalone STE at £175 with STE packs consisting of STE-only games and serious packages that take advantage of the STE's extra features.

Easy to upgrade STE

Not only has the STE the versatility to be put to almost any use, its modular design means that upgrading is simple. Users will want to stick with Atari and in a few years will want to upgrade to the Falcon.

I really don't want to be negative but Atari have fallen into the "nice plan, shame about the final implementation" trap. With any luck, the company will learn from their mistakes in time to successfully launch the consumer version of the Falcon.

stf: *There are still strong rumours from those close to Atari that the company will be reducing the price of the STE later in the year but what do you think about that? Is it too small a measure following the much earlier announcement about the STFM or do you think it's wise to leave the price drop for some months? Let us know...*

■ You can join in with this discussion – or start a discussion on any other subject you choose – by writing to Great Debates, *ST FORMAT,* 30 Monmouth Street, Bath, Avon BA1 2BW.

ESSENTIAL CONTACTS

Need to find that number of that company but lost the reference? Look no further...

Company Name	Telephone Number
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Looney Tunes

To start off with this month we've got this excellent Looney Tunes picture from **Jeff Thompson** of **Ohio** in the US, which he created using *Canvas*. Take it away, Jeff!

1 "First I drew the letters, then I used the block function to copy the letters L, E, Y, T and N and pasted them at angles using the spin option. This distorted the letters a lot more than I thought it would, so I had to fix them using the Zoom option.

2 Using Block, Cut and Paste along with the X-Ray Write mode from the Options menu, I spelled out the words LOONEY TUNES working backwards.

3 Next I created shadows of the words to give them a 3D look. This was done using the X-Ray Write mode to overlap the images as before.

4 The letters needed to be bigger so that you could see the characters properly, so I cleaned them up using the Block Presize function, Line and Zoom. I started to create the characters using letters in Zoom. For each character I drew a rough outline first and then filled in the details, changing the colour palette as necessary. When I'd finished drawing, I moved the words closer together.

5 I created the background. I started with the largest circle and worked my way down to the smallest using solid ellipses. I only had three shades of blue so I did the best with what I had.

6 To preserve the white portion on the inside of the letters I had to create a mask. I did this by filling in the white part of the letters with black, then copying the words, pasting them onto the background using X-Ray and pasting them again in the exact place using the EOR Write mode. This left a white space where the words would go in.

7 Finally, I pasted the words on the background to give the final picture."

Can you do any better? *stf*

A laserdisc collection of the Looney tunes provided the inspiration for this illustration - if you can do better than this, send in your artwork!

THESE ARE THE PEOPLE TO BLAME FOR THIS ISSUE...

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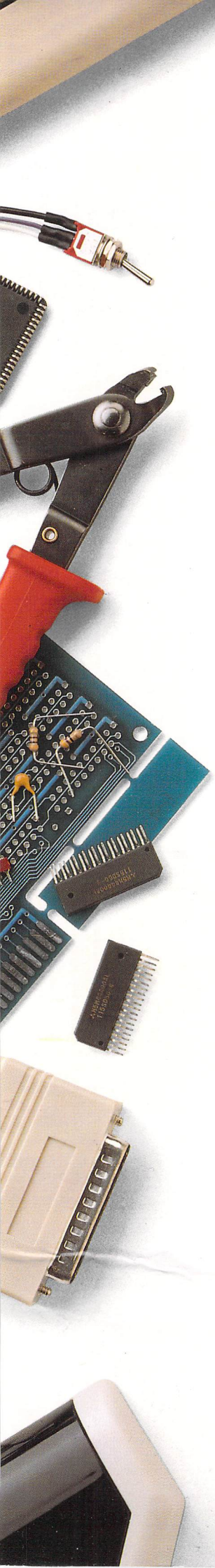

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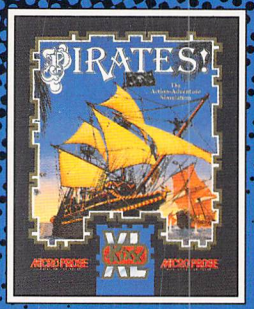

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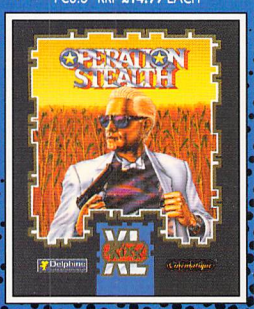

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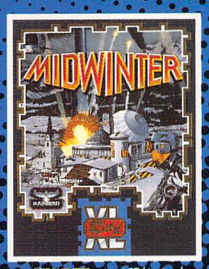

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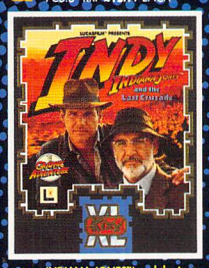

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