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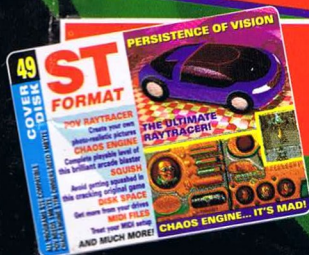
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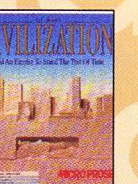
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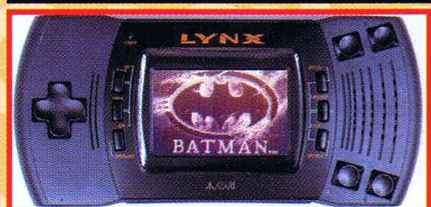


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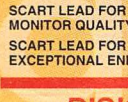
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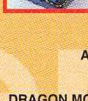
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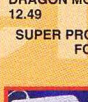
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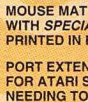
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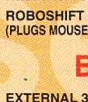
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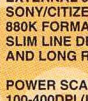
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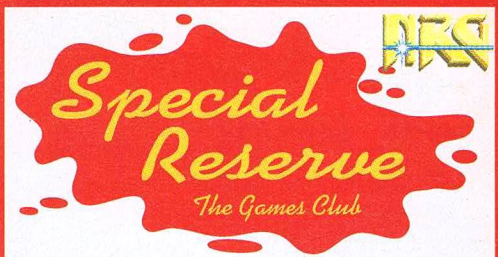
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## MULTI-TASKING ON YOUR MACHINE



We put MultiTOS through every conceivable test – discover if it lives up to expectations on **page 37**

## LEMMINGS 2

Even if you just buy one game this year, *Lemmings 2* has to be it! We tell you exactly why on **page 66**

## CAN YOU SEE THE LIGHT?



Create your very own raytraced pictures with our step by step guides and Cover Disk program – **page 19**



## WHAT IS THE GAMES INDUSTRY PLAYING AT?



We find out what the major players in the games industry really think of the ST market **page 27**

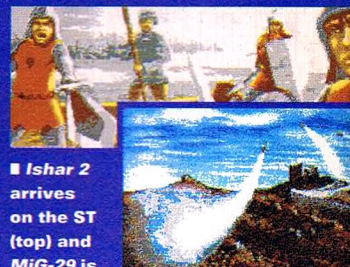
Take on the Iraqi dictator in this great Gulf War simulation.



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 War In The Gulf .....**page 75**

Take part in the Battle of Britain in Virgin's *Reach for the Skies*.



Ishar 2 arrives on the ST (top) and MiG-29 is released on budget (right).

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# NTS

ST FORMAT ■ ISSUE 49 ■ AUGUST 1993

## WELCOME TO ST FORMAT!



Paula Richards,  
EDITOR

This month has seen the release of some of the best ST games ever – *FORMAT* Gold winners *Lemmings 2* on page 66 (which is only the second ST game to achieve a rating of 96%), *Ishar 2* (page 70) and the

excellent *War in the Gulf* (page 75). It has also seen the release of the Jaguar, Atari's 64-bit console (see page 7), and the long-awaited multi-tasking system, MultiTOS, which we examine in detail on page 37. There's also been a huge increase in the interest in raytracing programs – we show you how to start creating your masterpieces on page 19 and even give you the chance to win yourself £100.

There's also plenty of positive news from the games industry (page 27), plenty of hints and tips including a special feature on buying by mail order and over 25 pages of new reviews. Enjoy!

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Create incredibly life-like pictures by raytracing on your ST. We take a look at how the professionals work and give you some of the best tools and techniques.

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# COVER DISK 49



*Time for an absorbing blast and the chance to express your creativity – and, of course, plenty more...*

■ **Chaos Engine** – fully playable level of this *FORMAT* Gold-winning manic blast.



■ "Look left. No, right. Quick! Shoot. Aagh! What's that?" Manic arcade action in the *Chaos Engine* demo.

■ **Persistence of Vision Raytracer** – create beautiful photo-realistic pictures with the ultimate in raytracers.

■ Yes, it's that old chestnut – Pac Man. But, and this is the clever bit, it was created with *POV Raytrace*.

■ **Squish** – try and avoid getting squashed beyond recognition over 40 levels.

■ This is the type of game which you get annoyed at, walk away from it, and then sit down for just one last go.

■ **Disk Space** – discover fascinating facts and figures about your hard and floppy drives.

■ **MIDI files** – professional quality MIDI files from the Realfeel Groove Library.

**TURN TO PAGE 12 FOR FULL DETAILS!**

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

**Fax: (0772) 561071**

**Tel: 9.00am-5.30pm (5 Lines)**

**(0772) 203166**

## 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
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### Hewlett Packard

HP Deskjet 510	£319.00
HP Deskjet 550 Colour	£620.00

### Lasers

Seikosha OP104	£549.00
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- 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
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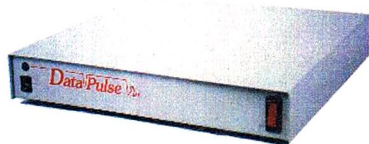
Seikosha Toner (2 units)	£19.00
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Seikosha Drum Unit	£79.00
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Ricoh LP1200	£759.00
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Add £3 for Centronics cable and £7 for next working day courier 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 + 85Mb	£349.99
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Data-Pulse + 127Mb	£389.99
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Data-Pulse + 170Mb	£429.99
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## 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
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2Mb Board	£79.99
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4Mb Board	£129.99
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512K SIMM's STE	£6.99
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2Mb SIMM's STE	£49.99
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4Mb SIMM's	£94.99
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2 x SIPP to SIMM adaptors	£3.00
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## 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
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LanNet with PowerNet	£89.99
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MidiNet with PowerNet	£59.99
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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

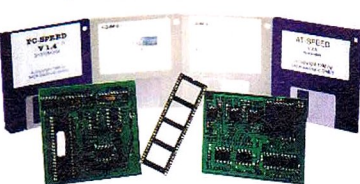
- 16MHz 32 bit 68030 Central Processor, 16MHz Blitter, 32MHz 56001 Digital Signal Processor
- 1.44Mb 3.5" Floppy, up to 14Mb RAM. Displays 65536 colours from 262144 palette at 768 x 480 resolution
- 8 Channel 16 bit, higher than CD quality. Stereo sound sampling

FALCON 4Mb 65Mb HD	£959.00
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## 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
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PC Speed STE (XT)	£55.00
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AT Speed STFM (8MHz)	£129.00
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AT Speed STE (8MHz)	£139.00
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AT Speed C16 STFM	£189.00
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AT Speed C16 STE	£199.00
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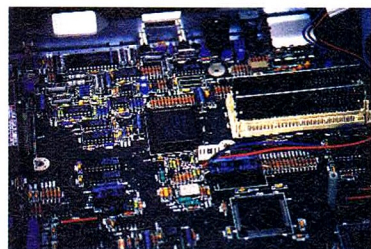
## Repair Services

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	£199.99
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Includes 12 Months on-site warranty (Mainland UK) and free Lotus Turbo Challenge II game.

Hi-Res Mono Monitor	£139.99
---------------------	---------

High quality 14" SVGA monitor with ST adaptor. Fully compatible with all ST Hi-Res Programmes

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

Colour SVGA Monitor	£239.99
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High quality Colour SVGA Monitor 28 dot pitch. For use with Falcon.

Falcon VGA Adaptor	£9.99
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Falcon ST Monitor Adaptor	£9.99
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Philips SCART to ST/STE	£9.99
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8833 Mk II to ST/STE	£9.99
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# Street Fighter 2 leads ST sales surge

by Rob Mead

**S**treet Fighter 2, the world's most famous beat-'em-up has sold a phenomenal 22,000 copies on the ST, despite the games industry's negative attitude towards Atari.

Bridgett Hirst from US Gold says the company are very pleased the game has done so well on the ST: "This has made US Gold aware there is a market out there."

She attributes a large portion of *Street Fighter 2*'s success to the high quality of the game and the marketing muscle behind it, which

**"It proves that when there's enough hype about a game it can sell on the ST"**

**Bridgett Hirst, US Gold**

effectively turned the *FORMAT* Gold winning beat-'em-up into a household name. "It proves that when there's enough hype about a game it can sell on the ST," she said.

Microprose are equally convinced about the ST's future –

■ The success of *Street Fighter 2* has changed the attitudes of some software houses towards the ST.

they've already managed to sell over 20,000 copies of *Civilization* on the ST since its release in March. An incredible 50,000 copies of *Formula One Grand Prix* have also been sold since its release last year. The company told *ST FORMAT*, "There's still a market out there for high quality ST games and that's what we're in the business of producing."

Such confident statements from US Gold and Microprose reflect what people in the games industry feel about ST sales – that high quality games, backed up with plenty of advertising are always going to sell well. Renegade Software have also had some notable successes over the last couple of years with games like *Fire and Ice*, *Magic Pockets* and, especially, *Sensible Soccer* which has sold over 28,500 copies on the ST alone.

Other companies like Daze and Gremlin Graphics are reluctant to give out sales figures, but are both extremely pleased with sales

■ The increase in ST games sales is largely because of recent releases such as *Chaos Engine*.



■ *Street Fighter 2* hits the games industry in the face with massive sales on the ST.

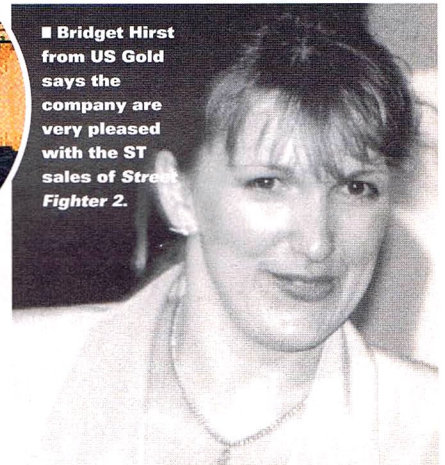


of games like *Ishar* and *Premier Manager* on the ST. According to Daze's Cliff Guy, their main problem is that they specialise in role-playing games which are inevitably

**"High quality games backed up with plenty of advertising are always going to sell well on the ST"**

going to have lower sales than mass market releases like *Street Fighter 2*. Guy reckons a good game for Daze would sell about 10,000 copies – which is still a substantial amount. Dorian Bloch of

■ Bridgett Hirst from US Gold says the company are very pleased with the ST sales of *Street Fighter 2*.



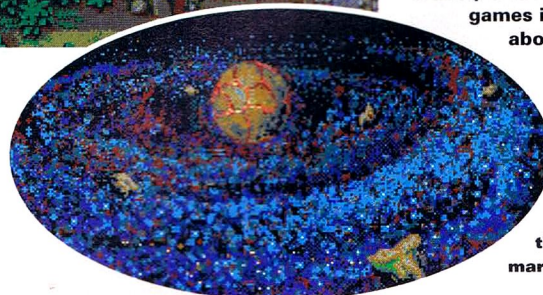
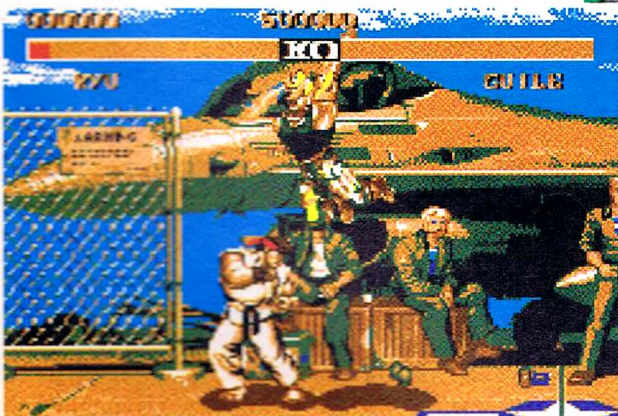
Gallup – the pollsters responsible for compiling the *ST FORMAT* chart – also reports an increase in ST games sales from 6% to 10% of total sales, largely thanks to the recent release of quality games like *Chaos Engine*, *B17 Flying Fortress* and *Lemmings 2* – see page 10 for more details.

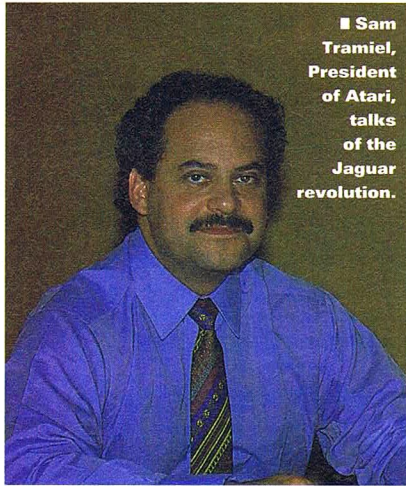
Despite such strong and encouraging evidence Virgin Games remain unconvinced about the potential of the ST market. For them sales on games like *Jimmy White's Whirlwind Snooker* and *Pool* have been "disastrous," according to sources close to the company, although they are predicting massive sales for *Dino Dini's Goal* when it is released later on this year.

With great games like *Street Fighter 2*, *Civilization* and *Sensible Soccer* proving the ST's worth as a games playing platform, it's only a matter of time before the software houses are going to realise that the ST is not going to lie down and die quietly just yet.

● Turn to page 27 to find out exactly what the rest of the games industry really thinks about Atari and the ST.

■ Since its release in March, Microprose's *Civilization* has sold 20,000 copies on the ST proving that there's still an ST market out there.





■ Sam Tramiel, President of Atari, talks of the Jaguar revolution.

# Atari launch their "billion dollar baby"

by Paula Richards

**T**he Jaguar, Atari's 64-bit home entertainment system, has been launched at the summer CES held in Chicago. The machine, which is four times faster than a standard ST and the 16-bit consoles which presently dominate the market, is expected by Atari to become the market leader in the new cycle of 64-bit machines.

Bob Brodie, Director of Communications at Atari US describes the Jaguar as "a billion dollar baby" and is confident that Atari will be doing everything right this time to ensure maximum sales.

They recognise that to get ahead in a market presently dominated by huge companies with an equally huge budget, they need to "leapfrog the competition," in

terms of value for money and superb technology. Sam Tramiel, President of Atari, takes huge pride in the technological advancements the machine makes, "The Jaguar system will revolutionise the state of home entertainment as we see it today, the idea of a 64-bit system is earth-shattering."

The machine certainly has impressive technical specifications – 64-bit technology, a palette of 16.7 million colours to give 24-bit colour, a Digital Signal Processor chip specifically for the 16-bit stereo CD quality sound and the ability to expand it in all sorts of directions, whether your interest be to listen to music via digital audio tape, view your holiday snaps on Photo-CD or connect to modems.

## All this for less than \$200!

To make sure of their position, particularly in view of their past mis-

takes and the slow economy, Atari plan a very competitive price point. Peter Walker, Atari's UK Press Officer commented, "The Jaguar will be aggressively priced to grab a

**"We have a huge technological lead with the Jaguar that we must take advantage of"**  
**Peter Walker**

large volume of sales early to establish brand leadership – the US price is going to be around the \$200 mark including a game and power pad controller."

Games will run on MegaCarts and although the price for these

hasn't been confirmed, Walker confirmed that they would probably be in line with the aggressive pricing policy of the Jaguar – "around the £20 mark."

There is also to be a very strong promotion campaign initially centred in New York and San Francisco, widening to the rest of the US in time for Christmas and reaching Europe early in 1994. Walker explained, "We are going to mount a massive advertising campaign in the UK, with a massive financial investment for the UK market. Every marketing option will be considered to achieve volume sales. We have a huge technological lead with the Jaguar that we must take advantage of."

Pressed further about what form the promotion would take, whether, for example, there was to be an official Atari branding character, Walker would only say, "That



## MICROPROSE AT WAR AGAIN

■ Pilot 12 different aircraft from the entire history of war aviation in *Dogfight*, a combat sim with a difference.

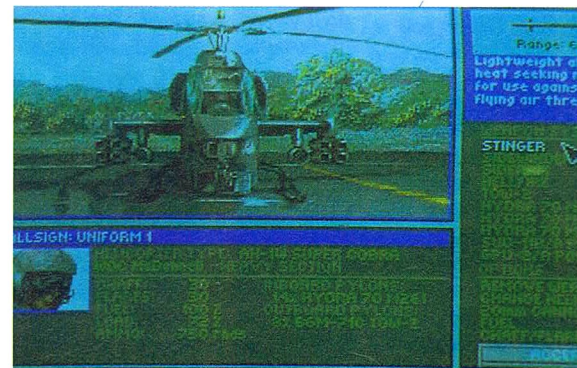
Flight sim specialists Microprose have announced details of two new air combat games for your ST.

*Dogfight* enables you to choose from 12 different aircraft, from World War One Sopwith Camels to hi-tech F16A Fighting Falcons, and engage the enemy in a finger-twitching dogfight. You can even choose planes from different periods and make them battle it out – can you imagine a Spitfire locked in combat with a Sea Harrier? The game also features six combat scenarios which enable you to fly real-

istic missions in the Falklands or with the Red Baron.

*Gunship 2000* is a helicopter simulation which enables you to fly up to five helicopters at once in daring missions over central Europe and the Persian Gulf. The game features training, single and multiple helicopter modes as well as a mission editor for creating your own scenarios.

Microprose have given no firm release dates as yet but both games are expected to be released later this year and they are set to retail at £34.99 each.



■ Take control of the latest in air war technology with *Gunship 2000*, a new helicopter sim from Microprose.

## SONY TAKE OVER CREATORS

Sony Electronic Publishing have acquired *Lemmings 1* and 2 creators Psygnosis, one of the biggest software developers and publishers in the UK.

The deal marks the Japanese electronics giant's entry into the European leisure market and will

act as the base for the European management team.

Mark Blewitt, Marketing Manager of Psygnosis, explained that it wouldn't actually make much of a difference to the ST market – either positively or negatively – but that it did mean that Psygnosis would

## LEAPING AHEAD OF THE COMPETITION

The capabilities of the Jaguar are reportedly quite amazing – not surprising considering the incredible technology that's behind it. The heart of the system is Atari's own reduced instruction set (RISC) processor which is a relatively new type of processor which uses simple, fast internal instructions to process data rather than the more complex instructions used by traditional microprocessors. So, as well as operating four times faster than any console presently available, it has a 24-bit palette which can supply over 16.7 million colours. It also features shaded polygons – like those in the graphically stunning shoot-'em-up *Starwing* on the Super Nintendo – which can be generated while the game is running. It also has the ability to perform real-time texture mapping.

Like the Falcon, the Jaguar has a Digital Signal Processor although this time it's being used specifically to produce 16-bit stereo CD quality sound. To make the most of the "multi-media" applications the DSP can

process other sounds and human voices at the same time. You can also expand the Jaguar since it includes a 32-bit expansion port enabling you to connect your machine into cable and telephone networks – and it has a digital signal processing port so you can use modems and connect your machine to digital audio accessories like DAT players. On top of all this there's a double speed CD unit that is being developed which you'll be able to use for games, audio CDs, including those with graphics and Kodak Photo CDs – the Photo CD compatibility is to be built into the Jaguar CD-ROM.

Atari have recently licensed *Cinepak* – advanced video compression technology – from SuperMac Technology Inc. This software stores video footage on CD-ROM at very high compression rates enabling full motion video to be used in games and other CD-ROM applications. *Cinepak* is used by Apple for their QuickTime standard, known as Apple Compact Video.

is an attractive option that we are considering... the marketing teams are working on several ideas."

### Games, more games

There are likely to be around half a dozen titles available for the Jaguar when it first comes out although there are plenty more games under development. Even though software developers are bound by non-disclosure agreements, we can reveal that Jeff Minter, best known for his interest in llamas and the creator of *Llamazap* for the Falcon, has had a Jaguar since the end of last year and is very enthusiastic about its capabilities.

As well as games from third party publishers, Atari are also planning to release versions of *Cybermorph*, *Alien vs Predator*, *Jaguar Formula One Racing*, *Battlezone 2000* and *Tempest 2000*. As

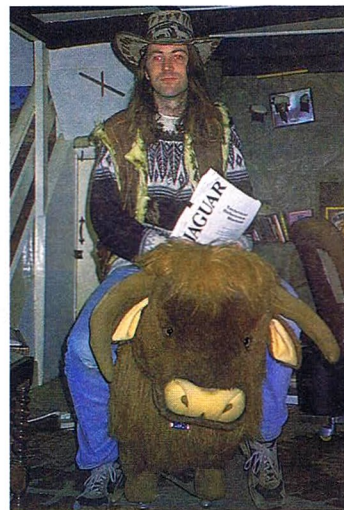
yet, however, no developer has received a fully-finished machine – they just have the innards housed in a basic case; it's very much a

**"The Jaguar will be aggressively priced to grab a large volume of sales early"**

**Peter Walker**

cosmetic consideration, according to Brodie, although it is described as having a "futuristic" design.

Watch this space because as soon as we have anything visual we can show you, we will... until then, roll on the autumn.



■ Jeff Minter is one of the developers for the Jaguar – he's so keen on the machine he even reads all about it when he's taking things easy.

## COLIN GOES ONE STEP BEYOND

Cheesy hero Colin Curly gets the sequel treatment in *One Step Beyond*, Ocean's latest licence release.

The hero of *FORMAT* Gold game *Push Over* returns for more romps around a puzzle-filled maze and promises to include lots of in-game advertising for a well-known cheesy snack. *One Step Beyond* features 12 new platforms, each with 99 levels, and is set for release at the end of July, price £25.99. Phone Ocean ☎ 061 832 6633 for more information.



■ Colin Curly's addiction to corn snacks gets him sucked into his computer in *One Step Beyond*, Ocean's new puzzle-'em-up.

■ The hero of *FORMAT* Gold game *Push Over* makes a comeback in a puzzle-filled maze in Ocean's *One Step Beyond*.



## OF LEMMINGS

have a bit more money to spend on new developments and projects.

Psygnosis are still going to be developing games under their own name but are also planning to work on video games and CD-ROM titles for Sony's game division, Sony Imagesoft. Following the recent

Queen's Award for Export 1993, Jonathan Ellis, Managing Director of Psygnosis, thinks that, "the alliance will enable us to benefit from each other's strengths and talents."

Psygnosis are heavily into developing CD-ROM titles for the Sega Mega CD, IBM PC compatibles and

the Macintosh. It also seems more than likely that Psygnosis may be considering developing CD-ROM titles for the Falcon in the near future. The Falcon and MultiTOS are CD-ROM compatible and as such offer great potential for developers like Psygnosis to take advantage of.

## SNIPPETS

### Falcon bother

If you have a Falcon with an internal hard drive you should know that there is a small bug in its operating system that can lead to loss of hard drive data.

If partition C is nearly full and a file larger than the available space is copied to it, the data overwrites the first cluster of partition D. This deletes the directory information of drive D resulting in a wiped partition. Atari are aware of the problem and a fixed version of the Falcon hard disk driver software should be ready now. Contact Atari on ☎ 0753 533344.

This problem only occurs if you have almost filled a partition and you try to copy files that are larger than the space available. To avoid this happening always check that you have enough room. If you are decompressing ZIP, LZH or ARC files then use the archive utility programs check on the uncompressed size of the data. Another way of protecting your data is to use *Diamond Edge 1.4* to save the boot sector, file allocation tables (FATs) and root directory information to floppy disk on a daily basis. It only takes a few seconds to save the information, and while this is not as foolproof as a full backup you can generally recover everything. *Diamond Edge* is available from HiSoft for £49.95.

### HiSoft take on Microdeal

Following the acquisition of AVR, HiSoft have taken over the product line and future business of Microdeal. David Link of HiSoft explained "This is a logical move since it is natural for us to produce the complete AVR product line in-house." HiSoft continue to support the ST and the Falcon.

### On-Line to the world

If you have an On-Line account to play games via modem, you can now access Internet without having to pay a penny.

Internet is a global information service which enables you to access all kinds of information and to log on to other systems such as NASA, London University King's College and the CIA. The number to call to log on is 081 539 6763 or call ☎ 081 558 6114.

### Fractal mode

Oscar Music are now distributing *Fractal Music*, the MIDI music generator and processor for the ST. It's available direct from them for £79, call ☎ 071 377 6294.

### Stand corrected

In our review of Gajits' *Breakthru* in *STF* 47, we stated that you couldn't change track variables while music was playing. This is not the case as the mouse is only disabled when samples are being used, and even then, variables can be changed with the keyboard.

# THE TOP TWENTY

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

Pos	Last Pos	Game	Publisher	Price	STF Rating
1.	(4)	Sensible Soccer 92/93	Renegade	£25.99	91%
2.	(-)	Chaos Engine	Renegade	£25.99	94%
3.	(-)	B17 Flying Fortress	Microprose	£34.99	87%
4.	(2)	Premier Manager	Gremlin	£25.99	85%
5.	(-)	Lemmings 2	Psygnosis	£29.99	96%
6.	(1)	Street Fighter 2	US Gold	£27.99	91%
7.	(7)	Pirates	Kixx XL	£12.99	74%
8.	(-)	World Class Cricket	Audiogenic	£29.99	85%
9.	(5)	First Division Manager	Codemasters	£7.99	64%
10.	(3)	Civilization	Microprose	£34.99	92%
11.	(11)	Prince of Persia	Hit Squad	£7.99	90%
12.	(-)	F19 Stealth Fighter	Kixx XL	£16.99	96%
13.	(20)	Future Wars	Kixx XL	£12.99	87%
14.	(18)	The Simpsons	Hit Squad	£9.99	74%
15.	(9)	Spellbound Dizzy	Codemasters	£7.99	71%
16.	(-)	Indiana Jones: Graphic Adventure	Kixx XL	£14.99	77%
17.	(-)	WWF Wrestlemania	Hit Squad	£9.99	63%
18.	(-)	Jimmy White's Whirlwind Snooker	Virgin	£29.99	94%
19.	(13)	Treasure Island Dizzy	Codemasters	£4.99	82%
20.	(14)	Formula One Grand Prix	Microprose	£34.99	81%

Incognito	Merchant	Price
Hold 10 pieces	100 pieces	30 pieces
Food 10 tons	10 tons	20 pieces
Goods 0 tons	0 tons	20 pieces
Tobacco 0 tons	0 tons	20 pieces
Cannon 10	0	20 pieces
Space in hold: 40 tons		Continue



**Chaos Engine and Lemmings 2 zoom straight into the top five this month, but fail to grab the top slot thanks to a surge in support for Sensible Soccer. Surprisingly, Sleepwalker has dropped right out of the chart, after debuting last month at number 17. US Gold continue to make a strong showing with their mid-priced Kixx XL label with Pirates, Indiana Jones and F19 Stealth Fighter all receiving strong chart placings.**

## GOSSIP

### No new Falcon case!

While rumours are flying around at Atari UK about the proposed design of the new Falcon case, Bob Brodie, Director of Communications of Atari US suggests that the Falcon030 will remain in its present STE-style casing. This machine is the base model for the Falcon family and he says that it won't be until there are additional members that the casing will change - and that's only likely to happen for the higher spec Falcons.

### Modem wars

Legal warfare has broken out between some of the major modem manufacturers in the US.

Modem manufacturer Hayes Micro-Computer Products Inc has sued 11 rival modem manufacturers including Supra Corporation, Best Data Products Inc and Tandy Corporation. Hayes say that the reason for this action is that all the companies in question manufacture "Hayes compatible" modems that use the Hayes Command Set without a licence from Hayes.

Hayes are seeking an unspecified amount of damages and a court order to force the companies to stop infringing the Hayes patent. Supra Corporation were surprised when we contacted them because they were under the impression that they already had a licence from Hayes. They are now checking to see if they have a problem.

The Hayes Command Set is a series of commands sent by your comms software to the modem enabling it to be configured to suit your computer, they tell the modem what to do and when to do it. All comms software includes the Hayes set of commands as standard.

### Get involved

Two officially Atari-recognised groups have been busy polishing up their services. First there's the new Falcon Owner's Group who produce a Falcon-specific quarterly magazine with a disk - contact them on 0275 843241 or fax 0275 849813. Then there's the ST Enthusiasts Newsletter diskzine which aims to emphasise Public Domain and cater for the "enthusiast who has passed the 'gee whiz' stage." For more info you can contact the creators on 0202 527620.

### Lucky dip

How can you get your hands on a full copy of Calamus SL for just £3? Easy, enter PjH Publishing's lucky dip and cross your fingers.

PjH have decided to get rid of 14,000 disks, which take up too much room in their offices, by selling them off at £3 a piece. The catch is that you can't choose which programs you want - you get what you're given. For more details phone PjH on 0480 433455.

## LANKHOR FOLLOW THE FALCON



■ Don't infiltrate the Black Sect all dressed in white... they'll spot you.

French softies Lankhor are set to release two new adventure games for the Falcon and ST over the coming months.

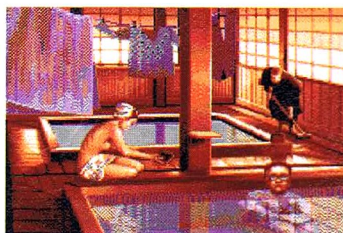
*Black Sect* is a gothic adventure game set in the Yorkshire village of Hobdale. Your grandfather is mysteriously murdered and his precious spell book stolen. The Black Sect of the title soon starts to terrorise the region and only you can stop them. The game features 34 different locations - 17 inside and 17 outside - as well as full character animation.

*Sukiya* is the long-awaited sequel to *Maupiti Island* and stars Jerome Lange, the famous French detective. This time Lange enters

the cryptic world of a Zen monastery, hoping for a few weeks' recuperation, but the calm is shattered by the murder of a retired professor in the monastery's laboratory. It's up to you to discover who committed the crime in this *Name of the Rose* style mystery.

However, Lankhor have no plans to release either a Falcon or ST version of *Vroom 2* in the UK. Domark already have the rights to the game - renamed *F1* - and are going to be releasing it in August.

Both Falcon and ST versions of *Black Sect* are set to be released at the end of July through UBI Soft, whereas *Sukiya* is scheduled for release two months later.



■ Jerome Lange, the famous French detective from *Maupiti Island* is set to return in *Sukiya*, out soon.

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- Epson and IBM Emulation
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**SILICA PRICE: £115 + VAT = £135.13 - PRI 2120**

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• Citizen Swift 240/240C - 24 pin - 80 col

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- Parallel Interface
- Graphics Resolution: 360 x 360dpi
- Epson, IBM, NEC P20 & CEL Emulations
- Quarter Printing Facility
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- Colour Printing Optional - Swift 240
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**SAVING: £149**  
**SILICA PRICE: £239 + VAT = £280.83 - PRI 2560**

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RRP £359  
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**SAVING: £149**  
**SILICA PRICE: £259 + VAT = £304.33 - PRI 2571**

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- Epson and IBM Emulation
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- Colour Printing Standard - Swift 90C
- Colour Printing Optional - Swift 90
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# COVER DISK 49

It's square, it's blue and Chris Lloyd's crammed it with all sorts of goodies for you to enjoy

## Chaos Engine

**BY: RENEGADE**  
**RESOLUTION: LOW ONLY**  
**FOLDER: CHAOS**  
**FILES: CHAOS\_1.TOS,**  
**CHAOS\_2.TOS**  
**UNCOMPRESSED SIZE: 333K**  
**GET STARTED WITH: SEE BELOW**

*Chaos Engine* is undoubtedly one of the best games to come along for ages, but if you don't want to take our word for it, have a blast with this superb playable demo. Be warned though, your joystick is going to come in for a battering.

This demo runs on STFMs with 1MByte or more of memory and on all STs regardless of memory. The demo has been archived into two files to make copying easy. Get a blank disk ready and copy the files CHAOS\_1.TOS and CHAOS\_2.TOS to it. Now run each of the programs in turn and watch the files decompact themselves to your new disk. Now boot up your ST with your new disk in the drive and the demo loads automatically.

The first decision you have to take is whether to have your ST

### This month's selection of amazing programs

#### Chaos Engine

Brilliant playable level of the hottest new game going.

**Uncompressed**  
**size: 333K Page 12**

#### POV Raytracer

Create incredible photo-realistic pictures.

**Uncompressed**  
**size: 876K Page 16**  
 ■ Raytracing feature - page 19.

#### Squish

Fast, devious and completely maddening arcade game.

**Size: 95K Page 14**

#### Realfeel MIDI files

Professional quality MIDI files.

**Size: 10K Page 14**

#### Cover Disk Back-Up

Conserve your Disk for ever.

**Size: 13K Page 14**

#### Disk Space

Check the free space on your hard and floppy drives with this rather nifty utility.

**Size: 30K Page 17**

#### Assembly listing

More delving into the mysteries of assembly coding.

**Size: 10K Page 14**

■ This listing ties up with our tutorial on page 97.



■ Action stations. Red alert! Get movin' and start running around shouting and shooting in all directions. Get yourself ready because *Chaos Engine* is a hectic and taxing blast.

man. The Navvie is slow but tough while the Gentleman is agile and has bullets that always go through enemies. Use the joystick to select which one is going to be your alter-ego, and, it's on to the game.

*Chaos Engine* is an eight-way scroller with loads of things to shoot and goodies to pick up. It's all joystick controlled and relentlessly frantic. The demo features a complete level for you to battle through. Your mission is to zap all

control the second player or to hook up another joystick and let a friend join in. Move the joystick up and down and press <Fire> to select your choice. You then enter

the character selection screen - in the full game you can choose between six dubious characters, in this demo, however, you are limited to the Navvie and the Gentle-



■ Your pick of protagonists - in the demo you only have enough money to select the Navvie and the Gentleman, an unlikely pairing indeed.

■ Hunt around a bit and you'll find this little glade full of juicy bonuses. Grab those extras and blast the nasties before your companion does - the absolute cad. *Chaos Engine* has all sorts of extras to pick up from money to extra lives and special weapons.





## Before you take even one step further, read this carefully

### 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 resolution 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 14 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 *STF* 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.

## THE DEVIL'S PLAYGROUND

Each level of *Chaos Engine* takes place over a different landscape of obstacles, nasties and collectables. There's always more than one way through a level as well as hidden areas for you to find

A node - shoot it to open up the exit..

The character's lives left.



These mean and moody fighters are, in fact, you and your chum.

The character's score.

The character's special ability; the little orange bars show how many you've got to use.

The green bar is your current health, the yellow bar indicates how much you've already lost.

The number of nodes you still need to blast before you can go through the exit.

How much money you've collected.

the nodes - tall funny-looking white things that change shape when you shoot them - and make it to the exit in a reasonable condition. Each character has a special weapon he can use - hold down the <Fire> button until the little box in the status panel starts flashing

then release it to activate it. The Gentleman starts off with a map while the Navvie totes much more useful bundles of dynamite.

Collecting the silver keys opens up new areas of the level for you to explore and the gold keys let you into bonus areas. There is

more than one way through the level. If you reach the exit you get a screen showing how well you did.

What more do you need to know? Oh yes, don't forget to dodge the bullets and fire

plenty back. *Chaos Engine* is an absolute cracker of a game, so get stuck into it - be warned though, you'll soon be crying out for more.

■ Eek! Loads of nasty things. The little bugs are right sods, they move very quickly and aren't easy to shoot down. Watch out for the green tree things, they fire in all directions - luckily they don't move. The best thing here is to cross your fingers and shoot like crazy.

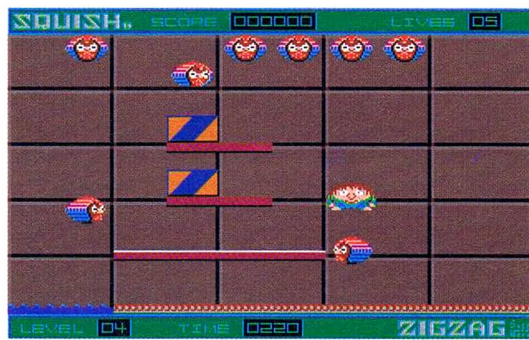


■ If you make it through, then you get the lowdown on how you did. You seem to have taken a short-cut and missed most of the monsters.

## Squish

BY: TOM HARRIS  
 FOLDER: SQUISH  
 FILES: README.DOC,  
 SQUISH.TOS AND SQUISH.DAT  
 FOLDER  
 TOTAL SIZE: 95K  
 READ: README.DOC  
 GET STARTED WITH:  
 SQUISH.TOS

This should drive you batty in no time. *Squish* is a simple and incredibly infuriating arcade game where you battle it out with strange creatures to see who can squash who first. It's all joystick controlled and



Here you are just about to deliver the final blow on one of the devilish head things. Doesn't it feel good?

out for the water, that's lethal too.

The beasts are very fast moving and you need to be quick and clever to succeed

easy to get into, run SQUISH.TOS and prepare for frustration city. From the title screen you can select the start level. Press the Fire button to start the game. The idea is to squash all the little beasts. You can jump on them or squash them with the blocks.

If you're standing next to a block then pressing <Fire> enables you to slide them about, watch out for falling blocks though. You also need to watch

in going through any of the levels without difficulty.

If you reach all the platforms before they disappear then you get a well deserved bonus. There are 40 levels in all and only the most hardened games players are going to see all of them. It's a game that grips you and if you're not careful you'll have to be dragged away from you ST screaming, "Just one more go, I nearly had them all that time, the swines!"

**Squish has been linked to several cases of uncontrollable gibberin' - it all seems so easy at first but then...**

## Disk Space

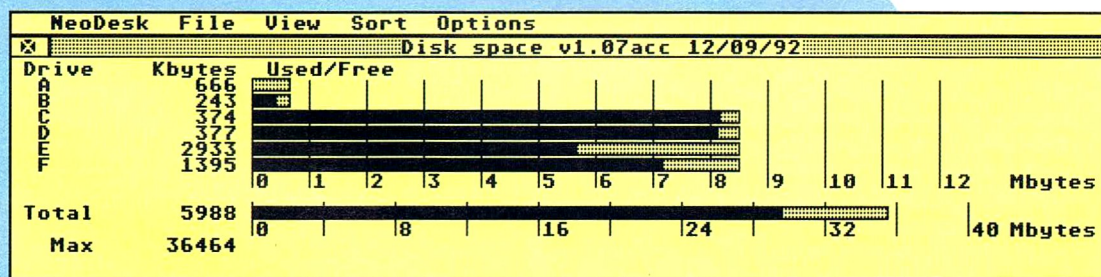
BY: MARK BRINKWORTH  
 RESOLUTION: HIGH AND MEDIUM  
 FOLDER: DISKSPC  
 FILES: DISKSPCA.DOC,  
 DOSKSPCB.ACC,  
 DOSKSPCA.PR  
 TOTAL SIZE: 30K  
 READ: DISKSPCA.DOC  
 GET STARTED WITH: SEE BELOW

You can tell how much space you have on a disk from the Desktop easily enough, but it doesn't really tell you much. The thing is, when you've just completed a complex piece of work and you need to know if it'll fit on your disk without quitting the program you're running, it's not a lot of use. *Disk Space* solves all that by giving you a smart graphical chart of the available space on all your drives.

There are two versions, a normal program and a Desk Accessory version with the file extender ACC.

This version needs to be in the root directory of your boot disk to load. You can then get an instant read-out on your drives by selecting it from the Desk menu.

If you click on the little bars you get information on the BIOS parameter block, which tells you about the disk's construction. Clicking on the bottom bar shows you the size and free space in numerical form. It's an ideal utility for hard drive systems. Click on the little box at the top left of the window to escape the program.



Just what you always wanted, a smart bar chart showing you the free space on all your disk drives. Well, apart from good health, happiness and loads of money, that is. Oh, and a nice car.

## Realfeel MIDI Files

BY: REALFEEL  
 FOLDER: MIDI  
 FILES: 5FOUR1.MID,  
 BONGOFUR.MID,

JAZZRAP2.MID, SHUFFL10.MID  
 TOTAL SIZE: 10K  
 GET STARTED WITH: SEE BELOW

The trouble with drum machines and sequencers is the robotic sound you often get. The drum patterns somehow lack the spark of life and there's no substitute for a real musician playing. The Realfeel Groove Library puts all that straight with MIDI files of drum patterns played by a professional drummer straight into a sequencer using MIDI drum pads. All you need is a sequencer capable of loading stan-

## Cover Disk Back-up

BY: BRIAN TILLEY  
 RESOLUTION: ALL  
 RESOLUTIONS  
 FOLDER: BACK\_UP  
 FILES: BACK\_UP.TOS  
 SIZE: 13K  
 GET STARTED WITH:  
 BACK\_UP.TOS

The first thing you should do with your *ST FORMAT* Cover Disk is make a backup copy. This is because the disk will self-destruct after about a week so remember not to leave it next to anything combustible. Only kidding, but you never know when something nasty might happen to it - some spilt coffee or a careless accident with an industrial rivet gun can make a mess of your precious disk. The only way to buy absolute safety is to make a backup.

Because of the special format we use to cram loads of goodies onto each disk you can't do a standard Desktop copy. You could drag each folder across to drive B, but it takes loads of disk swaps. The easiest way is to use the *Back-Up* program we put on every disk.

First write-protect your disk so nothing can be written to or deleted from the disk. Move the little black tab at the corner so you can see through the hole. Now get a spare disk ready and run BACK\_UP.TOS. A menu appears, press <1> to start copying your disk. The source disk is the one you are making a copy of and the destination disk the one you are copying it to. If you have two drives then drive A is used for the source disk and drive B for the destination. Swap disks when prompted. If you have 1MByte or more you only need to make one disk swap.

*Back-Up* doesn't just do Cover Disks, almost any unprotected disk can be copied with it and you won't find a quicker or easier program to do it with - smart.

dard MIDI files and you've got a professional drummer playing with you.

The full disk comes with 99 patterns covering a wide variety of styles including rock, soul, funk, jazz, reggae, latin and indy. As a taster we've got four examples on the Cover Disk for you to take a listen to. Never mind the width, feel the quality.

The full disk comes in at £13.95 but as a special offer to *ST FORMAT* readers we've got a coupon that'll get it to your door for £9.95, how jolly.

Please send me Volume 1 of the Realfeel Groove library in Notator/ MIDIfile 0/ MIDIfile 1 format. (Delete as applicable)  
 I enclose a cheque for £9.95 made payable to Realfeel

Name \_\_\_\_\_  
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Send your orders to: **Realfeel Groove Library,**  
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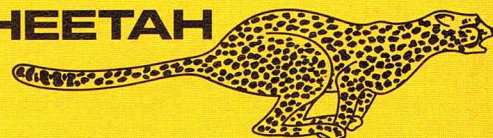
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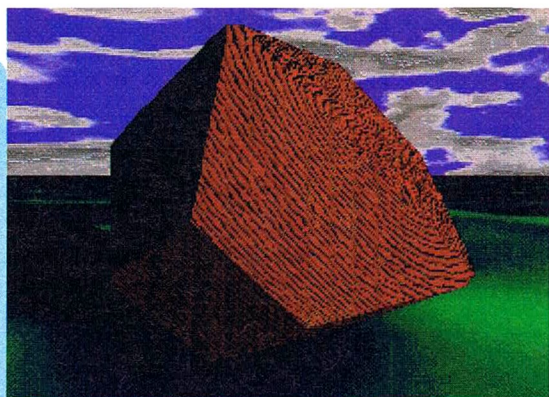
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■ The wood texture on an unusually angular Henry Moore. There are a good few textures that **POV** knows about and a library full of others. If you can't find the one you want you can define your own, so there's no excuse.

## Persistence Of Vision Raytracer

**BY: POV**  
**FOLDER: POV**  
**FILES: README.DOC,**  
**POV\_1.TOS, POV\_2.TOS**  
**UNCOMPRESSED SIZE: 876K**  
**READ: README.DOC**  
**GET STARTED WITH: SEE BELOW**

Get ready to enter the world of truly awesome graphics. The *Persistence Of Vision Raytracer* is the most powerful raytracing package on the ST and any other machine this side of silly money. It takes a

simple script file that describes a three dimensional scene and uses some terribly complicated maths to work out all the subtleties of lighting to generate a photo-realistic picture. The final results are rendered in 16.7 million colours and can be up to 4,096 pixels square. *POV* uses libraries of colours, shapes and textures that can be included in any scene.

It's not a fast process, even the simplest of images takes a while to go through the process

## Pass the information on the left-

*POV Raytracer* is a TTP program – short for TOS Takes Parameters – this means you can pass information to the program as you run it. In the case of *POV* this includes important stuff like what script it's going to raytrace and how. If you run the program directly from the Desktop you can type these in. Unfortunately, you only get a rather small box to do it in, not nearly enough

room for all the parameters you need. Along with *POV* we've included *COMMAND.TOS*, a command line program which can launch *POV* and pass a whole host of parameters to it.

It can also use batch files – these are small text files with all your commonly used parameters set up already. There are two on the disk for producing RAW or TGA pictures. These are called

and all the example scenes that are on this month's Cover Disk take hours to complete – but the results are well worth it.

In order to squash this monster of a program onto the Cover Disk, it's been archived. Get two blank double-sided disks ready and copy *POV\_1.TOS* to one and *POV\_2.TOS* to the other. Now run each program in turn – after a few minutes all the files unscrunch themselves to your disks. One disk holds all the documentation and the utilities to display your final pictures. The other is your main

work disk with the *POV* program on it. Don't forget to delete *POV\_1.TOS*, because you'll need the free disk space when you start saving your pictures.

If you want to cut through all the tedious learning business and get down and trace some pictures straight away, just run *COMMAND.TOS*. You should get a mostly blank screen and a flashing cursor. Now type in *tgatrace 320 200 pacman pacman.tga* and hit <Return>. It won't be quick, raytracing is a very complex process. After a long tea-break and a chap-



■ This car takes a good while to render but is extra impressive for it. The car's body is a GIF picture which has been texture mapped onto the car's shape.

■ They are real, they are coming, the big yellow things are on their way. Quick! Put out tennis balls in spiral patterns to confuse them.

## THOSE USEFUL POV RAYTRACING PARAMETERS IN FULL

**There's more to setting POV going than first meets the eye. Here's a list of those essential POV parameters**

**+ifilename** - sets the input scene to render where filename is the name of the *POV* file.

**+ofilename** - sets the name of the picture file you are creating to whatever the filename is – that is the name of the *POV* file.

**+v** - displays statistics while rendering, useful to see how far through the process you actually are.

**+x** - enables you to abort a rendering by pressing a key.

**+ftype** - sets the format of the finished picture. Type is

either t, d or r, for Targa, Dump or RAW.

**+snumber** - sets the start line for rendering a portion of a scene, where number is the line number.

**+c** - continues a rendering that was aborted with the +x option.

**+p** - waits for a keypress after rendering.

**+enumber** - sets the end line for a partial rendering where number is the last line to be rendered.

**+bnumber** - outputs the file buffer size.

**+anumber** - uses anti-aliasing when rendering, the number is a value between 0.0 and 1.0 – the lower the value of the number the higher the smoothing.

**+qnumber** - the image quality of the picture, the number is a value between 1 and 9 and the higher the better the final quality of the image. The default value is set at the maximum.

**+lpath** - *POV* searches the path for the library files.

**Important** - using a '-' instead of a '+' disables a parameter.

## hand side

TGATRACE.BAT and RAW-TRACE.BAT, the first thing in them is the name of the program to run and then the list of parameters to pass across to it. You can edit these yourself with any text editor, remember to save them as pure ASCII text, not word processing documents. To use a batch file just type in the name at the command line. By using a % followed by a number

in the batch file you can pass a variable to it and then on to *POV*, in the two on the disk the width, height, input file and output file are all passed across. You could add anti-aliasing to the batch file by changing -a to +a%5. You can now add the anti-aliasing value at the end of your list of parameters. To escape from *Command*, type *exit* and for a list of commands press the <?> key.

ter or three of a book, a smashing 320 pixel wide, 200 pixel high and 24-bit picture of the PACMAN.POV scene will have been created on your disk – easy.

You can't view this picture directly, you need to convert it into a more useable format using *Photochrome* which is also on the Cover Disk. There are 12 scenes inside the SCENES folder ready to be rendered, just substitute the appropriate names into your command line.

Writing your own scenes seems daunting at first but it's a

simple enough description language to get to grips with. Check out page 22 for an introductory tutorial that can soon have you creating scenes of, well, balls at first. After some practice you can create pictures better than the Cover Disk examples. Inside the DOCS folder there are lots of documents to read including a massive manual, required reading to get behind this remarkable program. Raytracing is at the cutting edge of ST graphics and *POV* is the sharpest tool you can find. So, what are you waiting for? Get raytracing.



■ This is a picture that really shows off the spread of colours and the amazing lighting effects possible on an ST using *POV* and *Photochrome*.

## Now you see it, now you don't

Inside the UTILS folder there's a clutch of utilities to display and convert your *POV* raytracings into pictures your ST can handle. The amazing *Photochrome* takes ST graphics to the limit with more colours on-screen than you'll have ever seen before. It can load both TGA and RAW files. The best quality is achieved by using *Super Ham* on an STFM and the stunning *Photochrome* pictures on an STE.

It's all mouse controlled and simple to use, click on Help Me!! on

the main menu and read *PCHROME3.DOC* for all the details. Once you've converted your pictures you can use the *PCS View* program to look at them and make slideshows. *View RAW* is a simpler effort to take a quick look at RAW pictures, ideal for installing as an application on hard drive systems. There's also a utility to display TGA and RAW pictures on the Falcon which uses the same tricks as *Photochrome* to get the full 24-bit palette on-screen.

## Assembly Listing

BY: TONY WAGSTAFF  
FOLDER: ASSEMBLER  
FILES: JOY.S, MASKER.S,  
SPRITES.S  
TOTAL SIZE: 10K  
GET STARTED WITH: SEE BELOW

Assembly is the most powerful programming language you'll ever need. It's not easy to get to grips with, but once you know how to program in it you can do what you want – there's no stopping you.

These three listings go with the last installment of our series on learning assembly. They do terribly clever things apparently, so turn to page 97 to get the full story.

## 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 cannot format any disk 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.

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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 Wednesday 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 best 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've still got 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*. Please could you indicate on the envelope what type of problem it is.

## Share your creations 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!

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On a separate sheet, explain concisely what the program does and why you happen to think it's so brilliant.

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

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| B. 50 STAR TREK: Save the Federation    | B. 51 COLOSSAL CAVE: The original adventure   |
| B. 45 FIGHTING SAIL: Naval battles      | B. 44 FLY ROBIN: Cute shoot'em up             |
| B. 42 CYBERSNAKE: Top rated action game | B. 39 ASTEROIDS: A loving restoration         |
| B. 15 ROLL 'N' NUDGE: Fruit machine     | B. 20 HACMAN: Pacman action                   |
| B. 14 ROBOTZ: Classy arcade game        | B. 36 8 BALL POOL: Bar game simulation        |
| B. 33 BLASTER: Fast 'Defender' action   | B. 34 LAPD GAME: Shoot'em up                  |

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CUSTOMERS WORLDWIDE ARE FINDING WE ARE THE ONES TO DEAL WITH FOR QUALITY AND SERVICE



■ This gob-smacking scene was created with *POV Raytrace*, patience, a grasp of 3D modelling and the skills of Mike Miller. Admit it, you're impressed, aren't you?

CREATE THE  
ULTIMATE GRAPHICS  
ON YOUR ST WITH  
POV RAYTRACE ON  
THIS MONTH'S  
COVER DISK

# CAN YOU SEE THE LIGHT?

**Raytracing is the ultimate in graphics creation methods - it helps you make the most stunning visuals your ST can produce. Follow Chris Lloyd into a world where maths have never been so beautiful**

**S**tunning, there's simply no other word for it. Raytracing produces images that take your breath away - the scenes come closer to reality than any other process. There are dazzling raytracing examples used for special effects in films, station logos on television as well as book and magazine covers.

Raytracing is a mathematical way of creating photo-realistic

images from a 3D model you've defined, complete with shadows, reflections and highlights. The possibilities are almost boundless.

How the hell does it all work? What we see with our eyes are different shades and strengths of light. Raytracing uses complex equations to reproduce the actions of light on a series of objects. The screen is divided up into pixels - the individual dots that form the picture. For each pixel a straight line is traced to see if it hits an

object. If it does then the path from the object to each light source in your scene is checked to see how much light there is. The light can be reflected or refracted off other objects first.

The objects in your raytraced world are made from primitive shapes including spheres, cubes and cylinders. These are rotated, squashed and mucked about with until they resemble the shape you wanted. More complex shapes are

formed from quadratic equations. The surface properties are defined

**"The realism  
you can achieve  
is dazzling"**

– what colour it is, how reflective it is and so on. From these properties

the program works out how light bouncing off the object behaves.

You can even do something called texture mapping. This takes a picture and wraps it around your object, say to give the skin of a dragon scales or a face rosy cheeks and blue eyes. The degree of realism you can achieve is dazzling; images have a level of detail that leave other graphics floundering. It's not completely realistic – for instance, the light doesn't fade with

distance and there is no indirect light – well, nothing's perfect is it?

All this is, of course, horribly complicated to work out and involves zillions of mathematical calculations. Luckily you don't get anywhere near this bit. All you have to do is define the objects, lights and cameras in your world and let the program loose on it. Because of the intense nature of the process it's slow – even very simple scenes take a few minutes

## How you can make amazing pictures even more amazing

With the the Falcon and programs like *POV*, raytracing is having a bit of a renaissance, following the spurt of programs that appeared a few years ago (see page 24). There is now a new generation of programs in the offing. At the testing stage is *Xenomorph 2* from Lexicor Software. It has support for MultiTOS

so you can render pictures in the background while you get on with something else. It also features anti-aliasing and a host of new textures. It can also render sequences created with *Chronos* – this means incredible animations are possible.

From Christensen in Germany comes *InShape*, to be distributed

here by CGS. It's a modelling and raytracing program with a wealth of built-in textures including wrinkles, waves and 29 different types of pattern. You can set different refraction types and there's also animation. It needs a maths coprocessor and there are TT and Falcon versions. Price should be about £120. Also com-

ing soon is *Chloe* from Business Assistance in France. It promises to use the DSP chip on the Falcon to speed things up. No deal on distribution for the UK has been struck yet.

With all these programs and the Falcon, the future for the world of raytracing looks rosy – expect to see a lot more of it.

# THE PROFESSIONAL TOUCH

## What? Not satisfied yet?

If you've caught the *POV* bug then you might be interested in the full *POV* package. Space on our Cover Disk is limited and we had to leave out a few bits and bobs. The full package includes over 100 example *POV* files to render, over a dozen more files full of textures and a host of utilities including programs to convert *DKB*, *ORT* and *3D2* scenes into *POVs* and loads of utilities to play around with the output files. There are special versions of the program for the Falcon which use the 68030 chip and for the TT which makes use of the maths coprocessor. You can get the full versions from Floppyshop ☎ 0224 586208 or any other good PD library.

■ This is Mike Miller, the fellow responsible for some of the highest quality *POV* work there is.



See the picture with the train and fish on page 19? Undoubtedly brilliant and put together by someone who knows what he's doing. Mike Miller, who comes from a background in more traditional art, has been using *POV* for over two years.

He believes "POV is the best raytracing program; it's in a class of its own. If you can get past the script files it's outstanding – the images are crystal sharp."

Mike's work has appeared in books and magazines, including the front cover of *High Color*, a magazine aimed at the professional computer

graphics artist. "Raytracing is another artistic medium. Like any other you need to be inspired first and then you have to be methodical about achieving it. Inspiration comes from books, magazines and films, mostly fantasy and science-fiction. First I sketch out the scene on paper and then draft a blueprint. You need to be meticulous about putting together the shapes and forms that create the final scene. I render the shapes in isolation without textures to save rendering time. It's tempting to try and see what things look like with metallic gold or whatever but you can waste a lot of time. Test your textures on simple objects first."

One of the first problems you're likely to meet when getting serious about *POV* is the speed of rendering. You pay for all that graphical excellence with hours of processing time. An extra ST helps,

■ A brilliant example of what is possible when you get a handle on defining shapes. All of this is a mathematical equation. Pretty hard to believe, eh?



## More colours than ever before!

*POV* produces 24-bit pictures, these have 16.7 million possible colours. This probably leaves you wondering how you can possibly see them on your standard ST. You could convert the pictures down to 16 colours, but that would make the whole exercise a little pointless.

One step better is to use the *Spectrum 512* format picture which uses some clever technical tricks to get the full 512 colour

palette of the STFM on the screen, a hefty improvement. You can go one better than that though – *Photochrome* (on the Cover Disk) can convert your 24-bit pictures into six different formats going right up to 19,200 colour pictures on an STE. You may think this is impossible – it's more than the total palette!

Well, *Photochrome* uses interlacing and other sneaky tricks to squeeze the best possible graph-

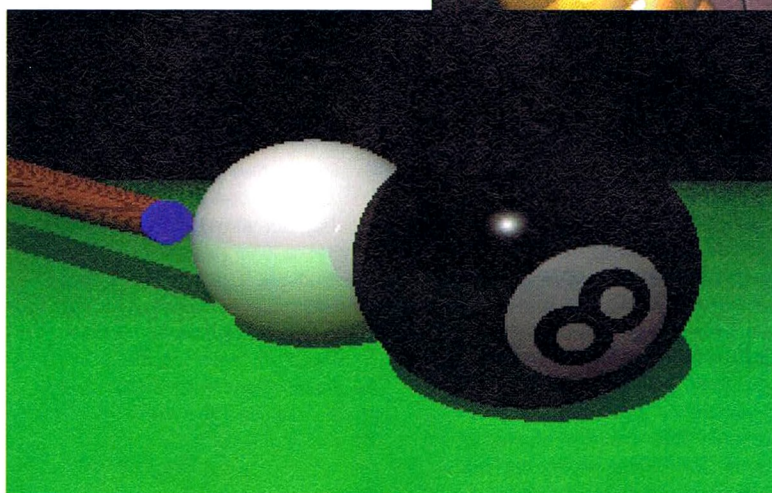
and more complex ones take a few hours or even days.

Your ST can raytrace with the best of them, since it's all about number crunching. To show you first-hand what you and your ST can achieve we have included a copy of *POV* – the *Persistence Of Vision Raytracer* – on this month's Cover Disk. Developed from a program called *DKB Raytrace*, it's the most powerful raytracing program this side of a lab. It uses a script file to describe the scene and runs using a command line program that passes parameters to the main program. If you're confused then have a quick read of the Cover Disk section starting on page 12 because it's all explained there.

Raytracing opens the door on a world of incredible pictures you wouldn't have thought possible, and, armed with *POV*, you can generate professional images with the best of them. It is undoubtedly the way computer graphics are going.



■ As with any medium, raytracing enables your warped imagination to find expression. Something in the attic obviously left a lasting impression on someone.



you can set it rendering and get on with other things. You'll need lots of RAM too. What really gets things moving is a maths coprocessor which are standard on TTs. On Falcons and Mega STEs there is a maths coprocessor slot to enable you to plug one straight in. Some accelerator cards for the ST also have maths coprocessor slots. Simple scenes with a few

■ Inevitable, really, pool balls in all their raytraced glory. The "eight" ball is created by texture mapping a picture with the number eight in it around a sphere.

shiny balls can be left to trace overnight but when more complex scenes start taking days to render you'll soon be wishing for some extra silicon muscle.

## Show off and win £100!

In the spirit of expanding the boundaries of ST graphics and because we're just such darned nice people we're giving you the chance to exhibit your work to the rest of the world. Send in your raytraced pictures created with *POV* – the best one wins the author £100. So, don't just stand there, get tracing!

### THOSE RULES IN FULL

1 It must be your own work, you can use the libraries included with *POV* but don't edit any existing *POV* files and definitely no tracing up someone else's file you found in an obscure corner of a PD library and passing it off as your own – we've seen them all.

2 Send us the original *POV* file used to define the pic-

ture and the final picture in TGA or RAW format, 320 by 200 pixels. We don't have time to render all the pictures so if you just send a *POV* file it won't get looked at.

3 This compo is not open to anyone who works for Future Publishing or their families. This means you, Ed Ricketts, and your pseudonyms.

4 The judge's decision may well be horribly unfair but it's final and that's that.

5 Send your efforts to – Ray and Trace, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

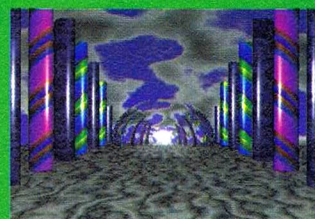
6 Closing date for entries is Friday 20 August 1993.

ics out of your ST. It can cope with RAW and TGA pictures created by *QRT*, *DKB* and *POV* as well as GIF, IFF and RGB separations. Indispensable in the quest for the ultimate in ST graphics.

■ Lucky Falcon owners get to view their creations in true colour – 65,000-plus colours at up to 768 by 480 pixels using overscan.



■ This was once a 24-bit tracing. Now a Photochrome PCS pic it shows off more colours than you're likely to see on an ST.



■ A full 24-bit picture showing off the level of graduations possible with so many colours. Totally gorgeous.

# LIGHTS, CAMERA...

**T**o get anywhere creating your own scenes with *POV* you need to understand the intricacies of the script file that tells the main program what your scene looks like. These are plain text files, you can use any text editor or word processor as long as it can save your document as plain ASCII – *Protext* from Cover Disk 41 or *Write On* from Cover Disk 33 are ideal.

There are three basic elements to any scene: the camera or viewpoint, the lights and the objects you're looking at. Let's start with something very simple.

Load up your word processor and type this little lot in. Save it as a plain text file, don't forget the file extender *POV*. Now run the command line program and trace it up in the same way as the example pictures as described on the Cover Disk pages.

```
camera{
    translate <0.0 0.0 0.0>
    direction <0.0 0.0 1.0>
    up <0.0 1.0 0.0>
    right <1.33333 0.0 0.0>
    look_at <0.0 0.0 3.0>
}

object{
    sphere{ <0.0 0.0 3.0> 1.0
}
    texture{
        colour red 1.0 green
        0.2 blue 0.8
        phong 1
    }
}

object{
    sphere{ <1.3 -0.5 3.0>
0.5 }
    texture{
        colour red 1.0
        phong 1
    }
}

object{
    sphere{ <-1.3 -0.5 3.0>
0.5 }
    texture{
        colour blue 1.0
        phong 1
    }
}

object{
    plane{ <0.0 1.0 0.0> -1.0
}
    texture{
        colour red 0.3 green
        1.0 blue 0.3
    }
}

object{
    light_source{
        <2.0 4.0 -3.0>
        colour red 1.0 green
        1.0 blue 1.0
    }
}
```

ratio – in this case set for 4:3. Next up are the objects – three simple spheres and a plane. *POV* already understands these basic shapes so you don't have to define them.

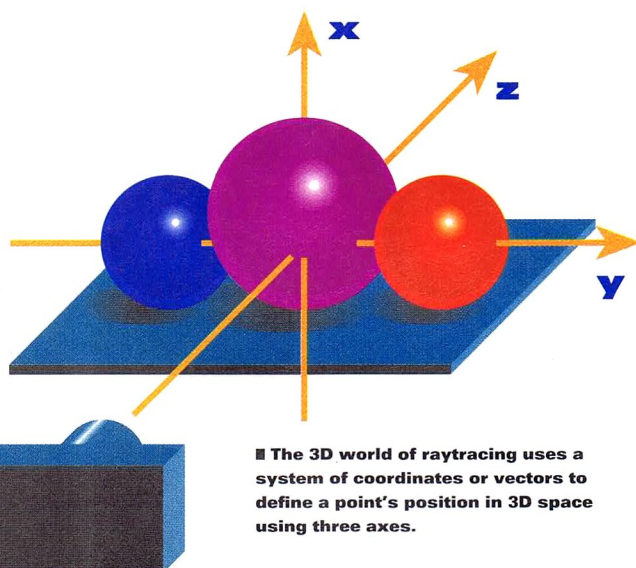
The sphere's centre locations are defined in the same way as the camera position is; the last number is the radius. The plane location defines the relative orientation of the surface, the last number is the distance away from the middle of the world – in this case one unit downwards. The texture section can contain all sorts of interesting effects, for the moment it holds the colour in terms of red, green and blue, each having a value between 0 and 1. The *phong* command adds a little shiny highlight to your spheres.

Last, but by no means least, is a light to view your world by. It's given a position and colour values. Setting the red, green and blue values all to 1 gives you a white light.

The finished picture isn't too stunning but shows what's possible with a few very simple commands. Now you've got a basic scene to play with you can start adding the wacky effects.

First off, how about a sky? The easiest way is to add a huge sphere enclosing the whole world. Add a new object:

```
object{
    sphere{ <0.0 0.0 0.0>
1000 }
    texture{
        colour blue 0.6
    }
}
```



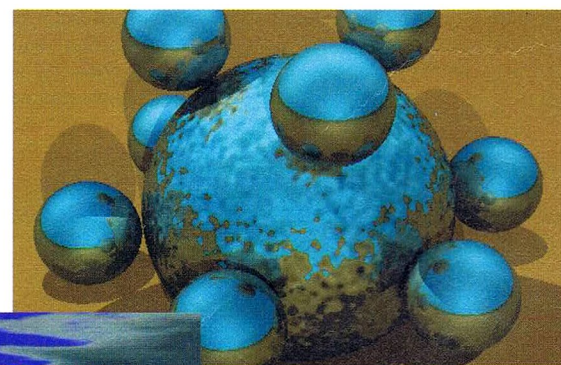
■ The 3D world of raytracing uses a system of coordinates or vectors to define a point's position in 3D space using three axes.

Each block is divided up by curly brackets. The first block defines the camera position. Every object starts at the centre of the *POV* world, that is at the X, Y, Z position 0.0, 0.0, 0.0. The *translate* command moves the camera relative to its starting position. In this case it has no effect because the camera's already there. You can easily move it about later. The *direction* is the vector the camera is pointing at, it also determines the field of view, the larger the value the narrower the field. This can get tricky so the *look\_at* command comes in handy. This specifies the point in your 3D world your camera is aimed at, in this case three units directly in front. The *up* command defines where the top of the camera is pointing and the *right* command where the right side of the camera is pointing, it also sets the horizontal magnification or aspect

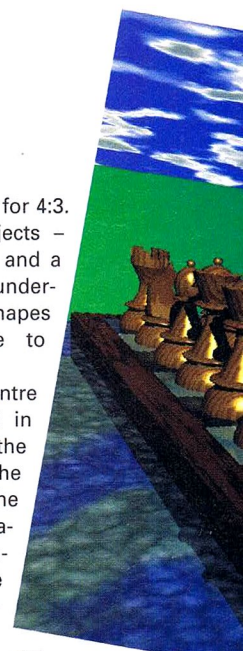
■ An almost unbelievable creation - this is a mass of quadratic equations and looks nothing like it, it looks just like a camera.



■ Yes, it may look realistic, what we wonder is whose reality it represents, hmmm.



■ You can see why raytracing is used to create images for films, you can just imagine Rutger Hauer lounging by this pool being weird.



■ This POV raytrace is a prize-winning number entitled *No Trace of Reality* and features, er, snakeskin twisty things and sort of orangy red bunches of, er, things. No trace indeed.

■ With a few quadratic equations, complex shapes are possible - just look at these chess pieces. Once you've created a useful object you can store it in a library of objects and reuse it over and over.

POV has a wonderfully wide selection of textures and surface effects to use. We can experiment by adding a few special effect to our three spheres. Try replacing the statements between the curly brackets that define the textures of our three spheres with the following instructions:

For the big sphere:

```
agate
phong 1.0
brilliance 4.0
reflection 0.15
  colour_map{
    [0.0 0.6 colour red 0.9
green 1.0 blue 1.0
  colour red 0.2 green 0.3
blue 0.7]
```

```
[0.6 1.01 colour red 0.0
green 0.3 blue 0.65
  colour red 0.0 green
0.1 blue 0.2]
}
```

And for the two smaller ones. The first sphere:

```
checker colour red 1.0 colour
red 1.0 green 1.0
phong 1.0
```

And the second one:

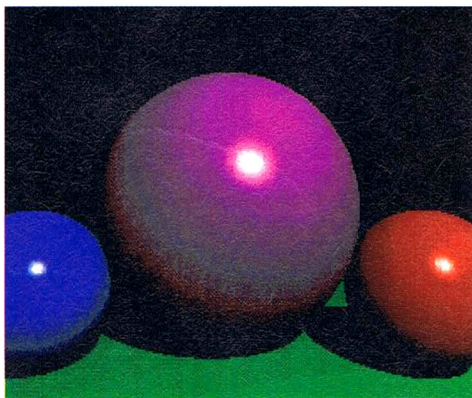
```
wood
turbulence 0.3
scale <0.2 0.2 0.2 >
colour_map{
  [0.0 0.8 colour red 0.5
green 0.2 blue 0.2
```

```
colour red 0.6 green 0.3
blue 0.3]
[ 0.8 1.01 colour red
0.85 green 0.4 blue 0.4
  colour red 0.9 green 0.55
blue 0.55]
}
phong 1
```

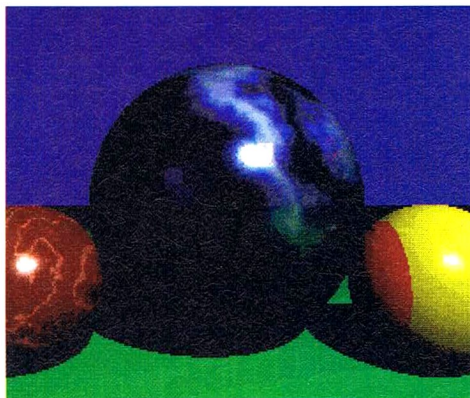
You should now get three much more interesting textures on the spheres. Try altering a few values and experimenting with the textures, you can start by getting the chequered board scaled correctly. That's just for starters; there are standard libraries of colours, shapes and textures inside the INCLUDES folder. Adding #include COLOURS.INC would enable you to use any of the colours defined in

the COLOURS.INC file. Have a read of them to see what is available. The file of textures has all sorts of wonderful surfaces for you to play with from cloudy skies to chrome. You can create your own include files with libraries of your own shapes and textures. There are some very hefty text documents along with POV which detail all the commands, these really are an indispensable read. As with all good things, it doesn't come easy - patience and experimentation is the order of the day.

POV is a powerful and flexible program. If you get to know its ins and outs you can become a serious contender around raytraced graphics and there's not much more satisfying. Quite.



■ In the beginning there were spheres, for no better reason than they are easy to define, trace quickly and show off the lighting effects nicely.



■ Add some textures and a big sphere to create a sky and things start to look more interesting. The level of control you have over the shape and appearance of your objects is unbelievable.



■ Hang on a moment, we seem to have left out some of the intervening stages here. Looks rather good though, doesn't it?

# NOT ONLY BUT ALSO

**P**OV is not alone on the scene, there are half a dozen other raytracing programs available. They range from the simplistic *Pearle* to the power and flexibility of *Xenomorph* – check out the in-depth review in STF 47, turn to page 52 to order

your copy if you missed it. There are two basic approaches – with or without script files. Wireframe models makes the process much more visual and easier to get into but script files offer much more control and precision. You pay your money, you take your choice.



■ A simple interface married to a powerful rendering engine makes *Xenomorph* approachable yet meaty. Wireframe 3D objects make setting up the scene easier.

**XENOMORPH**  
FROM: 16/32 SYSTEMS  
PRICE: £79  
CONTACT: ☎ 0634 710788

Instead of using maths and script files to create objects, *Xenomorph* uses objects in the 3D2 for-

mat created by 3D modelling programs like *Cyber Sculpt*. *Xenomorph* has an uncomplicated GEM interface; everything is graphically represented. There are two built-in textures – wood and marble. You can also texture map pictures onto any shaped object. Output can be anything from 16 to 16.7 million colours and in any size, it

even produces *Spectrum 512* format screens. It takes advantage of an 030 processor or maths coprocessor if you have them. It's respectably speedy, easy to use and the results are excellent. It lacks the sophisticated surface textures of *POV* but excels in every other area.

**STF Rating: 93%**



■ An incredible view generated by the forthcoming *InShape*, a completely new modelling and raytracing package from Germany. It can produce 24-bit TIFFs up to 4,096 pixels square.

**DKB**  
FROM: THE PUBLIC DOMAIN  
CONTACT: PD DIRECTORY ON PAGE 95

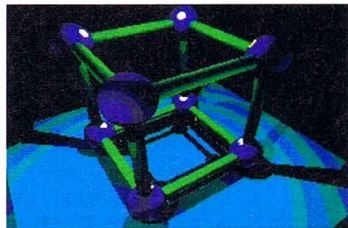


■ *DKB* produces stunning 24-bit output like *POV*. Here is a scene showing off the ability to put transparent windows into our old friend, the ball.

This is the program that *POV* was developed from and is very similar in operation. Having a less powerful raytracing engine makes it faster but less flexible. There are utilities to convert the *DKB* files into *POV* files so if you've started with *DKB* you can move over without losing all your hard work. It has all the features you want in a high-end raytracer. There are loads of textures, texture mapping, fog and the like. Output is in 24-bit Targa or Raw format. It's not as sophisticated as *POV*, but still in a different league than programs like *GFA Raytrace* even if you do have to wrestle with uncooperative script files.

**STF Rating: 88%**

**GFA RAYTRACE**  
FROM: GFA DATAMEDIA  
PRICE: £20  
CONTACT: ☎ 0734 794941



■ One of the first programs to show what your ST can do graphically, *GFA Raytrace* is looking a little dated now, but still looks groovy.

The first raytracing package available for the ST, *GFA Raytrace* uses a GEM editor to create and render your scenes making it easy to get going with. You design everything as wireframes first. You can create basic animations too. The final output is a 512-colour picture similar to *Spectrum 512*.

The basic set of objects is a little limited and you end up with a lot of mirrored balls on chequered floors. There are no textures and limited texture mapping. It's slow and finished pictures often have trouble coping with the number of colours leaving dots and stripes on your screen.

**STF Rating: 81%**

**QRT**  
FROM: COVER DISK 33 OR THE PUBLIC DOMAIN  
CONTACT: PD DIRECTORY ON PAGE 95

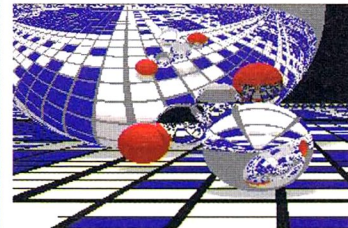


■ A *QRT* scene, the brick pattern is defined using some smart maths and the mirror ball shows off what it is capable of.

The first of the really powerful script file based raytrace programs to be converted to your ST. It works in the same way as *DKB* and *POV* but it's much faster and much simpler. The types of basic shapes is limited and there's no rotation. It produces 24-bit RAW output, there is a higher occurrence of stray pixels with the wrong colour – the maths algorithms aren't as complicated. The major feature missing is the ability to texture map, you have to define your own surface patterns. On the plus side it's easier to learn and you can view your results a lot quicker.

**STF Rating: 79%**

**PEARLE**  
FROM: COVER DISK 33 OR THE PUBLIC DOMAIN  
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■ Classic raytracing with *Pearle*. You can define velocity and gravity and create realistic animations but all scenes tend to look similar.

Not really a serious contender but easy to use and relatively fast. *Pearle* uses simple script files. There's little flexibility; it's basically balls on a patterned floor, the output is fixed to 16-colour low resolution and there's no colour green – could be a tad inconvenient.

It creates a series of pictures forming short animations, each screen is saved as a *Degas Elite* picture. One thing it does have is realistic gravity, something unique to *Pearle*. It's not meant to be a serious raytracing program, just a quick and simple introduction to the process and a bit of fun.

**STF Rating: 58%**

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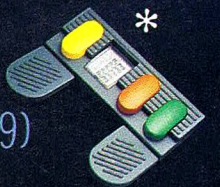
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# IS THE GAMES INDUSTRY COMPLETELY BONKERS?

There are over three million ST owners in Europe yet the games industry is reluctant to support them. Rob Mead asks the major players what their problem is...

**D**espite the fact that the games industry is selling more ST games than it has done for months, it seems to think it no longer needs you. It's in the process of turning its back on Europe's three million ST users in favour of get-rich-quick consoles and CDi. Even the Falcon could fall victim to the software houses' lack of enthusiasm for Atari hardware.

Although it's a slow process the move is seemingly unrelenting with fewer games being released each month. But are the software houses making a mistake, in leaving Atari's machines too soon? There's still a market for ST games and the Falcon and Jaguar have a potentially massive user base.

Over the last few months *STF* has reviewed some truly great games – *Street Fighter 2*, *Civilization* and the *Chaos Engine*. The release of these games has given the industry a boost. Usually ST sales account for around 5% of the total, but they've recently reached around 10%. Previous low figures affect retailers like W H Smiths – they're less prepared to give ST games shelf-space – this, in turn, means that software houses are faced with ever-shrinking profit margins when it comes to convert-

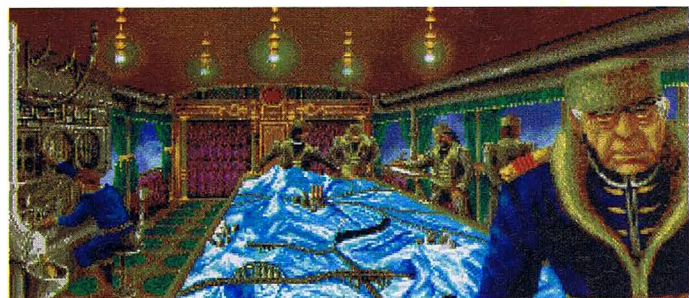
ing games to the ST. Typically, it takes six to eight weeks for programmers to convert a game to the ST – that's a lot of time and resources many software houses argue could be better spent elsewhere, especially if the ST version of the game sells hundreds of copies, rather than thousands. Of course, the first thing they consider is profitability – is it financially worthwhile developing games for the ST?

*Gooch's World Class Cricket* received a very respectable rating of 85% in *STF* 47 but the ST version sold poorly, prompting Audiogenic to reconsider their attitude towards the ST. Managing Director Peter Calver says: "Our view of the ST has

changed somewhat. Sales of *World Class Cricket* have been less than 10% of the Amiga sales – we're talking hundreds of copies, rather than thousands." Not surprisingly, this attitude affects how Audiogenic views the Falcon. "If we knew we could sell 5,000 Falcon games we'd do it, but we haven't sold 5,000 ST games for a long time. This view contrasts sharply with that of Bridgett Hirst of US Gold who believes that they are becoming *more* aware of the

**"Over the last few months ST FORMAT has reviewed some truly great games"**

■ It only takes Silmarils a month to convert games like *Transarctica* for the Falcon, so why aren't other software houses doing the same?



OVER 3,000,000 ST OWNERS  
ACROSS EUROPE  
WHEN WILL THE GAMES  
INDUSTRY SEE  
THE LIGHT!

strength of the ST market following the success of *Street Fighter 2* – see page 7.

## We're not being deserted!

The games industry is divided into two main camps – the major software houses like Ocean and US Gold who churn out a constant stream of games and smaller, more specialised companies – Impressions, for example – who confine themselves to a particular genre, like strategy or war games.

Over the past year major software houses like Electronic Arts – which published the *Populous* games – and Coktel Vision – responsible for *Gobliins* – have deserted the ST for more lucrative markets. In fact, Coktel Vision no longer produce any floppy disk based products – it's all CDi.

It's not all bad news though, the majority of the big software houses are continuing to support the ST. Virgin have another five ST releases lined up for 1993 including *Dino Dini's Goal!* and Sensible

demand is at a high enough level to be commercially viable."

A lot of companies like US Gold also get second bite of the ST cherry with strong budget labels – their Kixx XL range, for example, features *FORMAT* Gold winning games like *Future Wars*, *Midwinter* and *Operation Stealth*. Another company who're still supporting the ST is Gremlin Graphics who've finally announced plans to release the ST version of *Zool* this September after months of will-they-won't-they speculation.

It's not just the big companies who are going to keep releasing games for the ST either. Alternative Software is planning to release ten new games for the ST this year including *Suburban Commando*, a film licence featuring Hulk Hogan of WWF fame and Newcastle-based Zeppelin Games already have 25 ST titles available including old Impressions' games like *Rorke's Drift* and *Great Napoleonic Battles*.

## Just across the Channel

Some of the strongest support for the ST in the UK comes from the French. There are over a million ST users in France and the ST still accounts for 25% of all software sales there. This means there are still plenty of software houses willing to produce new games, including Silmarils and Lankhor who are responsible for the *Ishar* series and the *Vroom* racing sim respectively.

Richard Hennerley, Managing Director of Daze Marketing, is responsible for importing many French games into the UK and remains enthusiastic about supporting the ST. "Even if Atari stopped selling the ST and Falcon tomorrow, there'd still be millions of users out there," an attitude, he says, which is shared by the French companies he deals with. Silmarils, for example, have just released *Ishar 2: Messengers of Doom* – see the review on page 70 and Lankhor are about to release two new graphical adventure games – *Black*



■ Black Scorpion's *Speeder* game is still in production, but uses all of the Falcon's capabilities including the DSP chip and the true colour mode.

*Sect* and *Sukiya* – in the UK. See the news stories on page 10 for more details on those games. However, Richard Hennerley blames Atari's marketing and their commitment to the ST as a games machine for the ST's slow decline. "Atari made a basic philosophical mistake in that they have this idea the ST is a business machine. This is absolute rot. It's a game's machine... It's a kind of commercial snobbery." Richard argues that because of Atari's attitude towards the ST it makes dealing with them a frustrating experience, as if playing games is somehow an "inferior" pastime.

## What hope for the Falcon?

It's no surprise, then – that with such strong support for the ST coming from across the Channel – that the first Falcon games to appear in the UK have come from French and German companies. Although *Ishar*, *Transarctica* and *No Second Prize* fail to make full use of the Falcon's potential, it does show other software houses how easy it could be to release games on the new format. For example, Louis-Marie

Roques of Silmarils says it only took a month to convert the PC version of *Ishar* onto the Falcon, and that future releases are going to taken even less time, because the system for converting games is now well established. The Falcon version of *Ishar 2* – to be released in August – also promises to make use of the Falcon's true colour mode and the DSP enables the Falcon to process sound and graphics information, while the main processor concentrates on the running of the software itself.

Atari UK's Marketing Manager Darryl Still, however, argues that he'd like to see 20 high quality games which, as he puts it, "are going to blow people's minds" rather than 200 games which have been merely converted from the PC versions.

One game under development by Black Scorpion is *Speeder*, a furious 3D shoot-'em-up which finds you hurtling over a true colour raytraced landscape while baddies launch themselves at you from all directions. However, Still doesn't see the Falcon as a games machine, but more of a "home



■ *Ultima VII* – another role-playing adventure game easy for the Falcon to deal with. If only it was converted.

Software's acclaimed blow-'em-up *Cannon Fodder*. Flight sim specialists Microprose are committed to releasing four new ST games this year, including *Ancient Art of War in the Skies*, while US Gold have released *Legends of Valour*, the hugely successful role-playing game. Bridgett Hirst, of US Gold summed up the attitude towards the ST of a lot of software houses by saying, "US Gold is continuing to support the ST and is going to continue to do so as long as

**"Atari made a basic philosophical mistake in that they have this idea that the ST is a business machine. This is absolute rot"**

**Richard Hennerley**

## GAMES WE'D LIKE TO SEE ON THE FALCON

There are plenty of excellent games out there which are just begging to be converted to the Falcon. These are they



■ *Seventh Guest*, Virgin's first foray into CDi territory, could be just what the Falcon needs to put its CD-ROM on the map.



■ One of the best flight sims to grace the PC, Electronic Arts' *Strike Commander* combines awesome gameplay with some great graphics and sound effects. It could be so much better on the Falcon.



■ Games like *Space Junk* could finally prove to a sceptical public what a stupendous machine the Falcon really is.

entertainment" package, "I see the Falcon as a jack-of-all-trades, and master of them all."

### The machine of the future?

The major problem Atari faces, however, is in convincing software houses and members of the public that the Falcon is a machine of the future. So far, few software houses – especially the major concerns like Ocean and Electronic Arts – are



■ Gremlin Graphics confirm their support for the ST with the release of *Zool* expected in September.

prepared to commit the time and resources to developing software for the Falcon. Much of this is based on a scepticism towards Atari's ability to market the machine effectively and that large enough quantities are going to be sold to make development of new software commercially viable. According to Virgin's Caroline Stokes, Atari are going to have to sell at least 500,000 Falcons before Virgin are prepared to start programming games for it. There

even seems to be some confusion about whether the Falcon is available or not. When asked by *ST FORMAT* if US Gold were going to commit themselves to creating games for the Falcon, Product Communications Manager Bridgett Hirst responded by saying, "The Falcon is a victim of timing – launch dates have not been met and we're still awaiting a confirmed date. Once the machine has been released and there's proven demand for compatible games, US Gold will consider supporting the Falcon." So, who's to blame? Either the software houses are failing to keep abreast of hardware developments, or Atari really has its work cut out trying to convince them the machine actually exists.

Another problem Atari have yet to overcome is the form the redesigned machine is eventually going to take. Software developers like the Bitmap Brothers are calling for the base model to have at least 2MBytes of RAM on board; they've already returned their Falcon to Atari – who have sent it on to Entertainment International for them to develop for it – because they're not prepared to do a 1MByte version of *Chaos Engine* for the Falcon. Simon Mount, *Chaos Engine*'s designer says: "we got the game working OK, but to do anything flash in



■ The French are major supporters of the ST in Europe and continue to release excellent games like *Ishar 2: Messengers of Doom* in the UK.

terms of the graphics or music we needed more than 1MByte of RAM to play with." *Legends of Valour* programmer, Kev Bulmer, has also experienced huge problems dealing with Atari – he's still waiting for his development machine a year after he was promised one.

Both Silmaril's *Falcon* releases *Ishar* and *Transarctica* require 2MBytes to run. Despite Atari's initial insistence that 1MByte of RAM was enough: "It's a bit of a red herring, because the DSP has its own memory and you can fit samples into the DSP without using the RAM," it looks as though Atari are finally going to bow to pressure for more RAM – rumours at Atari suggest the remodelled Falcon is going to have 2MBytes for the Christmas push. Despite the teething troubles, there are plenty of reasons to feel optimistic about the Falcon's future. Digital Integration are developing a

souped-up version of their *Tornado* flight sim, while Lankhor is planning a Falcon version of *Vroom 2*, the sequel to one of the best ever ST racing sims, Imagitec have almost finished *Raiden* and the long-awaited space adventure *Space Junk*.

According to Atari there are going to be over 20 games available for the Falcon by the end of the year and around half a dozen games for the Jaguar – when that's released in the autumn. One thing is for sure, Atari are far from finished – they admit they have created problems in the past but seem convinced that they have the knowledge and

the machines to once again be at the forefront of home computing. To convince the reluctant software manufacturers to join them though, Atari definitely need to start delivering what they have been promising. **stf**

**"There even seems to be some confusion about whether the Falcon is available or not"**



■ An epic 3D role-playing adventure with over 30 baddie-filled levels to explore, *Ultima Underworld 2* sets the standard for other RPGs to follow.



■ Is the games industry totally blinkered when it comes to looking at the potential of the ST market?



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# CREATIVE

**Your ST can be used for other things besides writing the odd letter and eliminating the occasional alien. Clive Parker takes a look at three different projects where STs are used creatively and practically**

**Y**our ST is not just a games machine. Like all computers it has a potentially infinite number of uses – for instance, you can produce incredibly complicated graphics with a commercial package as well as print labels, say, using a simple utility from the Public Domain.

More and more people are discovering that they can use their STs for business as well as for pleasure, using their own creativity and combining it with their ST's ability to produce professional quality musical, video and publishing products. We spoke to three

different groups who use STs at work – all standard models with modest memory upgrades to 1 or 2MBytes of RAM and none of them uses a hard drive. These setups are hardly any different to the ones you have at home – our recent survey showed at least half of you have 1MByte or more of RAM.

Apart from the professional video company, the enterprises featured use equipment they have put together over a period of time. They have not gone out and bought thousands of pounds worth of gear in one mad spending spree, everything has been painstakingly

## TRANSPORTS OF DELIGHT – NOT JUST

*You don't need an expensive art program to set your music off to its best advantage – or at least Tranceport didn't. The images on the inlay card for the Tranceglobal CD were all created using Degas Elite, VIDI ST and Spectrum 512. Stewart Robinson explains how some of the pictures were designed – and you can see the whole thing below*



"This picture was created from a digitised picture of myself, saved as a Degas file and loaded into Kozmic. There we played around with the palettes and other functions until we had a reasonably weird picture, we then saved it as a Degas file.

added one piece at a time on a limited budget, and much of the software used is PD, Shareware or

**"Software developed for the ST tends to be top class and reliable"**

**Dermot Byrne**

gleaned from ST FORMAT Cover Disks. It just goes to show that with the setup and facilities you may have at home, it's possible to come up with equally impressive results.

### Why STs?

We spoke to Dermot Byrne, Media Co-ordinator of 33 Arts Centre, and asked him why STs were used at the Art Centre. Dermot explains, "The ST is an easy machine to use and get used to, it's an extremely

## All you have to do is take three STs and a selection of raw talent...

### Tranceport

Tranceport are a three piece Scottish electronic band who have just released their first CD, Tranceglobal, on the Surreal record label. They used their 1040 STE not only to produce the music – the CD insert was also created on their ST using various art packages and digitising software. Tranceport also use their ST to run the business side of things. They class their brand of electronic music as "somewhere between the Orb and Mike Oldfield."

■ It just goes to show what you can achieve with an ST, some art proggies, a camera and some glue. Yes, it's a CD inlay card. (Applause.)

### Pilot Visionaries

Pilot Visionaries are a small group of professional artists and film makers producing short live action and animated films and videos, they also perform live video installations and video mixing. They mix live action, animations and video effects using new technology to produce pop videos and other short films.

Pilot Visionaries have recently produced a video for the indie band Test Dept, using a mixture of live action, digitised and animated footage. The video, called Bang On It, has been featured recently on MTV. They used VideoMaster to treat most of the footage in the video.



■ The Beat On It video is pretty weird – the lead singer's here fresh from a bath filled with ice.

■ Not entirely sure what's going on here – but it certainly shows imaginative use of black and white. Probably.

# ARTISTRY

## A PRETTY CD BOX INLAY, YOU KNOW



"A scan of Alan's face was loaded into *Kozmic* with a golden palette. The left side was mirrored to the right, then the face was pasted 16 times to the screen. The Dinocar was drawn in *Spectrum 512* on a white background and blurred.



"The background was then filled with black and the car copied to the buffer. The face picture was loaded and the car was pasted over the top. The Rocket Bike was created in the same way except that the bike was drawn in *Degas Elite*.



"The basic structure of the Trance-global logo was created in *Degas*. The colours and textures were added in *Spectrum 512*. The logo was added to the other pictures using *Block* - and any *Blake's Seven* influence is totally unintentional."

**"Comparable software on other machines... typically costs three or four times as much making the ST an ideal choice"**

**Paul Taylor**

stable platform and software developed for it tends to be top class and very reliable. Newcomers to the ST can simply point and click on the functions they want to use, whereas most other systems come up with obscure prompts that tend to baffle you."

"The ST is a very efficient machine to use, most of the software we use makes the ST transparent and you can get straight into what you are doing. If you are

working with *Calamus* you can load the software and immediately start designing and if it is *Cubase* or *Notator* you've got running then you can start making music as soon as it's loaded."

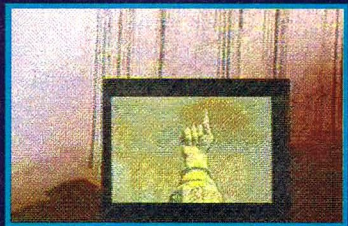
Paul Taylor of Pilot Visionaries had this to say about the ST, "Basically, we used the ST because it was available and could do the job we wanted. We have an ST VideoMaster from Microdeal and we decided that it would be perfect

for the job we wanted to do. James Kelly of Simulations Inc dealt with all of the animation and digitising while I chose the video images that we were going to use and also directed the video.

"The ST is easy to use and has powerful graphics programs available that doesn't cost the earth; comparable software on other machines like the PC, Mac or Amiga typically costs three or four times as much as ST software,

making the ST an ideal choice." Stewart Robinson of Tranceport bought his first 520 STFM in 1988 specifically for music purposes; "I bought the ST because it had a MIDI interface so that it could be connected directly to a MIDI recording setup.

"We quickly found out that a 0.5MByte machine wasn't really going to give us a lot of space for storing song data so we got a 1040 STE to replace it. We realised that the big programs like *Pro 24* and *Cubase* were too expensive so we used a cheaper sequencer called *Studio 24*. We discovered that the



■ Pilot Visionaries have used picture in picture techniques to rapidly flash a series of images on-screen.



■ Using propane gas canisters as a percussion instrument is not recommended without a fireproof suit...



■ Some of the imagery used in the video is enough to give anybody nightmares... even Jeff Minter.



■ It's that gas canister again, the technique of switching between video modes is a real brain burster.

### 33 Arts Centre

The 33 Arts Centre based in Luton has been in operation for 12 years, acting both as a resource for the local community and also as a training centre for people from a much wider geographical area who wish to learn more about the arts.

The most technical features of the centre are the 16-track recording studio and the video studio. 33 Arts Centre produces records, CDs, scratch videos, drama videos, pop videos, corporate training films and TV adverts, all based around a trio of STs.

Almost every aspect of the arts is covered at the 33 Arts Cen-

tre, with courses in photography, music, video, dance and theatre.

Everyone working at the centre has worked professionally in their chosen field - they are not just technicians showing you how things work, they can provide expert

guidance based on practical experience. All courses are very reasonably priced so that everyone can afford to learn more about their particular interest.

Many more elderly and young people enrol on the courses, lots of which cater for varying skill levels so that everyone gets a chance to participate. Many courses are funded by sponsors, the ESF (European Social Fund) is currently sponsoring courses for unemployed youngsters in music and video production. Apparently, it is easier to get sponsorship funding from Europe than from local authorities in the UK at the moment.



■ Everything is created on STs at the 33 Art Centre. Music, video digitising, CD inlays, record sleeves and promotional material are all squeezed out of the machine.



ST is so easy to use that we decided to use it for everything."

### Musically speaking

On the music side of things 33 Arts Centre uses *Cubase 3*, *Pro 24* or *Notator* for sequencing, they also have *Proteus* and *Casio FZ* editing software for the synths and tone modules. The Steinberg programs are the particular favourites because they are so simple to get to grips with – you hardly need a training course to learn to use the software or hardware.

Tranceport used a couple of sequencers to produce their Tranceglobal CD; initially they used *Studio 24* from Digigram but they found that it was limited in scope and had some problems. The other software they used was Steinberg's *Cubase 2*, although this is an older version of the program it provides all the features the band require to produce their music, they now use *Cubase 2* exclusively for their sequencing. As Stewart Robinson of Tranceport said: "It's all down to the person using the software, not the software itself. You've got to persevere and make the effort, you can only get out what you put in."

### Graphics

For DTP work *Calamus 1.09n* takes pride of place at the 33 Arts Centre, Dermot says: "*Calamus 1.09n* is the best mono DTP software around and very good value for money, we can use it on a single disk ST system without any problems."

"We have tried other DTP packages but we have found them to be slow and unreliable. Other artwork is designed on *Degas Elite*, *DPaint* and *Easy Draw* and we use *Protext* for word processing. There is also a lot of useful PD and Shareware software around, I have quite a collection of *ST FORMAT* Cover

Disks – I still use *Fantasia*, *Trip-a-Tron* and *Kozmic* to generate graphics for videos."

Tranceport also use their ST for other purposes, the graphic art for the Tranceglobal CD insert was created on the 1040 STE using *Kozmic*, *Spectrum 512* and *Degas Elite*. All of the digitised artwork was created by Sinister Developments using their VIDI ST digitiser, the saved files were then manipulated by Stewart Robinson using *Kozmic* and *Spectrum 512*.

The animals in the artwork and the lettering were created free-

**"It's all down to the person using the software, not the software itself - you've got to persevere and make the effort"**

**Stewart Robinson**

hand using *Degas*, *Spectrum 512* and a hand scanner.

Once all the graphics were designed the screens were photographed using an SLR camera. Each screen was photographed three times at various brightness and contrast levels to ensure that a decent image of each screen was produced. All the photos were then pasted up on a six foot by 18 inch card for the printers.

Stewart recommends that you get your screenshots processed by a private laboratory so that you can discuss exactly what you want with the technician, it's no good taking your film into Boots and expecting a perfect set of screenshots back.

### Business and publicity

33 Arts Centre uses a Canon BJ-10 printer mainly for proofing artwork and letters, although it is occasionally used to produce final artwork, *Calamus* files are sent to a DTP bureau in London where bromides are produced. All of the art centre's printing needs are provided for by their STs, including record labels, record and CD artwork, promotional pamphlets and guides to forthcoming events at the centre. The STs are also used occasionally for other things, mainly PD spreadsheets and databases for producing presentation graphics.

Tranceport use the business software provided with their 1040 STE pack; all their accounting, database and word processing needs are handled by *ST Calc* (spreadsheet), *ST Data* (database) and *ST Word* (word processing). Another of the band's favourites is *First Word Plus*, mainly because of its simplicity.

Stewart says, "The software provided with the 1040 STE is capable of handling all of our business needs; some of the programs are quite eccentric but they generally cope with everything we want. The database package is slow and difficult to update so we will probably have to find something else to replace it."

Their advertising for their discs and shows are dealt with by Surreal Records – about the only bit of their organisation that doesn't include the services of an ST! **stf**

**Contact Surreal Records for the Tranceport CD on 0386 832586, cost £12 each 33 Arts Centre on 0582 419584 for courses and Pilot Visionaries on 071 652 0608.**

**All this publicity material was produced by 33 Art using Calamus 1.09n then sent to a DTP bureau in London.**

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All the software used in the studios of the 33 Arts Centre runs on single disk STs with a minimum of 1MByte of memory. They don't even have any external disk drives or hard drives – though a hard drive would be welcome.

### Music studio

- 2MByte STE
- SM124 mono monitor.
- Fostex E-16 multi-track recorder.
- Auto locator and rack-mounted Sony DAT.
- Yamaha TQS Tone generator.
- Various other tone generators and MIDI equipment.
- Roland 550 sampling keyboard.

### Video studio

- Low band U-matic recorder, this is some-where between broadcast and domestic standard.
- VHS recorders.

- Camcorders and professional quality cameras.
- VIDI ST for digitising.

### Design studio

- Two 1040 STFM.
- Canon BJ-10 printer.

### PILOT VISIONARIES

- This group of people create their video effects and treat the footage they've taken with professional video equipment using VideoMaster and Cyber Paint to fiddle around to get a perfect result.

- 2.5MBytes STFM.
- Video Master.

- Sony 1750 tube camera.
- Panasonic F12 chip camera.
- Low band U-matic Sony video pack.

If you want to see some examples of Pilot Visionaries' work (among a selection of others), make sure you get down to Blank Vision, 32 Maddox Street, London W1 during July.

Blank Vision is a video gallery that has been set up by the video artist Jeremy Blank.

### TRANCEPORT

Tranceport use the following ST setup for music,

graphics and business purposes; they have just acquired a second-hand hard drive.

- 1040 STE.
- Colour monitor and mono emulator.
- External disk drive.
- Zydec Handy scanner.
- Seikosha 9-pin printer.
- VIDI ST.

If you would like a copy of the Tranceglobal compact disc, contact Surreal Records on 0386 832586.

Tranceport consist of Bobby Gillies, Alan Martin and Stewart Robinson.

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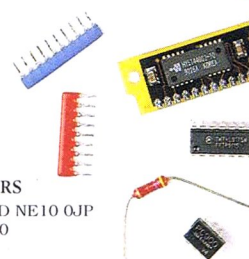
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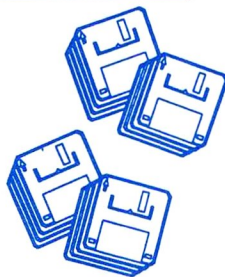
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# MultiTOS unveiled

**MultiTOS is a multi-tasking operating system for the Falcon030 which can also be used on the STFM, Mega ST, STE and Mega STE.**

**Clive Parker tests it to the point of destruction**

**Y**ou know the feeling, you are in the middle of a complex piece of work when you suddenly discover that you desperately need some files from another application which you haven't had to time to finish.

Until recently, you would either have to exit the program you are using and run the other application to finish off those files or have two STs running at the same time. Well, it doesn't have to be that way because the big change has come about in the

shape of MultiTOS, the latest operating system to come from Atari.

## What is MultiTOS?

MultiTOS is a replacement operating system for the Atari Motorola 68030 based machines, the Falcon030 and the TT. The main feature of this new version of TOS is the ability to multi-task, that is, run more than one program at a time and switch between them at will. Unlike multi-tasking software on other systems, MultiTOS actually runs both tasks at once using high speed switching between them, other systems normally let you

work on the top application while the bottom one freezes.

A special feature of MultiTOS, called Adaptive Prioritization, helps make multi-tasking efficient and reliable. It assigns more processing time to the most important program running, a background task works quietly away until you start entering data or a calculation in the top application, this then grabs the lion's share of the processor time.

## Why use MultiTOS?

Well, for starters you can work on two related jobs at once. If you're working on a page in a DTP program and you need to edit a graphic file that wasn't quite right, you would normally have to save the document, exit the DTP program, run the art package, edit the graphic, save the file and then reload your DTP program to finally import the file onto your page.

This can get rather tedious to say the least. With a multi-tasking operating system you can have both programs running at the same time and switch between them at any time, this saves time and effort. Alternatively, you can just have your main application running and load the secondary program from the Desktop when you need it.

Of course this is just an example. If you are using time intensive graphics applications

**MultiTOS certainly does let you run more than one program at a time, here we see an image being displayed by GEMview, a text file being edited by STeno as well as Diamond Edge running in the background.**

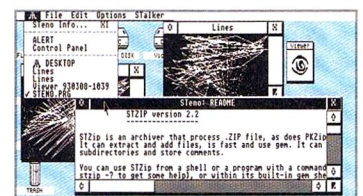


**■ If you have at least 2MBytes of RAM, you can run MultiTOS on your system. Just check that the software you want to use it with is compatible - for examples see top of page 39.**

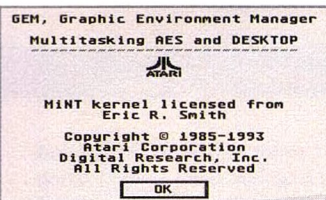
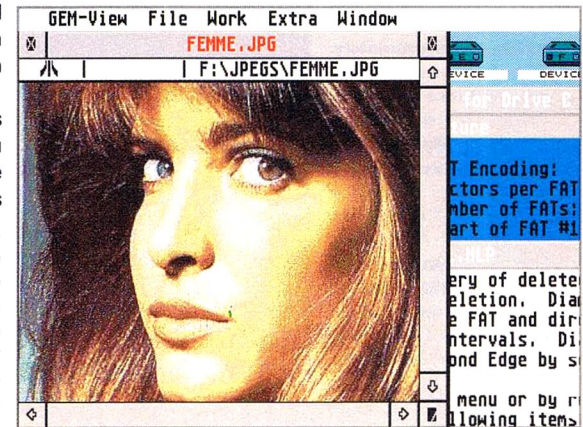
such as rendering or raytracing you can set up your next job while one picture is being generated.

If you're into programming, you can edit your graphics and sprites without leaving the main programming language, and test the new graphics immediately.

You can get on with word processing or editing messages and E-Mail while your modem downloads a file from a BBS, or you can calculate information in a spreadsheet and enter the data directly into a word processor



**■ Several things happening here on the Mega STE, four programs, two Desk Accessories and the Desktop are all available at any time.**



## Where did MultiTOS come from?

MultiTOS is based on a popular Public Domain multi-tasking program called MiNT (Mint is Not TOS) developed by Eric Smith while he was a graduate student at the University of Ontario. Since we first reported on MultiTOS in issue 34 of ST FORMAT, Eric Smith has found a full time job - he now works directly for Atari at their US headquarters in Sunnyvale,

California further developing MiNT for the new range of Atari machines.

The original version of MiNT could only run programs that used TOS alone, any software that made use of GEM was not compatible. The new version of MiNT (Mint is Now TOS), however, has been developed so that it is fully GEM compatible and has been renamed MultiTOS.

## Where do I get MultiTOS?

If you have an early Falcon supplied without MultiTOS, just send a photocopy of your receipt with your machine's serial number to Atari Customer Services, Atari UK, Atari House, Railway Terrace, Slough SL2 5BZ. They will send you your free copy of MultiTOS by return

of post. If you have an ST or TT and you want MultiTOS, get it from HiSoft for £29.95. They are the official UK distributor and have put together the proper manual (not the bits of paper we mentioned last month - they were Atari's) and packaging. Ring HiSoft on 0525 718181.



## Hardware limitations

To use MultiTOS on the Falcon you need the 4MByte of RAM/65MByte hard drive version of the machine since MultiTOS needs a minimum of 2MBytes of RAM.

If you want to use MultiTOS on a standard ST, STE or Mega ST then there are a few hardware limitations that you must take into

account. First you need a hard drive – MultiTOS takes up 2MBytes of disk space and cannot be run from a floppy disk.

It's advisable to have a 4MByte machine – MultiTOS runs with 2MBytes of memory but with that setup you are going to struggle to run more than one

application effectively. Finally, STs are slow. Normal STs run at a clock speed of 8MHz, MultiTOS is designed to run on Falcons at a clock speed of 16MHz or on TTs at a clock speed of 32MHz. Installing a hardware accelerator or running a software accelerator such as NVDI improves the performance

of MultiTOS, but it's still not very fast even when it's on the Falcon.

If you want to upgrade your ST to MultiTOS then contact Marpet Developments for STFM and STE 4MByte memory upgrades. The First Computer Centre have ST hard drives starting at £349.99 for 52MBytes.

without having to swap. You see, the possibilities are endless.

MultiTOS runs all correctly written TOS programs, that is, all programs that have been written to

conform with Atari's programming guidelines as laid out in the Developer Documentation for the ST range of machines. If software has been written using illegal routines or address calls then it is likely to crash under MultiTOS.

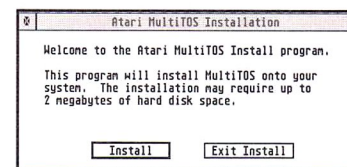
### Memory protection

MultiTOS is written to take advantage of a feature of the Motorola 68030 processor called Memory Protection. This feature is ideal for

■ If you really want to dispense with memory protection on your Falcon then turn it off in the MultiTOS CPX.

multi-tasking operating systems and enables several programs to run concurrently without interfering with each other, so if one program crashes the rest of the system continues to operate without any problems.

Machines with the older Motorola processors (68000, 68010 and 68020) do not have integral built-in memory protection – this means that if one program crashes then all the other ones running also crash. This is why using MultiTOS on an STFM or an STE is a bit of a gamble, it's bad enough losing one lot of data when a program

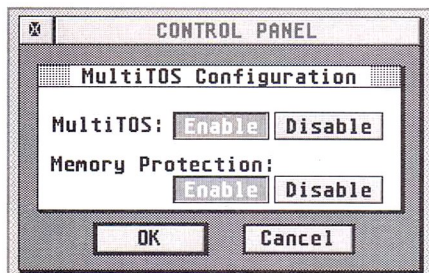


■ The installation looks exactly the same on a Falcon, albeit a bit more colourful. As you can see, at least 2MBytes of hard drive space is required for the MultiTOS files.

crashes, losing two lots of data or more is an even bigger disaster.

### Installing MultiTOS

If you are thinking of buying a Falcon with a hard drive, then MultiTOS should already be installed on the new machine. If, however, you have bought one of the earlier Falcons to come into the UK then you will have noticed a strange lack of MultiTOS on your machine. This is because the hardware was finished before all the software was ready, and rather than delay the launch of the Falcon any longer, Atari decided to supply the multi-tasking



## General MultiTOS related problems on the ST

The following problems occur on all STs which are running MultiTOS

1 The mouse pointer sticks in Busy Bee mode or disappears altogether when you close off applications.

2 Some software "sticks" as the open application. Although you can access the Desk menu to select another program or the Desktop, control is not passed to the selected software.

3 Occasionally, the windows from one program are not

overwritten by the program that is taking control – so you end up not actually seeing the top application's windows.

4 Most non-GEM programs tend to crash or cause unexpected errors, causing everything running to fall over.

## The multi-tasking tests

We tested MultiTOS on four different machines with these setups;

● Falcon030, 14MBytes RAM, 16MHz.

● Mega STE, 4MBytes RAM, 16MHz, running in medium resolution.

● STE, 4MBytes RAM, 8MHz, TOS 2.06 running in mono with NVDI installed.

● STE, 4MBytes RAM, 8MHz, TOS 2.06 running in mono with NVDI disabled.

And this is how they reacted to...

### Protext 4.3

Probably the most popular word processor around, Protext crashes instantly while running under MultiTOS on the Mega STE in colour and on the STE in mono. Protext locks up the Falcon as soon as it loads whether MultiTOS is running or not. So, this means that Protext is definitely not a MultiTOS compatible program – this was to be expected because the program bypasses GEM and creates its own interface.

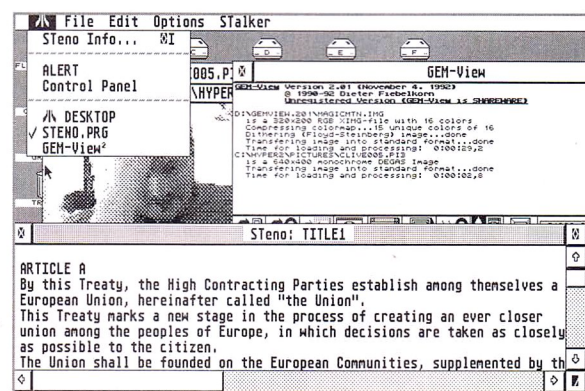
### STeno

STeno is a new text editor and is one of the first programs available that has been written using the Falcon030 Developer's Documentation from Atari – following the guidelines laid down for keyboard shortcuts and uses the Atari Clipboard.

As expected STeno works perfectly on all the machines running MultiTOS, although screen updates are slower than running the program from TOS. STeno is noticeably slow on the STE when NVDI is disabled, with text scrolling slowing right down to a crawl.

■ One of ST FORMAT's old favourites, Protext. Well unfortunately, this popular word processor doesn't like MultiTOS one little bit, and it refuses to cooperate. That's just another non-GEM program that doesn't work with MultiTOS.

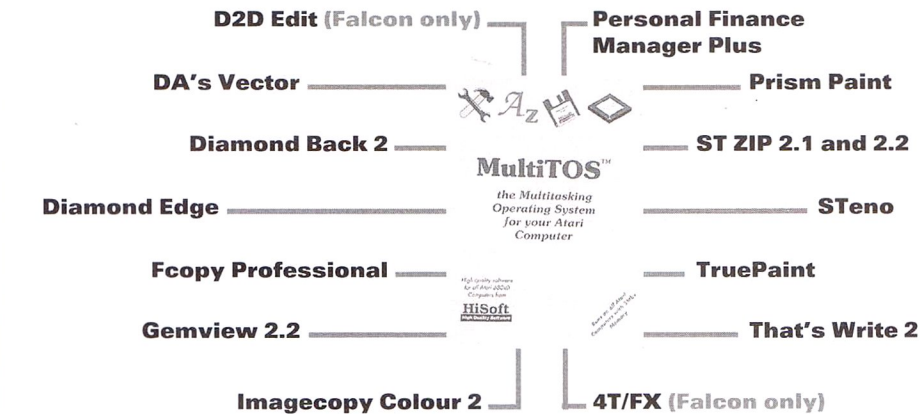
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channels and create great music. Samples are readily available from many PD Libraries.  
/ Heading / Plugging in  
I have an ATARI 520STFM and a musical keyboard which I have just bought recently. My wish is to connect the keyboard with my ST. The keyboard has both MIDI input and output sockets. My problem is that I do not know how to connect them and what software to use. Could you kindly send me a clear wiring diagram of how to connect my system including what leads to buy. I also want you to send any program names which I can use, possibly to be found in Public Domain Library. If possible don't choose very expensive programs exceeding £150 for I am only a student and surely cannot afford these sums.  
Stefan Saliba, Malta  
stf: There really is no need for a diagram here, Stefan. Simply purchase two standard MIDI cables from your local music store, these should cost around £5 each. Plug the first cable into you ST at the socket marked "OUT", plug the other end of the cable



■ Gemview and STeno running on a 4MByte STE – STeno becomes almost unusable while Gemview is loading a picture.

# WILL IT OR WON'T IT?

We tested a selection of popular programs to see which work with MultiTOS...



... and those which don't work either on the ST or on the Falcon

Cyber Sculpt	GFA Basic 3.5	LDW Power	Superbase	Tempus 2
Degas Elite	GFA Draft	Prodata	Personal	UVK 5.7
Family Roots	Home Accounts 2	Protex 4.3	Superbase	3D Calc
Fontkit Plus 3	HPChrome	Protex 5.5	Personal 2	
GFA Assembler	Knife ST	STOS	Supercard 2	

software at a later date. The Atari Falcon030 MultiTOS Distribution Disk supplied by Atari is simply that, a double-sided disk containing all the MultiTOS files.

To install MultiTOS you simply place the disk in the drive and run the installation program and follow the on-screen prompts. There's no manual for MultiTOS, there's just six A4 sheets of paper

providing the basic information to install, configure and use MultiTOS. This is called the MultiTOS Preliminary User's Guide, and it actually tells you everything you need to know about the operating system so that you can use it to the best effect. Unless you want to get into programming software for MultiTOS you don't actually need more in depth information. **stf**

## Programming for MultiTOS

If you want to develop your own software for the Falcon030 and MultiTOS, you need to get hold of the Atari Falcon030 Developer's Documentation. This consists of 120 pages that provide all the information you need to write MultiTOS aware

software, take advantage of the DSP 56001 processor and use the Falcon030 specific hardware.

The developer documentation costs £49.95 from Atari and is supplied complete with a DSP Assembler program, DSP Debugger and Linker software.

### Gemview 2

*Gemview 2* is an excellent Shareware graphics program that enables you to display 256 colour and true colour images on the Falcon, or on any ST with a colour graphics card. Because *Gemview* has been written to work with colour graphics cards, it follows the Atari programming guidelines very closely, which makes it fully compatible with the Falcon.

*Gemview* is also MultiTOS compatible. On the Falcon, the top application slows down and becomes almost unusable when *Gemview* is loading a JPEG image in the background – these are compressed and use a lot of processor time.

The Mega STE is fine when using *Gemview* although the top applications also run slowly. The STE is virtually disabled while *Gemview* loads data, both with and without NVDI – top applications just sit there while the processor decompresses the JPEG pictures.

### Diamond Edge 1.4

*Diamond Edge* is a hard drive maintenance utility that ensures that your data is kept in tip-top condition. Using the program under MultiTOS is no problem, although the main window has no sizer device to make it larger or smaller – but you can move the window to one side to get at Desktop icons or other windows underneath.

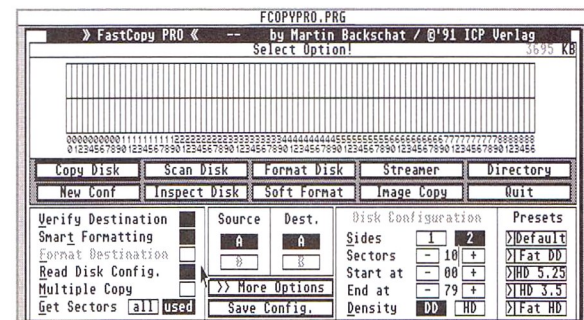
Even though *Diamond Edge* runs on all machines using MultiTOS, some windows are not cleared when switching to other programs – some of the *Edge* icons are visible in the *STeno* window when switching from the Desk menu. Because *Diamond Edge* is constantly accessing the hard drive it is not really recommended to perform any maintenance functions at the same time as another program is running. This can cause problems with data loss or corruption. Not recommended for multi-tasking purposes.

Drive	Total Bytes	Used Bytes	Free Bytes	%Free
0	26,241,024	25,348,896	892,128	3.4
1	26,241,024	24,872,192	1,368,832	5.2
2	26,241,024	18,765,824	7,475,200	28.4
3	26,238,976	18,888,832	7,350,144	28.3
<b>Grand Totals:</b>	<b>104,962,048</b>	<b>86,954,544</b>	<b>17,967,504</b>	<b>17.1</b>

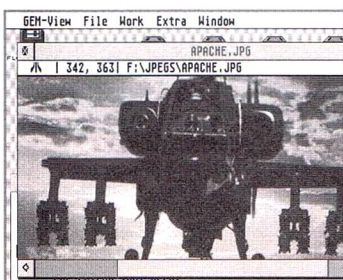
**Diamond Edge** is fine, but don't use it while running another hard drive accessing program.

### Fastcopy Professional

*Fastcopy Pro* is probably the best formatting and disk back-up program available for the Atari range of machines, capable of high density and PC compatible formats. Although the program loads and runs correctly on most machines using MultiTOS, the Desk menu or the Desktop can't be accessed, and you can't switch between applications at all. Luckily, *Fastcopy Pro* can also be used as a Desk Accessory, so it is always available from within other programs.



**Fastcopy Pro** works under MultiTOS, but it doesn't let you get at the menus or switch to other programs. So, it's not much good really.



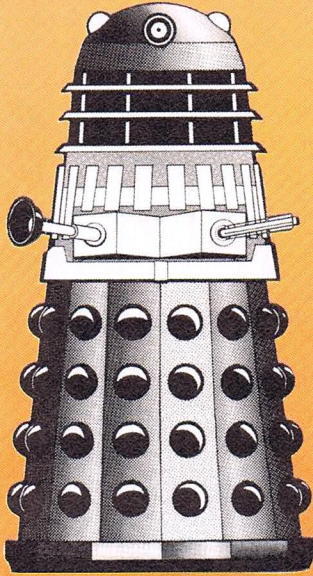
**Gemview** and **STeno** running on a 14MByte Falcon030 - **STeno** slows down when **Gemview** is loading a picture but is still just about usable.

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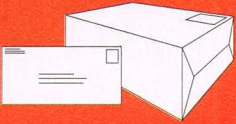
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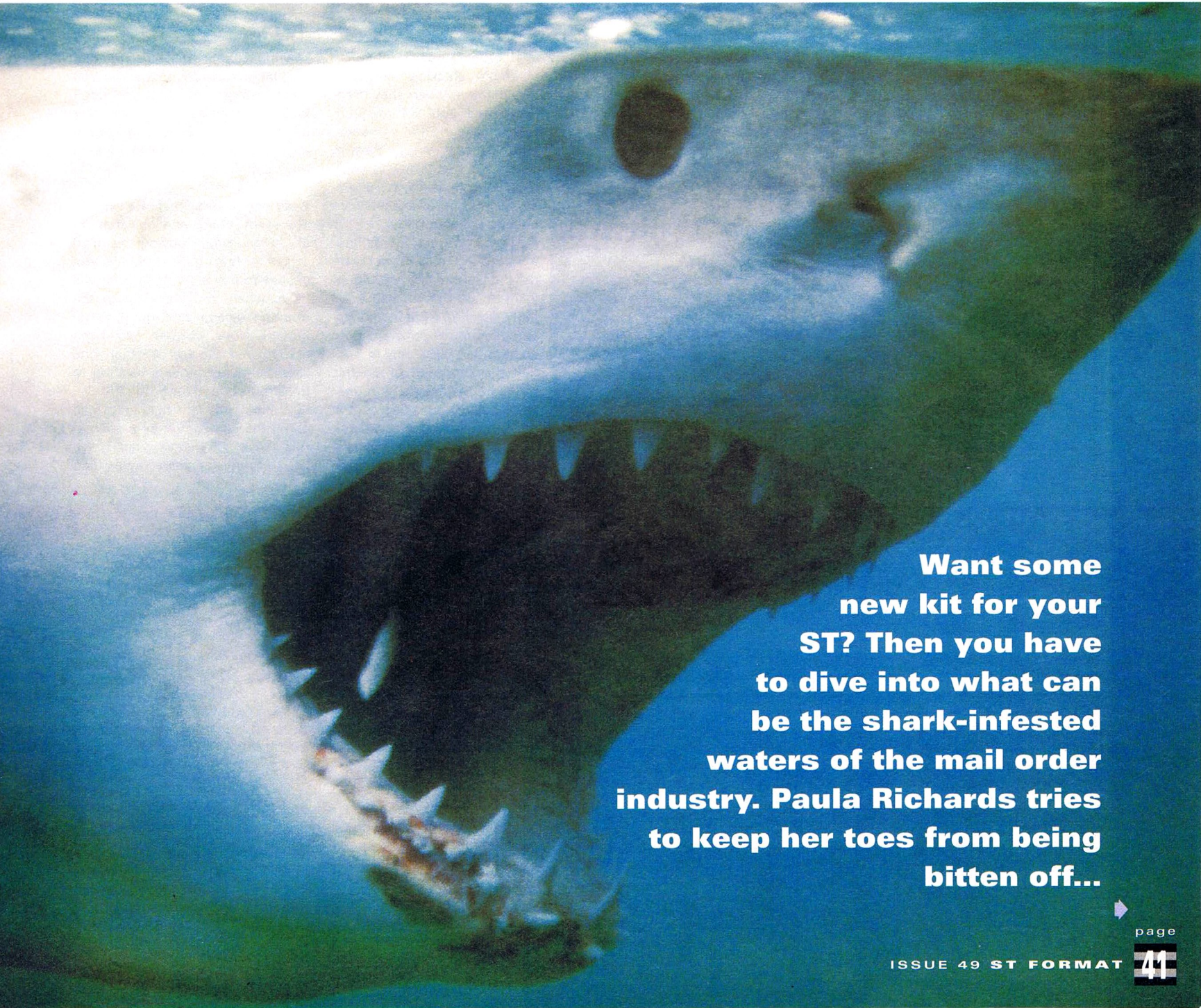
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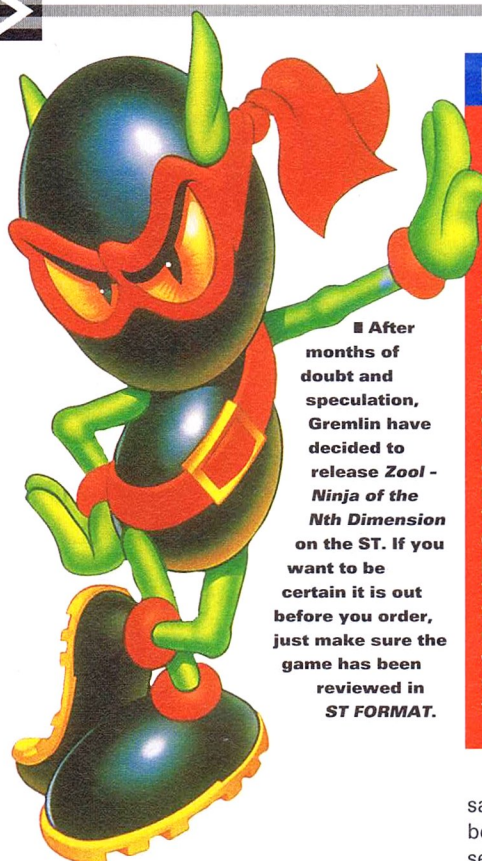
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# BEWARE OF SHARKS



**Want some new kit for your ST? Then you have to dive into what can be the shark-infested waters of the mail order industry. Paula Richards tries to keep her toes from being bitten off...**



■ After months of doubt and speculation, Gremlin have decided to release *Zool - Ninja of the Nth Dimension* on the ST. If you want to be certain it is out before you order, just make sure the game has been reviewed in *ST FORMAT*.

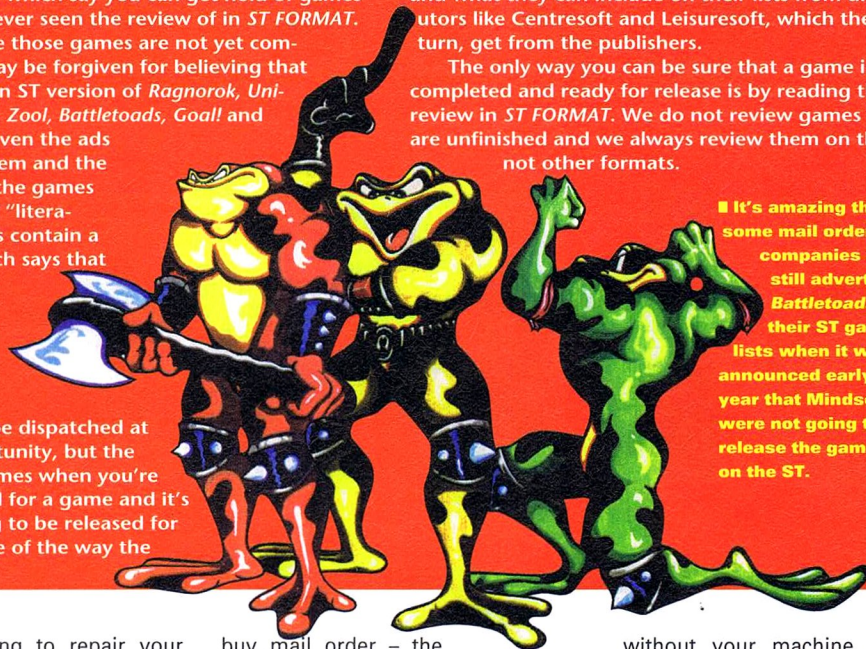
## But that game's not out yet!

Flick through any issue of this magazine and you see numerous ads which say you can get hold of games that you've never seen the review of in *ST FORMAT*. This is because those games are not yet completed. You may be forgiven for believing that you can hold an ST version of *Ragnorok*, *Universal Monsters*, *Zool*, *Battletoads*, *Goal!* and many others given the ads that include them and the coverage that the games get in other ST "literature." Most ads contain a disclaimer which says that not all the games are released at the time of going to press and that they will be dispatched at the first opportunity, but the real danger comes when you're waiting around for a game and it's not even going to be released for the ST. Because of the way the

system works mail order companies get their info and what they can include on their lists from distributors like Centresoft and Leisuresoft, which they, in turn, get from the publishers.

The only way you can be sure that a game is completed and ready for release is by reading the review in *ST FORMAT*. We do not review games that are unfinished and we always review them on the ST, not other formats.

■ It's amazing that some mail order companies are still advertising *Battletoads* in their ST games lists when it was announced early this year that Mindscape were not going to release the game on the ST.



say they're going to repair your beloved machine but somehow seem to make it function even worse than it did in the first place – and that's assuming you get it

buy mail order – the shops aren't stocking software packages in the numbers they used to. If you want your ST repaired you want to send it off to someone who knows what they're doing, not just take it to your local console dealer and come away crossing every conceivable part of your body.

The same goes for getting involved in the lively world of the Public Domain – you don't want to take months painstakingly deciding what incredible combination of software you want on ten disks only to find that the supposed proprietor of the library has gone to university, leaving his bedroom a mess of unopened orders.

Whether it's for convenience's sakes that you don't want to be

without your machine or that vital bit of software or whether you want to make sure that you don't let any disreputable dealer get their hands on your money, you need to take extreme care when you're buying mail order.

### Run off to the Caribbean

The main hazard and one that we all dread when buying by mail order is that the company you choose to buy something from will have, when you wake up in the morning, disappeared into nothingness – your cheque has been cashed and the last time anyone saw the owner he was heading to the airport bound for Barbados.

Find out all that you can about the company – as a general rule those companies which have been around for years rather than

**"As a general rule those companies which have been around for years are the ones to go for"**

back. It's a fact of life that to get ST software these days you have to

Buying by mail order can be a fraught business, but if you want any new software or hardware for your ST, it's one you're going to have to get involved in.

In these recession-hit times you have to be particularly aware of the less scrupulous companies who grab your money even if they don't have the software in stock; who advertise even if the game isn't ready – or, even worse, not even coming out on the ST; companies who go down after you've paid your money leaving you out of pocket and product but increasingly mistrusting; companies who

## GOOD WORKING PRACTICES

### GAMES COMPANIES

**Checklist:** phone to check available games; hidden surcharges (VAT, post and packing, telephone orders); delivery; when credit cards are debited; policy if you've ordered a game which is then not going to be released.

The main problem facing you is likely to be choosing games that are not yet released and then having to wait for months before actually getting anything for your money. Because of this some companies, like Rubyssoft, don't debit your credit card until the game has been dispatched. "We can confidently advertise games that are not released as long as we believe they are coming out," says Cliff Clark of Rubyssoft. He cites the case of *Lemmings 2*, a game that has been widely advertised since May 1992, but which wasn't actually finished until the end of May this

year – a whole 12 months later. Rubyssoft started taking orders for it last year and then sent out copies the same day as the game arrived in their offices. Sometimes publishers decide against releasing games that they'd previously said they would – *Universal Monsters* is a case in point. Rubyssoft included this in their listings. Anyone who has ordered this game and paid by cheque will be sent a standard letter – you can either have a full refund or alter your choice of software.

Uninvited commendation came from Alastair Waghorn of Dundee – "I wish to comment on Rubyssoft for whom I have nothing but praise. I contacted them after I had been badly let down by another mail order company in an effort to obtain *Street Fighter 2*. The girl I spoke to couldn't have been more helpful in supplying the game. She promised me delivery within two full days through the normal postage system but as I had previ-

ously been let down she offered to personally take the game to the post office and thus ensure delivery the next day. I did not take her up on her offer, however, true to her word the game arrived at my home two days after my phone call.

### REPAIR SERVICES

**Checklist:** Cost of quotation/diagnostic fee and other basic fees; procedure following changes of cost or if the machine is irreparable; written confirmation of cost and return date; guarantee following service.

Ring up the company and check what their procedure is. Most charge a quotation fee or a diagnostic fee. Make sure you get written confirmation of what the expected cost will be. Ladbroke Computing International, for example, charge £15 for a quotation, and, as



months are the ones to go for. If they can stay in business and afford to advertise they're probably doing something right – they've had experience in dealing with quite a few customers who have come back to them repeatedly having been satisfied with the service they've received.

If you can, persuade the company to tell you its annual turnover – that will give you an idea of how successful it is. Silica Systems, for example, are proud of their experience and they tell you everything you need to know in their advert: "established 14 years, £12 million turnover with 60 staff." Again, the larger a company's turnover, the less likely they are to go down taking your money with them.

### Following them to the Caribbean

Partly because of the recession and partly because supplying discount software and hardware is such a cut throat business with huge discounts offered – and consequently very low profit margins for the company – the worst does sometimes come to the worst and companies do go to the wall.

If you've paid for the goods you've ordered with a credit card this shouldn't affect you, but remember, you must be the main card holder – the card should relate to you personally, rather than to your business – and you must have spent at least £100. This is because credit card orders over this amount are protected by the Consumer Credit Act which protects you if the company fails to deliver your order. Some companies such as Rubysoft and European Computer User offer the additional benefit of not debiting your credit card

## The ST FORMAT guide to buying by mail order

- 1** **BE CURRENT.** Make sure you order from the latest issue of *ST FORMAT*.
- 2** **BE INQUISITIVE.** Check how stable the company is. Find out how long the company has been in business and what their annual turnover is. If possible try to make sure that the company you are ordering from has appeared in more than one issue of the magazine. Beware of companies apparently without an address or always on an answering machine.
- 3** **MAKE TELEPHONE CONTACT.** Before you send any money, phone the company to (a) check the company still exists, (b) confirm that what you want is still in stock (c) ascertain when the delivery is likely to be made and ask about sending back unwanted goods and the supplier's refund policy. If you insist on a delivery date which isn't met you can cancel your order and ask for your money back.
- 4** **KNOW WHAT YOU'RE GETTING.** Know exactly what you want when you make your order and don't be afraid to clarify anything you're unsure of – know what you're getting for your money. Find out whether you'll be paying for postage and packing and whether VAT is included. Find out what accessories are going to be included – a printer without a lead isn't much use, for example. If goods are faulty or wrongly described you are entitled to all or some of your money back. Find out about the length of guarantees on things you order.
- 5** **GET IT CONFIRMED.** Get written confirmation even if you order by phone. Ensure you get written quotes about the costs of potential repairs.
- 6** **CREDIT CARDS.** Pay by credit card if at all possible. If your order is over £100 your order will be covered by the Consumer Credit Card Act which says that credit companies are liable for unfulfilled orders

but it only applies to the main card holder and individuals – not business accounts. Some cards offer a 90 day guarantee which you may be able to make a claim on if the amount is under £100. Contact your credit card company to check. Switch and Connect cards do not offer legally enforced protection.

- 7** **OTHER METHODS.** If you can't pay by credit card send a crossed cheque or postal order. Retain cheque stubs. Never send cash in the post.
- 8** **RECORDED DELIVERY.** Send the order recorded delivery if the cheque is for a large amount. If you're sending expensive equipment through the post, say for repairs, always send it recorded delivery, and insist the company who repairs it returns it recorded delivery. Keep hold of all the coupons and certificates of posting.
- 9** **RETAIN ALL DOCUMENTATION.** Keep a copy of your order and note the date it was sent, keep a copy of the advert in case of problems.
- 10** **COMPLAIN CALMLY.** If you have any problems with your order, try and sort it out with the supplier first – but do it promptly. From there you can try talking to your local trading standards officer, (you can find the number in the phone book). If the advert is misleading, get in touch with the Advertising Standards Authority at Brook House, 2 – 16 Torrington Place, London WC1E 7HN. If the supplier has gone bankrupt or into liquidation, you should write to the company's receiver or the bankrupt person's administrator outlining your complaint. In these circumstances, Future Publishing may be able to help you if the company has been advertising in *ST FORMAT*. Address your letters to Liz Duffin, Advertising Complaints, Future Publishing, 30 Monmouth Street, Bath, Avon BA1 2BW.

until the order is dispatched. Conversely, however, companies have

to cash cheques as soon as they receive them – if there was a break-in into the company's premises for example, the money could end up in the wrong people's hands – and anyway cheques go out of date after six months.

When you're looking for software or hardware, scour the ads carefully and make sure you read all the small print – if you find anything you think is suspicious or dodgy, check it with the com-

pany. For example, if you are offered a quotation for the cost of repairing your machine instead of a fixed price you may well find yourself being stuck having to pay a lot more than you'd originally bargained for.

Shop around and find a company who'll give you a definite price. "Read the small print" has been said many times, and it really is essential that that's what you do. The comments on adverts in small writing are usually there to protect you and your interests. **stf**

**"Scour the ads carefully and make sure you read the small print"**

Carl Marchant explained, this is always accurate because they actually fix the machine first so that they know exactly what the problem with the machine is and how much it's going to cost, "discovering that the machine is going to cost more to repair than we state never happens." Customers are then told how much the job costs and most agree to have the job done. If you don't want it done at that cost, however, you pay your £15 and the machine is returned to its original condition – and then to you. You don't have to pay anything until you're happy with the repair – and all the repairs are covered by a three month guarantee.

### PUBLIC DOMAIN

**Checklist:** telephone prior to ordering; latest version of software; returns policy; after sales service.

Although buying PD software is comparatively cheap, you should still follow our general guidelines. It really is essential you telephone prior to ordering, especially if the library is a small one – it could be run intermittently from someone's bedroom.

Different Public Domain libraries charge different prices for exactly the same disks – also, make sure that you're getting the latest version of a program; the bigger libraries like Goodmans get most of their software direct from the programmers or from bulletin boards worldwide.

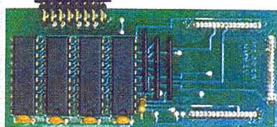
Bear in mind that PD libraries are supposed to be non-profit making. Examine catalogues carefully – the chances are that the better the library presents itself, the more professional it is in its dealings with its customers. Feel free to ask them if they release updates. Do they give refunds if they don't have the software in stock or provide you

with corrupted software or do you have to choose something else?

After sales service is very important – consider this uninvited commendation from Paul Johnston of Middlesborough: "I recently bought the four disk *Phaleon Giga Demo* from Caledonia PDL but before I had seen the whole demo I damaged Disk One beyond repair. I phoned them the next day to try and order just Disk One but was told not to worry about it, the disk would be posted straight away at no extra cost. The next day it arrived. The thing is that it was entirely my own fault that I damaged the disk without first backing it up and I was willing to pay for a replacement, but the service at Caledonia is such that they took it upon themselves to pay for my mistake. It is true that Caledonia don't claim to offer the cheapest disks available in PD libraries, but they have an after sales service that is hard to beat anywhere."

## 520ST PLUG-IN 1MB SOLDERLESS RAM UPGRADE

Allows easy upgrade to a total 1Mb RAM • Simple, fast and effective RAM upgrade path • Suits almost any 520ST model (not suitable for STE machines) • Requires no soldering or technical know-how



**Only  
£49.95**

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.

## NEW PHILIPS TV/MONITOR



With its dedicated monitor input, this model combines the advantages of a high quality 15" medium resolution colour monitor with the convenience of remote control Teletext TV - at an excellent low price! Features dark glass screen for improved contrast.

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Monitor Switch Box - switch between colour / mono monitors without the need for unplugging. *Great value!* ..... £13.95

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**FIRST WORD PLUS + TIMEWORKS DTP 2 ONLY £49.95**

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300dpi  
RESOLUTION



WE GUARANTEE that this is the smoothest, most responsive and accurate replacement mouse you can buy for your Atari ST. Excellent performance, with a 300dpi resolution. Amazing low price!

**£14.99** SATISFACTION GUARANTEED

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NEW LOWER PRICE! ..... £29.00

520 STE Discovery Extra Pack ..... £249.99

With 1Mb RAM fitted ..... £269.99 2Mb ..... £349.99 4Mb ..... £449.99

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With 2Mb RAM fitted ..... £389.99 4Mb ..... £489.99

Dust Covers - available for any ST ..... £4.95 for any MEGA ..... £9.95

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For STF/STFM/STE machines ..... £4.95

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Atari LYNX-2 inc. 'Batman Returns' and Power Supply ..... £89.99

LYNX Games while stocks last ..... £16.99

Star LC 20 Printer Successor to the LC 10, 4 fonts, 180/44cps ..... £129.99

Star LC 100 Entry level 9-pin colour, 4 fonts ..... £168.03

Star LC 24-100 24-pin, 5 fonts, 192/64cps ..... £196.23

Star LC 24-20 MkII 24-pin, 210cps high speed draft mode ..... £229.13

NEW! Hewlett-Packard Deskjet 510 ..... £327.83

Hewlett-Packard Deskjet 500C COLOUR ..... £445.33

Hewlett-Packard Deskjet 550C COLOUR ..... £645.08

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INCLUDES ITS OWN

EXTERNAL PLUG-IN PSU

Beware of other makes of drive that take

their power from the joystick port!

**Only  
£57.99**

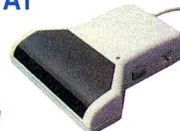
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THE RIGHT PRICE!

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At a genuine 400dpi scanning resolution, this new scanner produces truly superb quality scans. Has a full 105mm scanning width, variable brightness control and 100 / 200 / 300 / 400dpi resolution. Daatascan Professional scanning and editing software allows real-time scanning in either line art or in grey scales. Provides powerful editing features and excellent compatibility with most DTP and Paint Packages, eg. Deluxe Paint, Touch-Up.



**Only £99.99**

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Worcs WR11 6TD  
☎ 0386 - 765500  
fax : 0386 - 765354

5 Glisson Road  
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fax : 0223 - 322983

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Milton Keynes MK9 2HP  
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Repairs to disk drive and power supply also included (extra charge possible if found to need complete replacement)

Repairs to other Atari systems undertaken - phone for details

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Collection service available

**£49.95**

To take advantage of this exceptional offer, simply send or hand deliver your computer to our workshop complex, address details below, enclosing this advertisement voucher, payment, fault description, return address, along with your daytime and evening telephone number and we will do the rest.

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WTS Electronics Ltd Chaul End Lane Luton Bedfordshire LU4 8EZ Tel 0582 491949 (6 lines)  
STF8

(We reserve the right to reject machines which, in our opinion, are beyond repair. Normal charge applies)

# HJ100i INKJET

**Inkjet printers are taking over the world, or so it seems from here. Peter Crush babysits Brother's latest offering**

**T**here's no stopping them, is there? New inkjet models just keep on appearing! Until recently there have been three major varieties: the HP DeskJet range, the new Epson variety, and the Canon Bubblejet range.

Although HP were the first in the inkjet stakes, with Epson as a late entry, Canon caused quite a stir when they released their Bubblejet BJ-10 – it's tiny, portable and produces beautiful output. Clone versions of this 360 dpi machine soon appeared, including Brother's first effort, the HJ100. This has now been superseded by the HJ100i, and we've given it a once over.

The HJ100i doesn't look much different from the original Canon Bubblejet or other look-alikes, such as Star's StarJet SJ48. It's very compact – looking more like a small portable laptop computer than a printer – but

when you hinge up the lid, its printing abilities become apparent.

The multi-function control buttons are all on the top panel, a standard Centronics parallel port is on the right hand edge, and the power lead plugs in on the left from a separate power supply unit. If you want, you can run the printer from an optional NICAD powerpack which fits inside the little machine, freeing you from the constraint of needing a mains socket nearby.

When it comes to printing, character spacing and letter/draft quality can be selected via the switches on the top panel. Selection of the font you require has to be done through your software. This is no problem if you have a word processor like *Protext*, where fonts can be chosen from the style menu. With a "graphical" word processor like *Write On* or *That's Write* you're not



■ The HJ100i looks a bit like a Canon Bubblejet printer with a Brother logo printed on it – with its three emulation modes, it can suit most of your needs by becoming an IBM Proprinter or an Epson.

## Three-way personality

**The HJ100i is a deceptive little machine – it can impersonate three different types of printer...**

Under its cover is a set of DIP switches – by adjusting these your diminutive Brother printer can suddenly become either an IBM Proprinter, a Canon Bubblejet or an Epson 24-pin.

Proprinter mode has two fonts in the form of the Courier and Prestige Elite typefaces, and these are

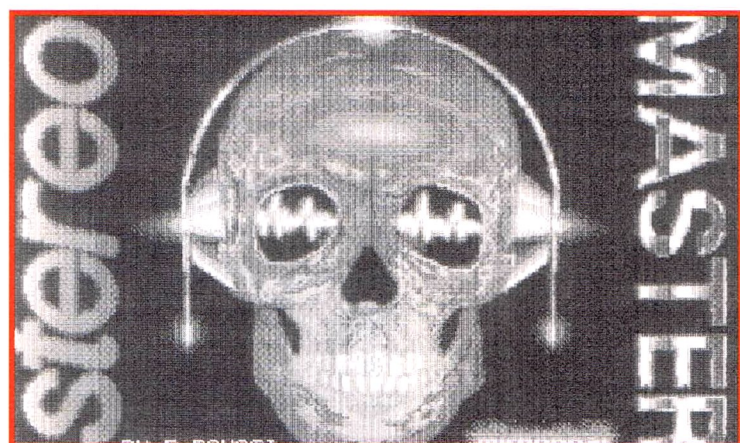
printable at 10, 12, and 17 characters per inch plus proportional spacing. Canon Mode has the Courier typeface only, in the same range of cpi spacing as the Proprinter mode, plus the neater looking proportional spacing. The Epson Mode has Roman, Sans Serif and Draft typefaces, at 10, 12, 15, 17 and 20 cpi, plus proportional spacing.

This versatility ensures that you can use your "serious" software with the HJ100i, since most programs ought to have drivers to match at least one of its three modes.

limited by the Brother's few typefaces, but can use the numerous fonts available with these programs. Likewise, if you are printing DTP documents from software like *Timeworks* or *PageStream*, any text is created as a bit image and bypasses the printer's font limitations. Printing speed is not that fast, but the output quality is excellent.

### Verdict

With plenty of competition, the HJ100i inkjet needs extra features to set it apart. It supplies them in the shape of its three printer emulation modes, its ease of operation and the fact it's available in the shops for well under £200 – and that's less than the other inkjet clones. It has most acceptable print quality, it is remarkably quiet and is extremely easy to use. Recommended. **stf**



■ The text output (right) is terrific, but then all Bubblejet clones produce text that's deep and crisp and even. The skeletal chap above is an example of the printer's graphic capabilities – it lacks the banding exhibited by some inkjet printers.

so with the Amiga version ScanPaint ate the easy scanning and manipulating images can be saved as either PC or Mac files. These can be imported into many DTP professional looking documents. The scanning software enables you to brighten, enlarge, reduce, mosaic or crop them to disk or importing them into a document created with all the software menti

## HJ100 inkjet

£345, Brother  
☎ 061 330 6531

### Highs

- Good print quality.
- Easy to use.
- Cheap to buy.
- Dead quiet.

### Lows

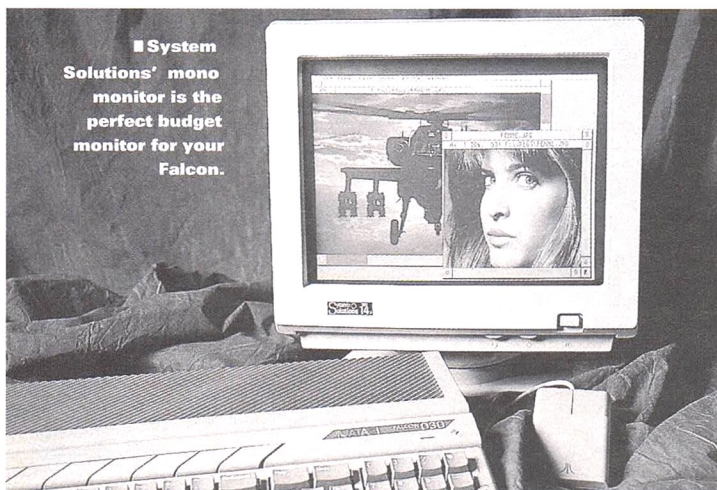
- Only a limited number of built-in fonts.

### What else?

- Canon BJ-10ex, £199, We Serve, ☎ 0705 647000.
- Star SJ-48, £199, We Serve, ☎ 0705 647000.
- Portable DeskJet, £528, Hewlett Packard, ☎ 0344 369369.

STANDARD RATING  
89%

# SVGA MONO MONITOR



So you've lashed out £1,000 on a new Falcon, but you realise you can't afford to get a colour VGA monitor to go with it. You can use your old Atari colour monitor to get 640 x 400 pixels in true colour, but you have to use the interlace mode and the flickering that this causes can be a bit of a strain on your eyes to say the least. What can you do?

Well, an excellent compromise is a VGA mono monitor. While you are going to lose out on the true colour modes of the Falcon, a mono

monitor is a perfect choice for the music and direct to hard drive recording software that is now available. You don't actually need colour to use 4T/FX, D2D Edit or Cubase Audio.

## What's it like?

As always, System Solutions have been quick to see a gap in the market and have a reasonably priced, high specification FST SVGA 14 inch mono monitor available just begging to be linked to your Falcon. It has the familiar looking flat screen that many of the replacement ST mono monitors

have, with just brightness and contrast controls on the front panel. The back panel is also sparsely populated, with recessed vertical size, horizontal position controls and a focus control to sharpen the image. The rear panel controls can only be adjusted with a flat bladed screwdriver, there really should be no need to adjust these controls because System Solutions check each monitor thoroughly before it is dispatched to a customer. The monitor is mounted on a sturdy tilt and swivel base.

To connect the monitor to your Falcon you need to have the Atari VGA adaptor, if you don't already have one, it costs £9.95 from Atari UK - it would be sensible for Atari to bundle all three monitor adaptors with the Falcon as standard. The monitor connects to the VGA adaptor which is plugged into the monitor port. Once connected you can power up the monitor and the Falcon.

The picture on-screen is incredibly sharp, with excellent contrast between lighter and darker shades. If you have previously used an Atari mono monitor with an ST or TT, you'll be instantly at home with this monitor. Obviously, the lack of colour precludes much art and graphics use but the look of picture files on-screen

is very good. Programs like Calamus 5 and 4T/FX are instantly usable and the lack of colour makes no difference at all. The monitor is very easy on the eye as there is very little glare or reflected light. Once again, System Solutions have come up with a superb product perfect for the Falcon.

CLIVE PARKER

## SVGA mono monitor

£149.95 System Solutions  
☎ 0753 832212  
Falcon030 only

### Highs

- Excellent contrast, flat screen, just plug in and go, perfect for music or DTP applications.

### Lows

- Lack of colour makes it a stop-gap solution, no speakers for sound output, not suitable for graphics programs.

### What else?

- Nothing specifically for the Falcon although any PC supplier can provide a mono VGA monitor.

ST FORMAT  
86  
RATING

# ICD PROFESSIONAL UTILITIES

If you have a hard drive then it's highly likely that you have an ICD interface of some kind lurking within the case linking your ST to the SCSI drive. One of the advantages of the ICD interface has always been the high quality of the utility software supplied with it, it is undoubtedly the best set of hard drive utilities available for your ST.

Until now, the ICD utilities have only worked with hard drives with a built-in ICD host adaptor, the new professional version now works with all SCSI hard drives that have been booted using ICD Boot Pro. This means that you can use this excellent set of utilities if you have a Mega STE, a TT or a Falcon030.

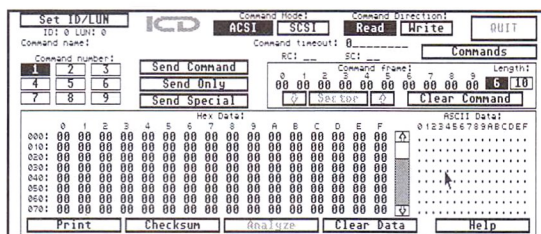
## What you get

The basic utilities comprise of version 6.0.8 of the software supplied with all ICD SCSI host adaptors including the Link, the hard disk maintenance program, ICD Cleanup, and a new program which enables SCSI drives to be extensively tested and edited.

Also supplied are the Atari MetaDos CD-ROM drivers and ICD's

CD-ROM drivers enabling all SCSI CD-ROM drives to be connected to any ST with a SCSI interface. This means that there is now no major SCSI storage device that cannot be used with your ST. The rest of the software consists of the standard ICD hard drive utilities, including a "quick and dirty" installation program, Accessory and CPX utilities, an eject program for Mac flopticals, the HDUtils program, the ICD Pro booter, an ID checker, a disk speed checker and a program to search your hard drive for specific files.

The software is, without doubt, the best set of hard drive utilities you could wish to find for your ST. If you're at all familiar with ICD software you will be able to use all of the programs immediately. The ICD Formatter, along with all the other utilities, checks the SCSI bus and identifies the specific drive ID, if you have more than one drive connected you select the one you wish to work



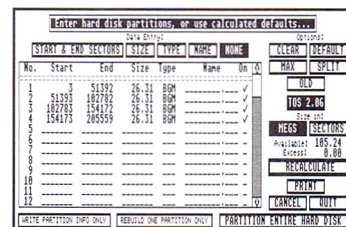
■ A major addition to the ICD utilities is the SCSI tester and editor. Apart from acting as a disk editor, hard drive commands can be transmitted to any device.

with. It's all so simple, everything is provided to service and maintain your hard drive.

## Verdict

All the utilities have simple point and click options in each program. Replacing the Atari system software on a Mega STE with these utilities creates no problems - replacing the Falcon software, however, is not quite so simple - as soon as any of the other utilities tries to access the SCSI or the IDE bus then the Falcon has a tendency to lock up. This problem has been rectified in the newly updated version, so make sure you don't get the early version. Apart from that, the ICD Professional utilities certainly live up to their name.

CLIVE PARKER



■ Formatting or partitioning your drive is risky, but the ICD Formatter makes it painless by calculating everything for you. Remember you can wipe data from a disk just by selecting the wrong option.

## ICD Pro utilities

£39.99 Ladbroke  
Computing International  
☎ 0772 203166  
All STs, TT and Falcon030  
Hard drive required

### Highs

- Easy to use, top class software, works with any hard drive.

### Lows

- Easy to trash your hard drive if you are not sure of what you are doing.

### What else?

- Diamond Edge £49.95 from HiSoft  
☎ 0525 718181

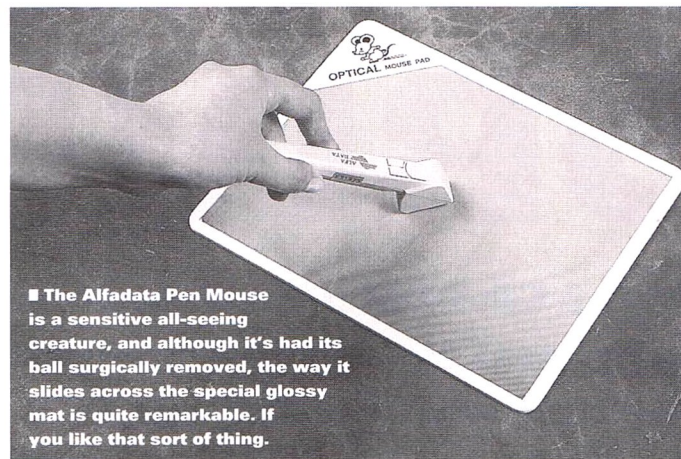
ST FORMAT  
85  
RATING

# RODENTS GALORE

**There is likely to come a time when you need more control over your mouse. Take your pick**

Using your ST's mouse for drawing can be like wearing boxing gloves when you're trying to type. Clumsiness could now be a hassle of the past with

the pen mouse. Created along the principles of the original tools, pen mice combine the comfort and control of real pens alongside the technology of the computer mouse.



■ The Alfadata Pen Mouse is a sensitive all-seeing creature, and although it's had its ball surgically removed, the way it slides across the special glossy mat is quite remarkable. If you like that sort of thing.

## OPTICAL PEN MOUSE

This is an upmarket creature being slimmer and more compact than the Bio-Con Pen Mouse discussed just below, although the lead which connects it to the ST's mouse port is the same six feet long.

Because the optical pen mouse is lighter and smaller than that one, it is much easier to manipulate. Although it looks pretty much like a normal pen mouse when you first look at it, on its underside, instead of having a ball, a little lamp shines down under the

mouse onto a special mat provided, and optical sensors situated underneath pick up any movement made from reflections off the mat.

The mouse mat that you get with the mouse is treated with a fine black and white printed pattern which looks a bit like a miniature wire mesh, and unlike the usual soft foam finish, this mat is hard and smooth with a high gloss surface. The special optical pen mat is very neat and takes up a bit less room than a typical soft mouse mat.

### Verdict

This mouse is a very smooth operator indeed. Sliding the mouse about on its glossy mat feels pleasing; it positively glides over the shiny surface, and you don't have to press very hard. You can easily manage accurate control of the on-screen pointer, and you soon forget that you are holding anything, or that it's attached to your ST. Even though this pen is pretty expensive, it's the sort of tool any self-respecting ST artist should have.

PETER CRUSH

### Optical pen mouse

£35.95 Gasteiner  
☎081 365 1151

#### Highs

■ Incredibly smooth and comfortable in use. Comes with a special mouse mat.

#### Lows

■ Expensive.  
**What else?**  
■ Just the Bio-Con mouse below.

STEERING  
81%  
STEERING

## BIO-CON PEN MOUSE

Shaped like an extremely chunky pen, the Bio-Con mouse from Ladbroke Computing is moulded and styled to make it reasonably comfortable and nat-

ural to manipulate – similar to the way in which you would hold a real pen or a brush.

At the end where you would expect the nib to be, this pen mouse

has a plastic ball, in appearance it looks rather like a giant roller-ball pen, or a smaller version of a standard mouse's ball. When this ball contacts your mouse mat and the Pen Mouse is moved about, the on-screen mouse pointer is activated, so you can "write" with the pen and the pointer duplicates your actions on the monitor. Ordinary ST mice have two big buttons but this mouse has three smaller buttons, mounted so that you can operate them with your finger. Only two of them actually do anything, as ST mice only need two buttons. The whole thing works smoothly, even though it looks awkward and needs more contortions from your fingers. You can do all the usual mouse functions, like double-clicking, dragging files about on-screen and marking blocks of text in a word processing program.

### Verdict

The pen mouse falls down somewhat in its design and shape. It's a touch too large, and the angle it makes with

the desk is too upright, making it rather awkward to use for long periods. Its increases the leverage effect of the cable, which tends to pull the device backwards even though you need to keep it fairly upright for the roller-ball to work properly. If, however, you position your mouse mat in front of the ST keyboard, rather than to the right, the mouse becomes much easier to use.

PETER CRUSH

### Bio-Con Pen Mouse

£24.99 Ladbroke  
☎ 0772 203166

#### Highs

■ Rolls smoothly  
■ Handy for occasional artwork.

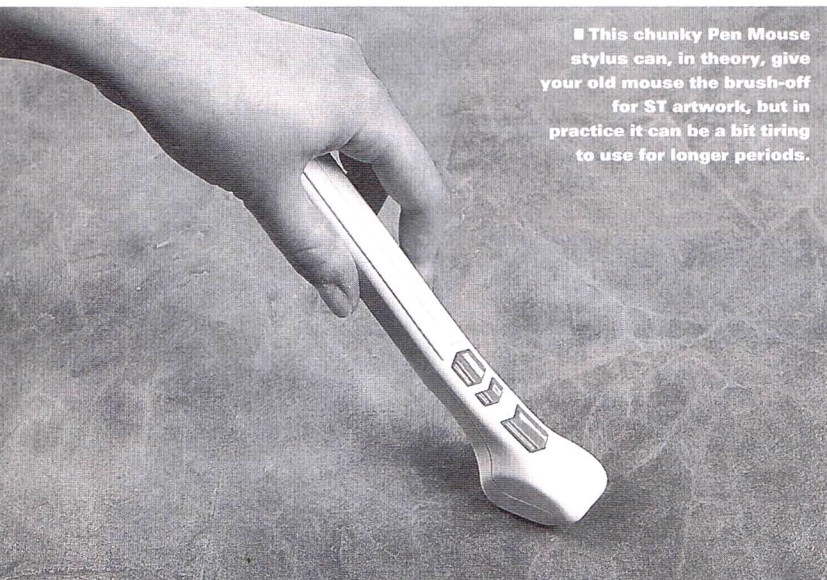
#### Lows

■ Uncomfortable to hold.

#### What else?

■ Just the optical mouse above.

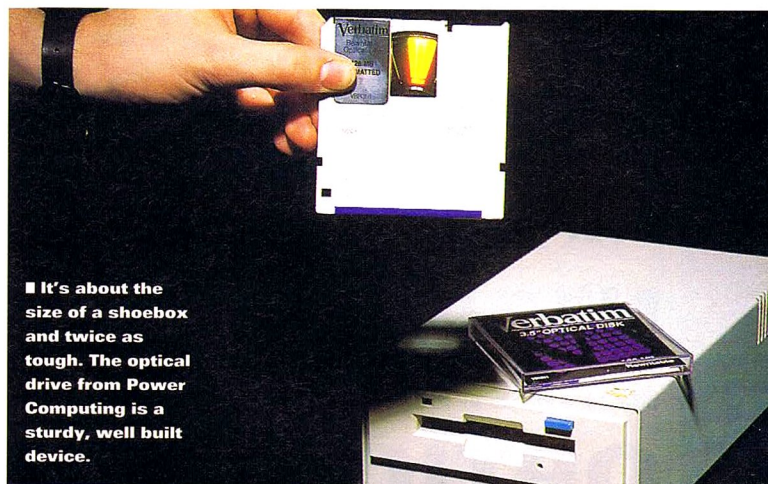
STEERING  
70%  
STEERING



■ This chunky Pen Mouse stylus can, in theory, give your old mouse the brush-off for ST artwork, but in practice it can be a bit tiring to use for longer periods.

# OPTICAL DRIVE

**What, a CD-ROM with delusions of floppyness? No, it's just an optical drive that works with your ST. Clive Parker takes it to pieces and ends up with a few bits left over...**



■ It's about the size of a shoebox and twice as tough. The optical drive from Power Computing is a sturdy, well built device.

It's incredible how quickly you can fill up your hard drive these days, isn't it? What with desktop publishing programs like *Calamus* and graphics packages like *DA's Vector* you find yourself having to decide which applications to archive and which ones to remove from your drive. The worst is, you're bound to find that as soon as you remove or delete a file, you need it.

So, what's the answer? Well, you could always buy another, larger, hard drive. This used to be the only course to take but now there are a couple of other alternatives available. The 21MByte floptical drive reviewed last month is one option you could try, alternatively you could get yourself a magneto-optical disk drive.

## A magneto-opto what?

A magneto-optical disk drive is a special type of SCSI optical drive which is a cross between a CD-ROM drive and a normal hard drive – the main difference being it uses removable optical disks capable of storing up to 128MBytes of information.

One of the pitfalls of CD-ROMs is that your ST can't save data to the laser discs because the drive is limited to Read Only mode. A magneto-optical drive connected to your ST, however, is just the same as a hard drive – data is written to or erased from the disk by normal file operations. The disk itself is almost exactly the same size as a normal 3.5 inch floppy disk apart from being twice as thick – a bit like stacking two floppies on top of each other.

## What's it like?

Power's magneto-optical drive is supplied either as a standalone unit with 25-way D and 50 Centronics sockets, or as a bare drive which can be

mounted in a tower case. The drive itself uses an IBM mechanism with standard SCSI connections mounted in a sturdy steel case. The case contains the drive, power supply and fan and is reasonably quiet when in use. In fact, you can't hear the drive being accessed at all, just the cooling fan.

The only controls on the drive are the disk eject button, SCSI ID

optical drive your ST doesn't recognise that the drive's there. All you need to do to get around this is use the ICD format software and your ST immediately identifies the drive and the optical disk without any problems. One point to note, the optical drive must always have a disk in it when booting the system, otherwise the partitions are not initialised.

## The final verdict

If you are using a hard drive with a SCSI through port with your ST then you should have no problems connecting up the optical drive, you just need to get a SCSI to SCSI lead – Power Computing supply suitable leads if required. Sadly though, this method of storing data is not going to be available for the Falcon until Atari upgrade their HD utilities to cope with this type of drive.

Optical drives are slower than hard drives, the average data transfer rate is 500K per second, about a third of the speed you get on modern drives, and the average access rate is 46ms, again about a third of the speed of a hard drive.

The initial cost of getting the external drive is high, and you have to add the price of an AdSCSI host

adaptor to the price, it's no good getting the ICD Link because they just don't work together.

Extra disks are only £35 each for a further 128MBytes of storage capacity – once you have three optical disks, for example, you'll have spent around £1,170 and have 392MBytes of storage space. Adding another 120MBytes costs just £35 for an optical disk instead of £400 for an additional hard drive.

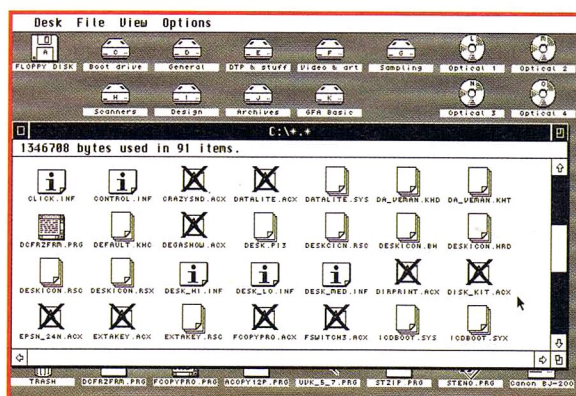
If you're desperate for more storage space and are likely to be needing more and more in the future, the magneto-optical drive could be just what you're looking for, that is if you're prepared to make the hefty initial investment. **stf**

**"Once you have three optical disks you'll have spent £1,170 and have 392MBytes of storage space"**

switch and the power switch underneath. Neat and tidy.

To get it working with your ST just use an ICD AdSCSI host adaptor and connect the drive to the external SCSI port of your ST and boot up the system. This is when you come up against a bit of a problem. As soon as you try installing the Desktop drive icons so that your ST can read the

■ Once you've partitioned the disk in your optical drive it divides up into four 32MByte sections represented here by CD icons. This adds up to your full 128MByte capacity.



## Optical drive

Power optical drive  
£999 external drive, £729  
internal drive,  
one disk included  
Power Computing  
☎ 0234 843388  
ICD host adaptor required

### Highs

- Quiet, reasonably fast and efficient.
- As easy to use as a standard hard drive.
- Extra 128MByte optical disks just cost £35 each.

### Lows

- Initially very expensive.
- Doesn't work with the Falcon.
- Doesn't work with ICD Link.

### What else?

- Floptical 21MByte drive with ICD Link, £399, Ladbroke Computing International, ☎ 0772 203166.

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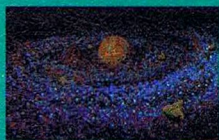


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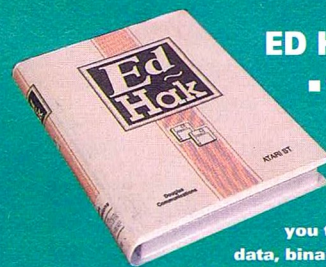
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## Atari Workstation /Expansion System

Monitor stand with shelf for drives etc. Strong metal construction made from 14SWG steel epoxy coated. No Cables or mouse are included.

Special price **£27.50**

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Advanced 9pin printer, (Swift 9 replacement). \*optional colour. Price with cable & paper

90 Mono **£145**  
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Advanced 24pin printer, (Swift 24E replacement). \*optional colour. Price with cable & paper

240 Mono **£245**  
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with cable Mono  
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## Special Offer

### Philips CM8833 MK2

14" Stereo Colour Mon. 240V UK. 0.42mm. Medium Res.

**£189** **£177**  
with cable without cable

New monitors with damaged boxes very limited stocks

### Panasonic KXP1123

Probably the best 24pin mono printer available. With cable & paper **£169**

### Panasonic/Epson

KXP1170 9pin ..... 134  
KXP1124i 24pin ..... 215  
KXP2180 9pin Colour .... 189  
KXP2123 24pin Colour... 229  
Epson LX400 9pin ..... 119  
Epson LQ100 24pin ..... 189  
Epson LQ570 24pin ..... 265  
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Prices include VAT cable & paper

### Happy Mouse

for Atari ST & Amiga **£14.90**

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for Atari ST & Amiga **£13.90**

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**1/2M Simm**  
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HP 300dpi Inkjet printer. Laser quality at dot matrix price.

3 year warranty. **£319**  
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300dpi colour inkjet printer. Colour laser quality at 1/10 of the cost.

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most types in stock from **£4.70**

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(We stock 200 types of ribbons)

### Printer Packs

All printers are supplied with a printer pack consisting of printer paper and a connection cable. **Free of charge**

A stand is £5.00 extra (with a printer)

### Canon BJ-200

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with cable & paper

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360dpi Inkjet printer with cable & paper **£199**  
BJ10 Auto Sheet Feeder **£52**

### Star SJ-48

360dpi Inkjet printer with cable & paper **£199**

### Star LC100

9pin colour with cable & paper **£149**

## Star

LC20 Mono 9pin ..... 123  
LC200 Colour 9pin ..... 179  
LC2420 Mono 24pin ..... 185  
LC24100 Mono 24pin .... 175  
LC24200 Colour 24pin ... 249  
Prices include VAT cable & paper

### True Mouse

for Atari ST & Amiga **£14.90**

## Falcon

16MHz 32bit CPU, 1.44M floppy, 1-14Mram, 8 channel sound

1Mram No HD **£550**  
4Mram 65Mhd **£899**

## Floppy Drives

### Cumana CSA354

1M external floppy. High quality build. The most reliable drive you can buy. 84 tracks. STF rating 90%

**£65** While stocks last

### Internal 1M Drive

**£47.00**

### ViewTek VT12

12" Mono monitor for ST/Falcon **£65**

## NEW Monitor

### Tatung Hi-Res Mono

14" Hi-Res Mono Monitor with cable **£129**

### Stereo Speakers

SB-30 Low Cost ..... £9.90  
Zydec ZY-FI ..... £33.50  
These speakers are suitable for use with any ST & monitor without Stereo sound

### Philips CM8833 MK2

14" Stereo Colour Mon. 240V UK. 0.42mm. Medium Res. + game

**£215** **£211**  
with cable without cable

## Special Offers

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TimeWorks Publisher 2 ..... 54.00  
HyperDraw by Atari ..... 9.90  
Music Maker ..... 9.90  
Organiser by Triangle Pubs .... 9.90  
FlexiDump 9pin Mono ..... 13.90  
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Protect V4.3 ..... 49.00  
Borodino game ..... 4.00  
All items subject to availability

### Accessories

Joystick/Mouse twin extension 4.70  
4 Player adaptor lead ..... 5.88  
Atari ST Printer cable ..... 6.99  
Atari ST to ST serial lead ..... 10.95  
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Mouse Mat (thick soft type) .. 4.95  
Mouse House ..... 2.95

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FAMILY CURRICULUM PACK

1040STE 1M ram ..... £269  
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While stocks last **£12**

## Excellent Offer

### Discovery Xtra Pack

1ST Basic, NEOchrome, ST Tour, + 4 GAMES: Sim City, 9 Lives, Final Fight, Robot Monsters

While stocks last **£10**

## Special Offers

1st Word Plus **£34**  
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Both of above **£79**

### Atari 520STFM

0.5M Ram 1M Disk (FM only model) **£149**

## Atari STE's

with START PACK software from **£219**

520STE 512k ram ..... £219  
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520STE 2M ram ..... £269  
520STE 4M ram ..... £329

Above ST's are supplied with START PACK Software:  
1stWord, NEOchrome, Ani ST, + 4 GAMES: Missile Command, Crystal Castles, Battlezone & Super Breakout.

## SONY DISKETTES

**SONY branded**  
(lifetime warranty)

(100% certified error free)

10x 3.5" DS/DD 135tpi ..... 7.50  
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1kx 3.5" DS/DD 135tpi ..... 379.53  
40 x 3.5" Disk box with lock..... 5.49  
100 x 3.5" Disk box with lock.... 7.50  
Carriage on 50+ disks £3.53

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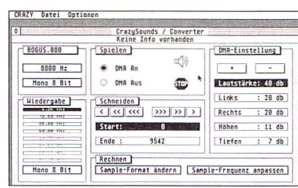
# CRAZY SOUNDS

Windows open with a swoosh, deleting files results in a burst of phaser fire and alert boxes scream "ne nene nene" at you in mocking tones. Welcome to life with your ST running a brilliant new program from Germany.

*Crazy Sounds* is a fun Auto program and Desk Accessory combination that assigns sampled sounds to the various GEM functions of your machine. Different sounds can be assigned to individual keys, programs and most GEM events. You can even assign sound samples to play when a particular string of text appears in an alert box, window or in a program.

## It sure is crazy

To use the program you need at least 1MByte of memory and TOS 1.4 or



stereo, and STes can adjust the DMA volume, balance, bass and treble levels. As a bonus, the *Crazy Sounds* converter has sampling software built-in.

above, the program does not work with older TOS versions. Sampled sounds are stored in memory.

Setting up is a doddle. You copy the CRAZYSND.PRG to the Auto folder of your boot disk with the CRAZYSND.INF file and copy the samples you wish to use to a folder in the root directory called, er, Samples. If you are using a hard drive, copy all the samples to drive C, there are over

**You can convert all the samples that you've created with your own sampler to the *Crazy Sounds* HSN format with the *Crazy Sounds* converter program. You can convert samples between signed and unsigned, you can re-sample them to new frequencies, lengthen or shorten them, convert them between 16 and 8-bit, mono and**

100 on three double-sided disks. Finally, copy CRAZYSND.ACC or CSNDMINI.ACC to the root of your boot disk. The main Accessory is used to set up the program parameters while the mini Accessory can be used if you are short of memory to toggle *Crazy Sounds* on and off.

## It's completely teapot

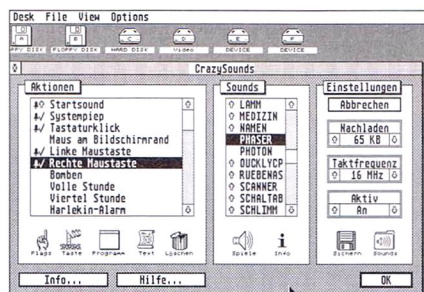
To assign a sound to a function, call the *Crazy Sound* DA and scroll through the various functions in the left window, click on one to choose it. Now you can scroll through the sounds in the middle window until you find the one you want to use – select it and click on the speaker to hear what it sounds like. If you like it save the setup to the INF file in the Auto folder. And that's it.

*Crazy Sounds* is not a serious program and is not intended as such,

it's a fun program that brightens up your ST by giving it a touch of character. Don't play it too loud though, you can get sick of the constant Star Trek battles taking place on the Desktop. We never thought that using GEM could be this much fun.

CLIVE PARKER

**German menus, huh? Well, don't worry. It doesn't matter because *Crazy Sounds* is simple to use. The large box on the left defines the actions that the sound sample is assigned to, the centre window displays the samples available and the window on the right enables you to set up the program parameters.**



## Crazy Sounds

79DM (send International Money Orders)  
Maxon Computer  
☎ 010 49 6196 481811.  
Maxon Computer GmbH,  
Industriestr. 26, W-6236  
Eschborn, Germany.  
All STs with TOS 1.4 and above, 1MByte RAM recommended

### Highs

■ Works on most machines, fun, uses Falcon's built-in hardware to create samples.

### Lows

■ Needs 1MByte of RAM, hard drive recommended, samples take up memory.

ST FORMAT  
78  
RATING

# JOHN THE COMPOSER

**With a little help from your friend... *John* - happy to create music that you can then claim as your very own.**



**What do you need if you want to write songs? Talent – not necessarily; music theory – you can do without; your ST – essential.**

If you've always fancied yourself as a bit of a composer but can't be bothered to do the hard work, why not let your ST do it all for you? *John the Composer* takes on the job of improvising music that you can then claim as your own... with as much of your own input as you want.

*John* is basically a music-type slave – you can decide how much musical freedom you give him by composing in one of three modes. The easiest mode – the one that requires least effort – is when you ask

*John* to play new compositions continuously. These tunes can get quite tedious as *John* goes through a load of chord progressions, bass lines, drum patterns and melodies reminiscent of merry-go-round tunes.

You can produce better sounding and more personal compositions if you help the program along a bit. Enter and edit the parameters for the song structure, chord selection and progression, the bass line, drums and melody and *John* works within

**This is *John's* nerve centre – all parameters are changed via drop-down menus or by using the edit bar.**

them to produce a tune which starts to sound promising. Just spot the bits you don't like, change the parameters accordingly until you're happy with the whole song. And there you go – you've just written a song.

Once you get used to the editing system and the parameters, you quickly realise that *John* can teach you a lot about writing structured pieces and improvisation. To get the best results you must use it with a full MIDI setup. If you don't have one, however, you can use your monitor or the audio stereo outputs if you have an STE, but, be warned, it doesn't sound very convincing.

## Verdict

If you're interested in creating music without all the hassle or if you want to learn about the art of improvisa-

tion, *John the Composer* could be just the type of help you're looking for.

DAVID ROBERTS

## John the Composer

£45 Newtronic  
☎ 081 6911087  
1MByte required  
Medium and high res only

### Highs

■ Professionally put together.  
■ Changing the parameters and listening to the results is a very educational process.

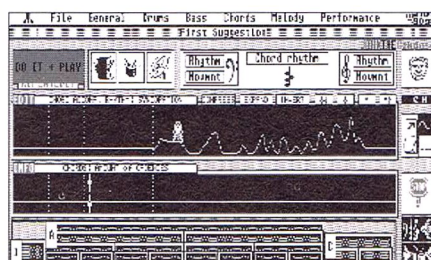
### Lows

■ Very specialised.  
■ Your first few pieces could put you off writing music for life.

### What else?

■ *Improviser*, £95, Creative Sounds. ☎ 0272 244395  
Creates improvised lines over four track MIDI files.  
■ *Jazz Improviser*, £149, Creative Sounds.  
Teaches real-time jazz improvisation.

ST FORMAT  
70  
RATING



# IMAGECOPY 2



**How does taking screen shots grab you? Peter Crush snaps up an image utility and gives it the thumbs up...**

**S**creen snapping is just one of those things you never think about doing until you realise you actually need to.

Here at *ST FORMAT* we use screen grabs all the time and import them straight onto the magazine's pages in our desktop publishing program using them as illustrations.

If you use your ST mostly for graphics and art and are looking for a

really useful way of converting, say, a *Degas* picture into the TIFF file format, or vice versa. A concise and clear 60 page A5 manual explains all of this as well as the software's many other nifty operations.

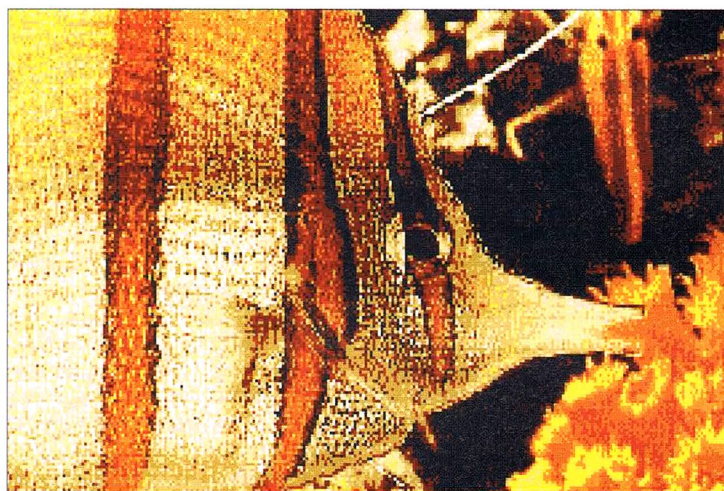
To install the Accessory version, copy it onto your boot disk for a floppy drive system, or the boot partition of your hard drive. When you reboot your ST, the *Imagecopy 2*

Accessory becomes available. Both this and the standalone version can be installed to display image files on which you can double-click from the Desktop. This is dead handy when you all you want to do is take a quick look at image files without having to load your art programs.

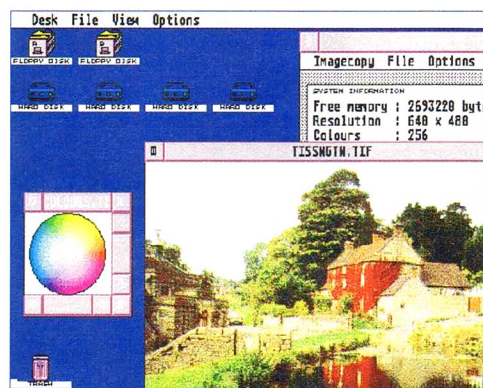
Because *Imagecopy 2* works in all resolutions, you can view pictures your ST could not otherwise display, like those produced in the file formats used on the Falcon. Don't expect to see 16 million colours though, your ST can only show 16, so it gives you a rendition of the picture via *Imagecopy 2*'s colour mapping and dithering.

## Verdict

*Imagecopy 2* is the culmination of much effort, and it's been worth it. There is no better way to grab, view, convert and print out images with your ST. It runs on any ST, with any monitor, with most printers, and works with most image formats. What else could you want from an all-round image utility? **stf**



■ On a Falcon VGA screen, *Imagecopy 2* displays your grabbed images in full glorious colour. If you don't have a Falcon though, do not worry 'cos you get great quality image displays with all STs.



■ With *Imagecopy 2* you can display up to six GEM windows with a picture inside them.

good screen grabber, then take a look at *Imagecopy 2*.

This updated version has turned into an all-round image utility enabling you to grab images from screen in any mode and save them; display almost any image on all ST screens via colour-mapping; print images in mono or colour on most printers; and convert graphics between the many file formats.

## Multicoloured snap swaps

*Imagecopy 2* can load and save images in many file formats and is a

## The full technicolour details

**So, why is *Imagecopy 2* worth a *FORMAT Gold* rating? Well, for a start it...**

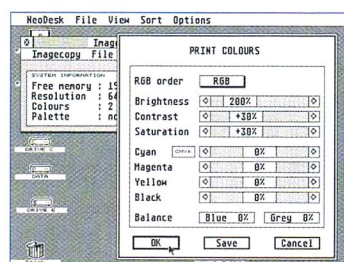
**1** Displays images in any ST, STE, TT or Falcon030 video mode. Colour-mapping and dithering is used to display images in video modes which contain fewer colours. You can display images in GEM windows or full-screen display modes.

**2** Grabs images from screen in any ST, STE, TT or Falcon030 video mode by pressing <Alternate> and <Help> – or by selecting *Imagecopy's* Copy option – and then saves them to disk. You can copy images at times when the Desk menu is inaccessible, when a menu or dialog box

is displayed or from inside a program which does not provide access to Desk Accessories.

**3** Prints images and screen dumps in black and white or colour on a wide range of printers. *Imagecopy 2* prints images containing up to 16.7 million different colours, and offers print scaling and a choice of half tones.

**4** Provides a flexible rubber-banding system which enables you to select the exact area you require. *Imagecopy 2* works on all Atari monitors, TV screens and large screen monitors, and even the "virtual" large screens provided by programs such as *MonSTER* and *Big STE*.



■ In this window you can fine tune the colour balance, the image brightness, contrast, and the size and shape of your intended print.

## Imagecopy 2

£19.95 or £10 for the upgrade from *Imagecopy*, £5 for the upgrade from *Imagecopy Colour*.  
The ST Club ☎ 0602 410241  
All STs and Falcon030

### Highs

- Works on any system.
- Displays most image formats.

### Lows

- Can't save all of the formats yet.

### What else?

- All alternatives come from the Public Domain; *Freeze Frame* is one of the best examples.

## WHAT'S NEW IN VERSION TWO

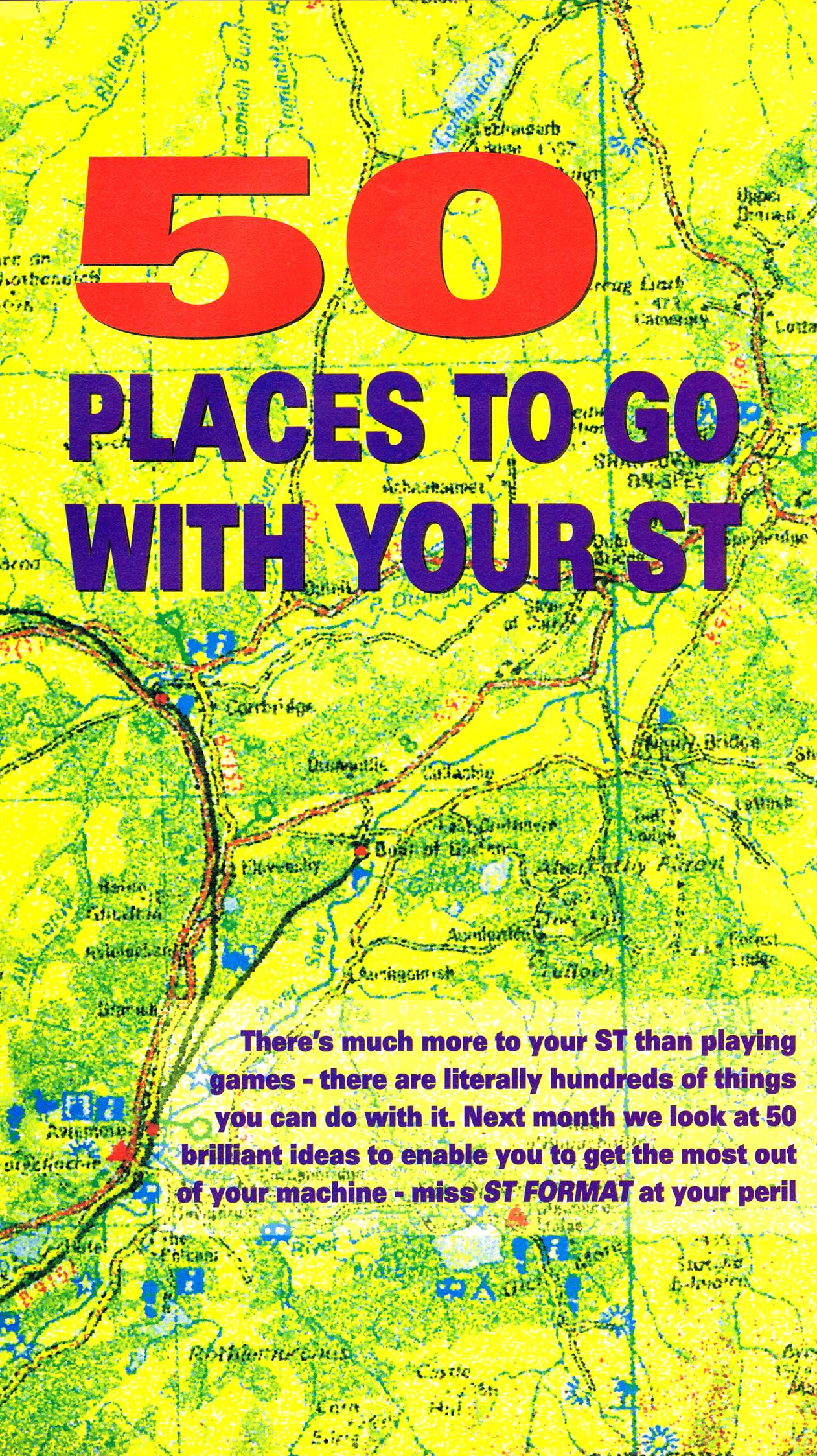
**There are loads of colourful new features in *Imagecopy 2*, so here's just a taste of some of those lovely extras you get**

1. 20 images (under MultiTOS) or six (under TOS) can now be displayed on your ST's screen at the same time.
2. 256-colour and true colour printing: *Imagecopy 2* prints images containing up to 16 million colours (in 24-bit true colour mode).
3. Colour controls now include colour saturation, RGB/CMY/CMYK adjustment, and RGB order options to fine tune your visual results.
4. Colour-mapping is now used to display the images in

video modes which contain fewer colours than the image you want to view.

5. Falcon and TT support now added.
6. New-style user interface, with drop-down menus.
7. Print To IMG File option enables full-colour separations to be sent to disk and subsequently loaded into monochrome DTP programs.
8. Print scaling to adjust the size of your images to full page size, changing or retaining the original aspect ratio.
9. Random or ordered dithering can be specified to display the many different file formats.
10. Variable-sized half tone matrices can be used for control of colour depth.





# 50 PLACES TO GO WITH YOUR ST

**There's much more to your ST than playing games - there are literally hundreds of things you can do with it. Next month we look at 50 brilliant ideas to enable you to get the most out of your machine - miss ST FORMAT at your peril**

**Also featuring  
in next  
month's  
ST FORMAT**

- Photo CD - up and running and amazing
- *The Patrician, Ancient Art of War in the Skies* and *One Step Beyond* - the completed versions reviewed
- Get more RAM into your ST than you dreamed possible!
- And loads more...

# ST FORMAT

**ON SALE  
TUESDAY  
10 AUGUST  
1993**

# ST ANSWERS

Have you and your ST got a problem which is causing stress and worry? Tell the ST Answers team about it, they can help...

## THE STF ADDRESS

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

## BEGINNERS



So, you're new to the ST scene and you're not quite sure what's what - look no further than this icon for help.

## COMMS



If you're into communicating with other ST users via modems but have a few problems, check this one out.

## DISKS



Don't expose them to the sun, don't bend them and don't feed them to your dog... if you need more advice look for this icon.

## GRAPHICS



Fancy yourself as a bit of an ST artist but can't get your head round a particular problem? Well, the answer lies here.

## HARD DRIVES



Proud of your big byte storing beast? Yes, but you're also having trouble working with it - check out this icon.

## PRINTERS



Using printers is like riding a bike... once you know how you're alright, but if you don't this one's for you.

## PROGRAMMING



All our regular programming sections are here - and we also deal with other programming queries - check out this icon.

## SOUND



Problems with MIDI, or with sampling? In fact anything vaguely musical? Just look out for this icon for some help.

## ST PROBLEMS



So, you reckon your problem is so special it doesn't fit in any other category? Well, check out our general ST problems icon.

## ST CD-ROMs

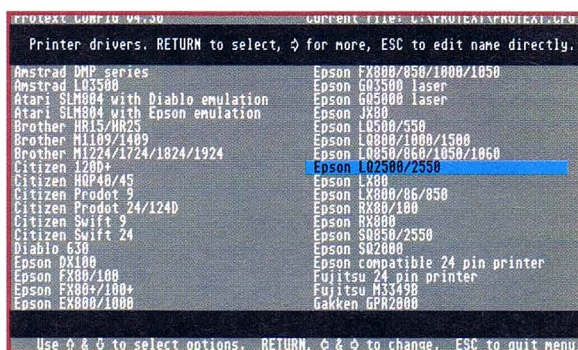


When are we going to see an ST CD-ROM drive and games like those available on the PC? I

know there are plans for a Falcon CD-ROM but I'm reluctant to spend all that money on a new machine just to run CD-ROM games.

Stephen Bray, Widnes

**stf:** You may be surprised to know that the ST can already use standard SCSI CD-ROM drives using MetaDos and ICD's CD-ROM drivers. Both of these CD-ROM drivers are supplied with all new ICD AdSCSI host adaptors as part of the hard drive utilities. Unfortunately, nobody has written any ST compatible CD-ROM games yet, and it seems unlikely that anyone will be doing so in the near future. This is a pity because CD-ROM based games for the ST have a great potential. ICD SCSI host adaptors are avail-



If your software doesn't have Canon BJ-10ex printer drivers, switch your printer to Epson LQ mode and select Epson LQ drivers from your software.

able from System Solutions (0753 832212), £99.95 with clock, £89.95 without clock and £79.95 for the Mega ST internal kit version.

## Snatcher



I have a Canon BJ-10ex and I would like a program that prints out screen shots. I cannot print using some of the software I use because they don't have BJ-10 drivers, how can I get around this?

Robin Armstrong, Dumfries

**stf:** The new version of BJChrome is now available from Rufus Developments for £5. The program is up to version 2.5 and can now handle pic-

tures in GIF file format, for a copy of the program send £5 to Rufus Developments, PO Box 562, Wimbourne, Dorset, BH21 2YD. To use your software with the BJ-10ex select the Epson LQ printer drivers supplied, giving you 360 dpi output from your printer. If you look at your printer manual there are details of the DIP switch you have to change to switch it to Epson mode.

## Commodore inkjet



I have been offered a Commodore MPS1270 inkjet printer by a friend, can I use it with my 1040 STE? I need to use it with Protex, Timeworks and First Word Plus, if I cannot use it with these



## GFA WORKSHOP

This is the place where you pose your tricky GFA Basic queries and Mac Marsden answers them...

### Tabulation

Is there a command or way of sending information to the printer to print text at a certain column and row like the PRINT AT(x,y) and LOCATE commands for showing text on the screen at column, row?

Martin Balmer, Kent

**stf:** The command you are looking for is PRINT TAB(x), where x is the number of spaces from the left of the page before the text is printed.

### Database one

I am creating a database from which I want to be able to input data into a number of different records. I then want to be able to save these records to a disk file, load each record and display it, one by one. What's the best way to do this?

Adrian Oldbury, Derby

**stf:** The best way we have found to do this is to allocate the same amount of disk space for each record and then

save them to disk in a Random Access manner so that all you have to do is set a pointer to a record number and then load it in, here's a short listing of the save routine to do this;

```
1 OPEN "r", #1, "PERSONAL.INF", 62
2 FIELD #1, 24 AS name$, 2
   AT(*house&)
3 FIELD #1, 24 AS road$, 12
   AS town$
4 FOR i% = 1 TO 3
5 INPUT "Name" : ; n$
6 INPUT "House Number" : ; h$
   : ; house&
7 INPUT "Road" : ; r$
8 INPUT "Town" : ; t$
9 LSET name$ = n$
10 LSET road$ = r$
11 LSET town$ = t$
12 PUT #1, i%
13 CLS
14 NEXT i%
15 CLOSE #1
```

### Explanation of the listing:

Line 1 - Opens the file in random mode and allocates 62 Bytes per record.  
2 & 3 - Sets up the structure of the record, that is 24 AS name\$, sets 24 spaces for the name.  
4 - Do the following three times.  
5 - 8 Get data from keyboard.

9 - 11 Sets data into named strings.  
12 - Writes record to disk.  
13 - 15 Clear the screen, do the next input or close the file on disk.

To read a record from disk you would alter the i% loop to read;

```
FOR i%=1 TO 3
GET #1, i% ! read
record i%
PRINT "Record number :"; i%
PRINT
PRINT "Name" : ; name$
PRINT "House number" : ; h$
: ; house&
PRINT "Road" : ; road$
PRINT "Town" : ; t$
PRINT
NEXT i%
CLOSE #1
```

Rather than using a loop you could also set up the command word RECORD #n,r to point at a particular record to be read in, that is RECORD #1,3 would point to Record Three, ready to be loaded in.

Please note that this method of loading and saving data is a lot slower than doing it sequentially.



## STOS CORNER

**Billy Allan delves into all your STOS problems**

### It's a mystery

Can I run programs from a compiled STOS program which are not themselves STOS programs?

**S Lewis, Weymouth**

**stf:** Unfortunately not. It's one of the great mysteries of our time why this should be, but this is going to be remedied in the forthcoming Super STOS.

### Tracking music

Is it possible to play a TCB Tracker tune on interrupt from STOS?

**D S Lewis, Sevenoaks**

**stf:** No. You can convert the tune into a normal format module and then play it back with one of the Tracker replays which do work with STOS. The only TCB Tracker routine which we've come across makes your programs pause until the Spacebar is pressed.

### Out in the cold

I am writing a program where I want the user to enter a code upon which the computer freezes until the same code is typed in again. Could you show me how to do this?

**Craig Duncan, Edinburgh**

Will I be able to play PC games?  
**Matthew Chequer, Wiltshire**

**stf:** The two emulators that are under development both use the internal expansion slot inside the Falcon,

**stf:** This program should help:

```
10 input CODE$
20 repeat
30 input CODE2$
40 until CODE2$=CODE$
```

### Musically challenged

I am interested in programming in STOS and I was wondering where I could get a copy of the STOS Compiler. Also, are there any music editors for STOS other than the accessory which comes with it?

**David Johnstone, Langholm**

**stf:** You should be able to get the Compiler from any software outlet. If not, try looking through the pages of STF for mail order firms. There are several PD editors whose music can be played back from STOS - Tristar/TriMod and Megatizer are good examples.

### Cleaning up your BAKs

I have written a program called DisClean in STOS which deletes all of the .BAK files on a disk, but it doesn't seem to function properly.

**Laurence G Withers, Calcot**

**stf:** This listing deletes all of the files matching a given file-mask from all the folders on the current drive;

```
10 key off : hide : _
   curs off : mode 1
20 dir$=""
30 MXLEV=10
40 dim OF$(MXLEV)
50 input "Enter file mask. (eg. *.BAK) :";MSK$
60 OF$="" : LEV=0
70 for T=1 to MXLEV : _
   OF$(T)="*" : next T
80 gosub 190
90 OF$(LEV)=dir first$("*.*",-1)
100 F$=OF$(LEV) : goto 140
110 F$=dir first$("*.*",-1)
120 while F$<>OF$(LEV) and _
   F$<>"" : F$=dir next$ : wend
130 F$=dir next$
140 if left$(F$,1)="" then _
   F$=dir next$ : goto 140
150 if val(mid$(F$,4,4))=16 _
   then OF$(LEV)=F$ : _
   dir$=left$(F$,12)+" " _
   : inc LEV : gosub 190 : _
   goto 90
160 if F$="" then previous : _
   OF$(LEV)="*" : dec LEV : if _
   LEV>0 then goto 110 else end
170 F$=dir next$
180 goto 150
190 on error goto 200 : print _
   dir$+"\"+MSK$ : kill MSK$ : _
   goto 210
200 resume 210
210 on error goto 230 : return
220 end
230 print errn,errl
```

programs then obviously it's a total waste of money.

**Alan Hawker, Barry**

**stf:** A quick check with Commodore confirmed that the MPS1270 supports both Epson LQ and IBM Proprinter emulations, all you need to do is select the Epson LQ printer drivers from within Protex, Timeworks and First Word Plus and away you go.

### TOS switchers



I want to upgrade to a Mega STE from my STFM but I am worried about software compatibility, how much of my software is incompatible? Can I install a TOS switcher into the Mega STE to retain compatibility?

**Dan Saunders, Oxted**

**stf:** Some older games are not TOS 2.06 compatible and do not run on the Mega STE. Generally, all serious software such as word processors, DTP and MIDI programs work without any problems. Mega STEs are no longer manufactured, so you may find it quite difficult to get hold of one now. There is no TOS switcher available for the Mega STE.

### I want to be a PC



I have heard about the Macintosh and PC emulators being developed for the Falcon, can you install both emulators and be able to switch between them freely?

so you cannot install them both at the same time. Playing PC compatible games depends on how fast the PC emulator runs and whether it supports the screen modes required by

the game, the latest news we have about Falcon Speed from Compo is that it only runs in colour when using the popular Microsoft Windows.

### Returning backwards

I am writing an address book/diary and word processor. Can you please help me with some queries?

In issue 34 you included a listing on how to recognise the <Backspace> key. When using this I cannot get the <Return> key to work. How can I make the text carry on to the next line when I hit the far right of the screen? Also when using the listing, when I backspace to the point the cursor started at, a message comes up saying "String too large." How do I overcome this?

**Aaron Gibbs, Devon**

**stf:** The annotated listing below should help with your queries. The "String too large" message is because when you are deleting a character you are not deleting your pointer to overwrite the deleted letter, so the pointer would have been pointing at the next letter and eventually you would reach the end of your string length.

```
counter&=1 ! line counter
DO
```

```
a|=INP(2) ! wait for keypress
```

```
IF a|=8 ! backspace
```

```
PRINT CHR$(8); " ";CHR$(8); !
   delete chr$
```

```
SUB counter&,1 ! decrease counter
```

```
IF counter&<=1 !
   counter&=1
```

```
ENDIF
ENDIF
```

```
IF a|=13 ! return key
   PRINT ! new line
```

```
ENDIF
IF a|>=32 ! print legal chr$
   PRINT CHR$(a|);
```

```
ADD counter&,1 ! increase
   counter
```

```
ENDIF
IF counter&>=80 ! check end
   of line
```

```
counter&=1 ! reset counter
   PRINT ! new line
```

```
ENDIF
LOOP (put your exit condition here)
```

### Out of sorts

How can I sort some addresses into alphabetical order and save them?

**William R Mogg, Gloucestershire**

**stf:** The annotated listing below should help you sort your array(s) into alphabetical order. Bear in mind that if you are using a DIMmed statement for more than one dimension, that is DIM a\$(100,7), more programming is required, and temp\$ has to be DIMmed as temp\$(1,7) and you have to program the swap for all seven fields.

```
DIM a$(5)
FOR f=1 TO 5
! Get names
   PRINT "name no. _
   ";f;" :";
   INPUT a$(f)
NEXT f
CLS
PRINT "Unsorted array"
FOR f=1 TO 5
! Print names
   PRINT a$(f)
NEXT f
PRINT
PRINT
pointer&=1
! recursive sort routine
```

```
a|=5
DO
DO
```

```
IF a$(pointer&)>a$(pointer&+1) _
   temp$=a$(pointer&)
! place a$(pointer&)
   in temp storage
a$(pointer&)=a$(pointer&+1) _
   swap a$+1 into a$
   a$(pointer&+1)=temp$
! place temp$ into a$+1
ENDIF
```

```
ADD pointer&,1
! increase pointer
LOOP UNTIL pointer&=>a|
! loop until pointer >=a|
   SUB a|,1
! *** see text
   pointer&=1
! reset pointer
LOOP UNTIL a|<=1
! end recursive sort
PRINT "Sorted array"
FOR f=1 TO 5
! print sorted array
   PRINT a$(f)
NEXT f
```

\*\*\* We are reducing a| by one as after the initial pass we know that at position a\$(5) is held the string with the highest ASCII value and we have no need to compare it again with the other strings, hence the name recursive sort.

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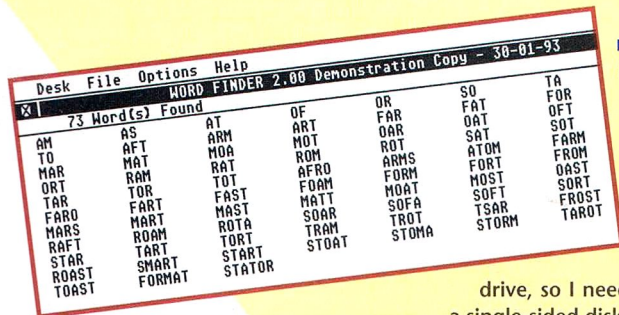
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Call Compo on ☎ 0480 891819 for the latest details and specs for Falcon Speed.

### Never a cross word



Do you know of any software that helps solve crosswords by printing all English words that match the letters entered in this kind of pattern, \*RM\*T? My STFM has a single-sided

drive, so I need the program on a single-sided disk.

**Martin Benchley, Kent**

**stf:** You should upgrade to a double-sided drive! They aren't very expensive and are simple to fit, Power Computing (☎ 0234 843388) supply the PC7201 drive for £39.95. Doing this gives you easy access to all ST software, hardly anything is released on single-sided disks these days.

The program you are looking for is called Word Finder, we awarded

It's not actually finding missing letters for cross-word clues but it does possess this function tucked away in its Options menu.

it 72% in last month's Public Sector pages and it does exactly the sort of thing you've been looking for. It's available on disk GD1925 from Goodmans International PDL (☎ 0782 335650) for £2.75.

### Amstrad inaction



Where can I buy an Amstrad CPC464 emulator for the ST? I would like to play all my old favourite games.

**Richard Robinson, Worcs**

**stf:** There has never been an Amstrad CPC464 emulator available for the ST and it is unlikely that anybody will actually produce one. As with Mac and potential PC emulators, even if one was written, it is unlikely that you could use it to play games.

### Bare problems



I have been given a bare 20MByte hard drive from an Amstrad PC. How do I connect it to my ST and what do I need to buy to get it working? How does my ST know I want to save files to the hard drive?

**Kevin Bailey, North Yorks**

**stf:** It depends on what kind of hard drive you have. If it is from an old Amstrad then it's either an MFM or an RLL drive. If it is one of these then you have to get an MFM to SCSI adaptor or an RLL to SCSI adaptor, these are very expensive and hard to find, you're better off buying a second-

## Your top ten questions

Every month we get wads of letters all asking the same questions, and in most cases they have already been answered in previous issues. So, if you missed them, here's the ten most popular questions... and please stop sending them in!

**1 STFM upgrade**  
Is there a hardware upgrade that turns an STFM into an STE?

**stf:** No, there are too many major differences between the STFM and the STE.

**2 Bargain buy?**  
I have bought a second-hand Never-heard-of-them printer from a friend/auction/car boot sale, can I use it with my ST?

**stf:** Any printer with a parallel interface, also known as Centronics, can be used with your ST to print text from the Desktop. Whether you can use it with your word processors or graphics software depends on whether it has Epson or IBM Proprinter emulation built-in, all serious software has printer drivers for these machines. Always make sure you get a manual with a second-hand printer.

**3 No change**  
With the advent of the new Atari Falcon, will ST FORMAT be changing its name to Falcon FORMAT or 030 FORMAT?

**stf:** We have no plans to change the name of the magazine in the foreseeable future. We are going to continue to review Falcon hardware and software as and when it is released as well as

bring you news on Atari's new machines – check out this month's news section starting on page 7.

**4 CGA monitors**  
I have been given a CGA monitor from an old PC, can I connect it to my ST?

**stf:** No, your ST provides analog RGB signals while PC CGA monitors use TTL (digital) signals for its input. Also, PC monitors do not have any speakers so your machine will be silent.

**5 Mix'n'match memory**  
I am going to upgrade my STE to 2MBytes of RAM, can I use the two 256K SIMMs already in my STE with my new 1MByte SIMMs to give me 2.5MBytes?

**stf:** No, the only possible RAM configurations for the STE are 0.5MByte (2x256K), 1MByte (4x256K), 2MByte (2x1MByte) and 4MByte (4x1MByte).

**6 Amiga emulator**  
Is there an Amiga emulator for the ST that can enable me to play Amiga games?

**stf:** No, the only emulators available for the ST are IBM PC and Macintosh emulators. The Amiga has too many custom chips to make an emulator economical, it would probably be cheaper to actually buy an Amiga.

**7 Give me some leads**  
Where can I get a SCART and audio lead to connect my ST to my TV, my TV monitor and my hi-fi system?

**stf:** An excellent source for every lead you can possibly require is Meedmore. All you have to do is tell them what type of ST you have along with the make and

model of your TV or monitor and they can provide the correct lead. If they don't have a ready made lead in stock then they can make it for you. Contact Meedmore on ☎ 051 521 2202.

**8 Other formats**  
My friend said that I can play PC/Amiga/Spectrum games on my STE, is he right?

**stf:** Your friend is wrong. All computers can only play games designed specifically for them, if one machine could play all formats then there would be no need for separate shelves in the game store, would there?

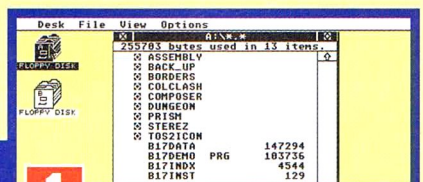
There are emulators for some machines (PC and Mac), but generally these are not powerful enough to let you play games with them.

**9 Odd mouse pointer**  
I am having problems with my mouse pointer, the arrow goes up when it should go down. Where can I get a replacement mouse?

**stf:** It's not your mouse at all, it's the dreaded Ghost virus. Get yourself a virus killer like the UVK (Ultimate Virus Killer) from Douglas Communications (☎ 061 456 9587), it only costs £9.99 and can safeguard your software. **STF WARNING:** Never use a virus killer on a game disk, the virus killer wipes your game because it looks like a virus.

**10 Simple file copying**  
How do I copy files from the ST FORMAT Cover Disk to a blank disk? I have tried several times but I cannot do it, I don't have an external disk drive.

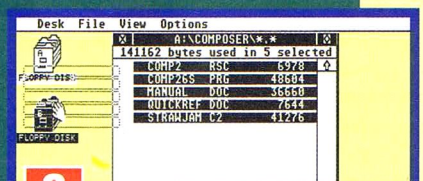
**stf:** Follow the four steps, right, to copy your ST FORMAT files to a blank disk.



**1** Format a new disk and mark it Disk B. Now put the Cover Disk in the drive and ensure that it's write-protected, the Cover Disk is Disk A. Open the Drive A window by double-clicking in the floppy disk A icon.



**2** Open the folder you wish to copy files from by double-clicking on it. Press the <Shift> key, and, keeping it pressed, single-click on each of the files until they are all highlighted. Now release the <Shift> key.



**3** Click on any of the highlighted files, and, keeping the mouse button pressed, move the pointer until it is over the floppy disk B icon. When the disk icon turns black release the mouse button.



**4** An alert box appears telling you that you are copying files to drive B, click on OK. Your ST now asks you to put disk B into drive A, do this and select OK. Follow the instructions until all the files have been copied.



## ASSEMBLY POINTERS

**Get your assembly programs back on the track this month with Tony Wagstaff**

### Line-A

A few problems from **John Marchant of Kent**, who's translating some STOS programs into assembly...

Could you tell me how to plot a pixel using the \$a001 line-A routine. I've had some success using the predefined co-ordinates dc.w 160,100 but can't figure out how to use variable co-ordinates. I'd also like to know if there is a similar VDI command.

**stf:** In a high level language like STOS, variables are assigned values quite simply, x=160 for instance. In assembly there isn't a similar command, so variables need to be placed directly into a

memory address. This address is then passed to the line-A in the ptain variable. After initialising the line-A with

```
dc.w $a001
```

you move the address of the co-ordinates and colour register into ptain and intin:

```
move.l #colour,8(a0)
move.l #xy,12(a0)
data
colour dc.w 1
bss
xy ds.w 2
```

To change the coordinates, use move.w to place the new x value into xy, and the new y value into xy+2, before calling putpixel like this

```
move.w #100,xy
move.w #50,xy+2
```

```
dc.w $a001
```

The corresponding VDI command goes by the name of v\_pmarker, opcode 7, and is a little more versatile than the line-A. It can plot more than one pixel by passing the number of pixels in the VDI's contr1+2 and the coordinates in ptain, the VDI call vsm\_color is used to set the colour.

### Spritely fellow

I have some animated sprite frames in Degas format of a man running, and I would like to know how to move them around the screen. Is there an art package that does this kind of thing?

**Konbo Oyake, St Croix**

**stf:** Any art package can be used to create sprites, although you need to cre-

ate a mask for them. If your art package can't do this for you, take a look at the MASKER.S file on this month's Cover Disk which creates a mask file for a Degas picture.

The mask itself is used to cut a hole into the background display, the sprite itself can then be dropped into this hole, removing the sprite's border which would otherwise be seen. Details on using sprites can be found in this month's assembly tutorial on page 97.

### Pass on

Last month we showed you how to create local variables in your assembly programs using the link instruction. The same instruction can be used to collect parameters passed to assembly routines. This is extremely useful if you are writing in a higher level language but want to include an assembly routine as the two

hand bare 40MByte SCSI hard drive for around £75.

The kit required to connect a SCSI hard drive to your ST consists of a case (£35), a power supply (£35), a SCSI host adaptor (£59), SCSI and DMA cables (£6 each). All of these items are available from Gasteiner Technologies on ☎ 081 3651151.

### T Board disk



I took advantage of your Soup Up Campaign by upgrading my STFM to TOS 2.06 using a T Board. In the README file on the disk supplied with the upgrade it states that I would receive another disk and a manual, to this day I have not received anything.

**Sean Huxley, Stockport**

**stf:** We have passed your details onto Compo Software and they are sending the TOS 2.06 manual and the upgrade disk to you.

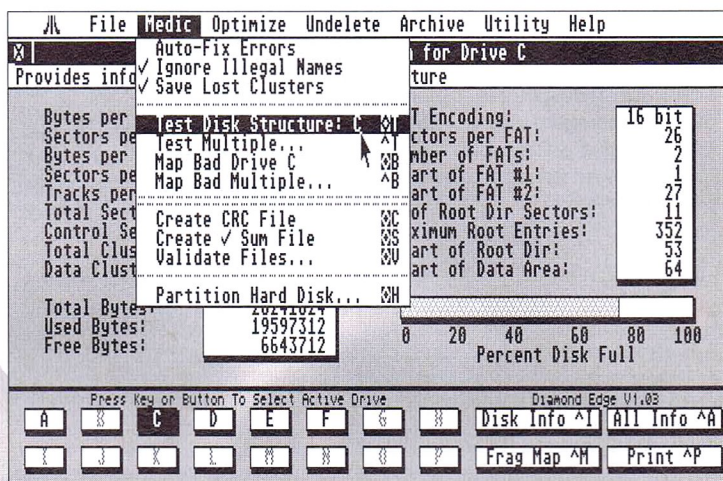
### Data may be damaged



I'm having trouble with my second-hand hard drive and my 4MByte STE. I occasionally get the message "data on drive C may be damaged" when saving a file, I have to re-boot the system losing the file I tried to save. Is it my hard drive or my DMA chip causing the problem?

**B Adams, Leeds**

**stf:** It certainly sounds as if it is the DMA chip causing the problem, contact Atari customer services on ☎ 0753 533344 and they can arrange

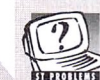


**Diamond Edge is an excellent hard drive maintenance utility, keep your data in pristine condition by performing regular medical checkups on your drive.**

for your machine to have a replacement DMA chip fitted. It is always a good idea to have a hard drive maintenance program like Diamond Edge or ICD Cleanup ST available to check your hard drive partitions. Diamond Edge is available from HiSoft (☎ 0525 718181) for £49.95 and ICD Cleanup ST is available for £29.95 from System Solutions (☎ 0753 832212).

The best thing you can do is get your ST looked at by a company that specialises in ST repairs. Ladbroke Computing are nearby and they offer an excellent repair service with a minimum charge of £35.

### Cracking up



The main circuit board of my STE has been cracked directly below the keyboard, this means I cannot use my machine. How much would a replacement circuit board cost and where would I get it from?

**James King, Gwynedd**

**stf:** You need to write to Atari UK giving them the exact details of your problem and they will provide you with a returns number so you can send your ST to them to be examined. After that they will contact you and quote a price for what needs to be repaired. Write to Customer Services, Atari UK, Atari House, Railway Terrace, Slough SL2 5BZ

### It's electric



I foolishly touched my MMU and Video Shifter chips when I was in the middle of upgrading the memory of my STFM. Now my ST doesn't work because I was carrying a static charge when I touched the chips. What is the cheapest and best way to get my machine working again?

**K Eaton, Liverpool**

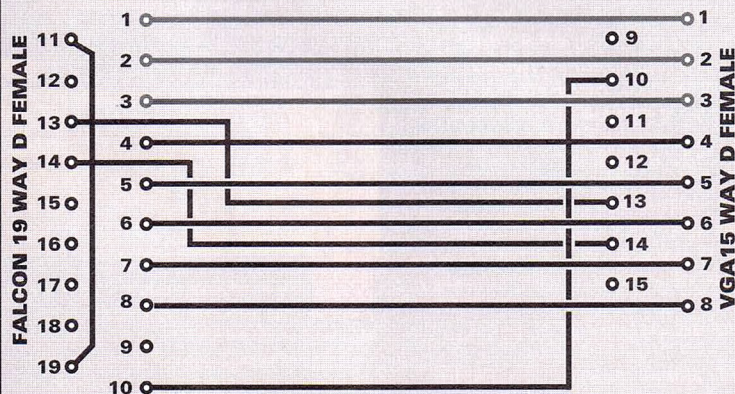
**stf:** There is no such thing as a cheap repair! All repairs are subject to charges for parts, time and labour.



## Falcon VGA update

Due to one of those errors that occur occasionally, the Falcon to VGA monitor connections we printed in STF 46 were slightly incorrect. These are the correct connections

### FALCON MONITOR CONNECTION





## MUSIC AND MIDI

### Here's Andy Curtis to help you with your MIDI hiccups

#### Talking ST

Could you tell me of any speech synthesizers available in the Public Domain or a commercial program. I need it to be able to output from my hi-fi, I have an STE.

**David Fawbert, Barnsley**

**stf:** ST Speech is a little program that speaks whatever you type into it. You can get it from most PD libraries – check out our directory on page 95. It works on your STE and outputs the sound from the phono sockets at the back of your computer. The speech quality is not wonderful, but it is easily understandable.

There is also a speech synthesizer called Digi Speech which uses sampled speech phonemes, you build up the words by adding the sounds together. It's on disk GD624 from Goodmans International (☎ 0782 335650) and costs a mere £2.75.

#### ST Raving

I have recently purchased a 520 STE and am quite interested in the music side of the computer. I have no equipment as such and want to know what equipment I would need to create rave music on it.

**Declan O'Meara, Co Tipperary**

**stf:** In order to create high quality commercial rave music, your ST can act as the heart of a much bigger music setup. However, if you want to start off without spending too much money you can buy a soundtracker package like Audio Sculpture (£4.99 from Direct Software ☎ 0908 379550). This excellent piece of software enables you to sequence samples on four channels and create great music. Samples are readily available from most PD libraries.

#### Plugging in

I have a 520 STFM and a musical keyboard which I have just bought recently. I want to connect the keyboard to my ST. The keyboard has both MIDI input and output sockets. My problem is that I do not know how to connect them and what software to use.

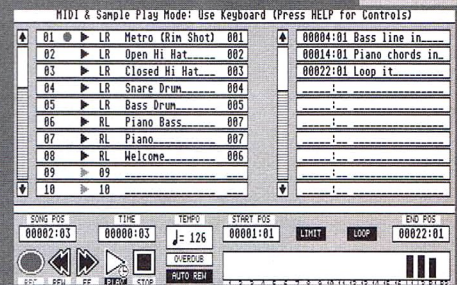
Could you kindly send me a clear wiring diagram of how to connect my system including what leads to buy. Also, could you recommend a particular sequencing program which doesn't cost too much?

**Stefan Saliba, Malta**

**stf:** There really is no need for a diagram here. Simply buy two standard MIDI cables from your local music store, these should cost around £5 each. Plug the first cable into your ST at the socket marked Out, plug the other end of the cable into your synth at the socket marked In. The second

cable plugs into the remaining MIDI socket on your ST, plug the other end of this cable into your synth at the socket marked Out.

For a sequencer program we suggest Gajits' Sequencer One Plus, it's only £39.95 from our special offers section, turn to page 98 for details. The program comes with a full manual and is significantly better than the PD offerings. With these small purchases you are all set to have endless fun with your ST. Sit back and enjoy.



**Sequencer One Plus gives you the capability to mix MIDI sequences with digitised sound samples – the best of both worlds.**

#### Minimum Memory

If I buy a second-hand 520 STE to use for music production, what do I have to upgrade it to?

**Andrew Davies, Clwyd**

**stf:** Most sequencers run quite happily with 1MByte of RAM, this is really the minimum you should be looking at for serious work.

#### Budget limitations

I am on a low budget of around £600, what would be the best method of producing backing tapes of samples that I could take into the studio to add vocals and guitars?

**Sally Heard, Bristol**

**stf:** The best way of making backing tapes is to get a keyboard with some realistic sounds, including plenty of drum samples. Use a good software sequencer like Breakthru (£109.95 from ST FORMAT special offers on page 98) and away you go! You can produce some great sounding music to which you can add live sounds later on.

#### Drive confusion

If I get an AdSCSI Interface for direct to disk recording, can I use my floppy drive?

**Andrew Wright, Macclesfield**

**stf:** In a word, no. Direct to disk recording requires the access times and data transfer rates of a good hard drive, floppy drives are just too slow. Some direct to disk recording systems require 10MBytes of disk space per minute of recording time, so the 720K capacity of a floppy drive would not be sufficient to record more than six or seven seconds of music anyway.

can be linked at compile time using a suitable linker.

Once you've linked an address register, a6 for example, the local variables can then be accessed using a negative offset from a6, as we showed you last month.

Not only can locals be accessed from a6, but we can also grab any parameters passed to the routine from a6 as well.

To see how this is done, we need to take a look at how parameters are passed to a routine. This varies between compilers – C and Pascal generally pass them in opposite order to each other, so check with your manual first. The parameters themselves, or their addresses, are first pushed onto the stack using `move #parameter, -(a7)`. The routine is then called with a `jsr`, which pushes the return address onto the stack. Finally, the link instruction

itself pushes the old value of a6 onto the stack. With all these pushes, a6 now points to an address eight bytes from the parameters.

So, both locals and parameters can be accessed from a6, using a positive offset plus eight for parameters, and a negative offset for locals.

Once your routine has finished, you generally `unlk` your register and perform an `rts`. Some languages however require that you clean up the parameters before returning, so you need to store the return address, clean up the stack, and jump to the return address:

```
unlk a6
move.l (sp)+, a0
add.w #size_of_params, sp
jmp (a0)
```

Again, check with your manual to see if this is necessary.

#### Width does matter



I have been using the K-Spread 2 spreadsheet on ST FORMAT Cover Disk 36 and I find it

very good except for one small problem, I cannot adjust the width of the columns. How is it done?

**Steve Fahy, Southampton**

**stf:** The answer to this problem is actually quite simple. Each pair of columns has a vertical dotted line separating them. To widen column A click and hold the mouse pointer over the line between columns A and B and drag the line to the right, release the mouse button when column A is wide enough. This operation must take place at the top of the spreadsheet between the column markers, you cannot widen columns from within the spreadsheet grid itself.

#### Video star



Why can't I get a clear image when I connect my STFM to my video recorder using RF (aer-

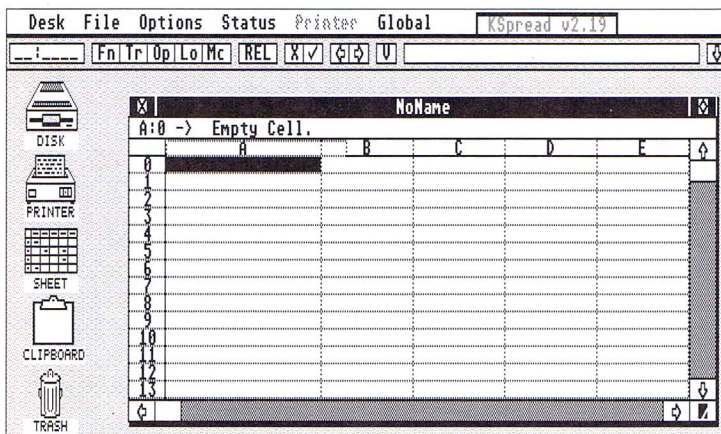
ial) leads? All I get is a snow filled image, even though I have tuned the video correctly.

**Cath Jones, Essex**

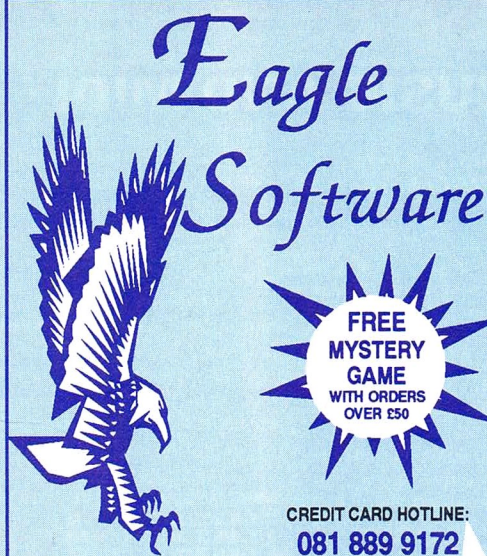
**stf:** The problem that the ST and the video both output RF signals on UHF channel 36 and the signals interfere with each other. Most videos have an output frequency control on the back panel which enables you to adjust the output channel between 32 and 40. Remember to adjust your TV to receive the new video channel.

Alternatively, you can connect your ST to the SCART or phono inputs of your video recorder, this gives much better output quality for video recording. Meedmore (☎ 051 521 2202) supply a standard ST to composite video lead suitable for phono inputs (part no K2054, £8) and an ST to TV SCART for videos with a SCART socket (part no K2583, £15).

● If you have a problem you would like the ST Answers team to tackle then send it in to ST Answers, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.



■ That's the way to do it, grab the line between columns and drag it until it's the size you want. It's simple once you know how.



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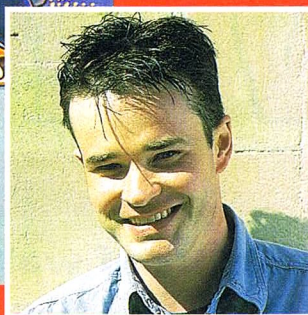
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# SCREENPLAY



entire episode of Neighbours. 12 tribes and 120 levels of pure, unadulterated gaming bliss. Need you ask for more? Turn to page 66.



We've got some fabulous games for you this month, including cover star *Lemmings 2*

■ Rob Mead eats, sleeps and drinks ST games. Indigestion notwithstanding, so for an honest opinion or handy tip, he's your man.

## LEMMINGS 2

Forget *Street Fighter 2* - this is what you should be playing on your ST. There's more fun and fury in *Lemmings 2* than an

## Hints, tips and cheats

Pages and pages of help for you in *Gamebusters* starting on page 84 followed by the incredibly knowledgeable *Captain Blunder* on page 88

### Gamebusters

■ More hints, tips and cheats for those brain-frazzlingly tricky ST games.

■ A complete solution to Sensible Software's totally barmy *Wizkid*.

■ Some handy tips for *FORMAT* Gold winning god-game *Civilization*.

■ Every *Dyna Blaster* level code you're ever going to need. Probably.

■ A comprehensive cheat for classic space trader *Elite*.

■ And heaps of pokes, cheats and tips for all your favourite games.

### Your essential guide to Captain Blunder's pages



#### Availability

You've heard how amazingly brilliant this game is, but you can't find it anywhere.



#### Cheat

Everybody knows it's the taking part in a game that's the most important part... or is it?



#### General

So you've got a gaming problem, but it's nothing to do with any of the other four categories.



#### Techie

Your ST's giving you grief when you play games.



#### Tip

You don't want to cheat, but you'd like a hand.



## ISHAR 2

Three times bigger than the original, *Ishar 2* takes you on a rollercoaster-ride. If you like RPGs, you're going to love this. Turn to page 70 now.

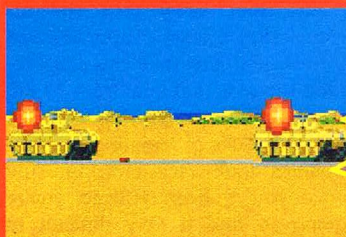


## REACH FOR THE SKIES

War on the earth takes to the skies in Virgin's *Battle of Britain* flight sim epic. Relive the days of the dogfighting ace by dive-bombing page 72.

## WIN A '40S FIELD RADIO

Take a trip back to the '40s with this typical field radio and get stuck in to three hot and happenin' war games all on offer this month in our amazing Empire competition!



## WAR IN THE GULF

Can you sock Saddam one before he conquers Kuwait? Find out on page 75.

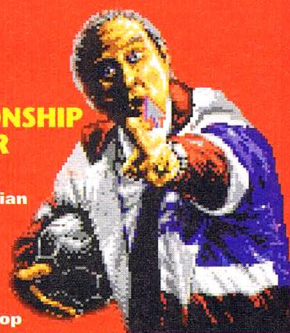


## METALLIC POWER

Racing sim *Vroom* is the best in this compilation but what are the others like? Find out on page 80.

## CHAMPIONSHIP MANAGER '93

Move over, Brian Clough, it's your turn to guide your fave soccer teams to the top of the league with Domark's excellent new footy management sim. Score some goals on page 83.



**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 STMs unless otherwise stated.



■ Select the world you want to play in from the map screen here. You are then presented with the worlds that you can see dotted about these pages - identify them by their number here.



## Keep your lemms under control

Select everything easily - just point and click

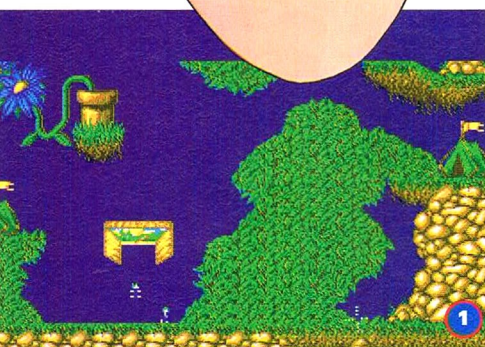
- 1 Name of the type of lemming selected.
- 2 Number of times remaining that you can use the skill selected.
- 3 Selection of lemming skills you can choose from on this level.

- 4 Fan to blow lemings that are able to move assisted by the wind.
- 5 Speed up time so you can hurry all your lemms home if you have created a safe path for them.
- 6 Nuke the lemms when you've put them into an impossible position.
- 7 Pause the game to look around the world.

# LEMMINGS 2

## THE TRIBES

After months of waiting, *Lemmings 2* is finally here. Paula Richards tries to rescue the green-haired creatures...



■ **OUTDOOR WORLD.** Lots of healthy fresh air but also an impossible fourth level to contend with.

We've been promising it for months and at last, it's finally here - *Lemmings 2*, the game the cynics said couldn't possibly be bettered. How could Psygnosis improve on the immediate playability of the original *Lemmings*, the great humour, the enjoyable graphics and pixel-perfect animation? You might think you need convincing, but as soon as you load up the game and realise that every step towards completing a level counts towards a final goal and that you can proceed towards that goal from 12 different worlds employing over 50 different skills of lemming the possibilities look very enticing. And once you've been enticed you're going to find it very difficult to leave the land of the lemming.



■ **BEACH WORLD:** Go on! Surfin' California and all that - Impress the chicks with your bronzed body and er, green hair...

**Small, stupid, but very cute** Lemmings, as we know, are very stupid small rodents who live in Norway and rush headlong into the sea and drown when they're supposed to be migrating. So it wouldn't be surprising if you didn't have much sympathy for these creatures, but the lemings who have had to learn to survive in the differing landscapes of Lemming

Island have developed so many complex skills that it's hard not to feel a degree of compassion for them. The main problem they seem to have though is that they simply haven't learned how to work in teams and help each other out - and that's up to you.

The basic aim of each of the 120 levels is the same as in the original *Lemmings*: they drop

## IDENTIFY YOUR LEMMING

Using your lemings' skills to the best advantage is essential if you're going to progress through the game. Here's your quick-at-a-glance guide to each individual arrangement of pixels

Key:

F - moves in a specified direction with the help of the fan.  
C - can be changed into something else while he's using this skill.  
P - a permanent skill.  
R - action is enhanced if the lemming is a Runner.



**Archer** - fires arrows that stick in the landscape; they look secure, but can be untrustworthy.



**Attractor** - plays music making other nearby lemings stop and dance. Can be used in the same way as a Blocker.



**Balloon** - rises vertically into the air. Dies loudly and painfully when he goes up off screen so watch out. (F)



**Basher** bashes through things horizontally until he emerges. (C)



**Bazooka** - fires a shell in an arc across the landscape leaving a semi-circular-shaped erosion.



**Blocker** - prevents other lemings from passing him by. Handy near cliff edges and the like. (C)



**Bomber** - bomb explodes making a crater in the landscape. Survives despite being stunned.



**Builder** - builds a 12-brick upwardly sloping ramp so you can bypass too-steep objects or bits of landscape. (C)



**Climber** - climbs up vertical surfaces but can't manage overhangs. (P)



**Club Basher** - bashes through things horizontally. Can be weak. (C)



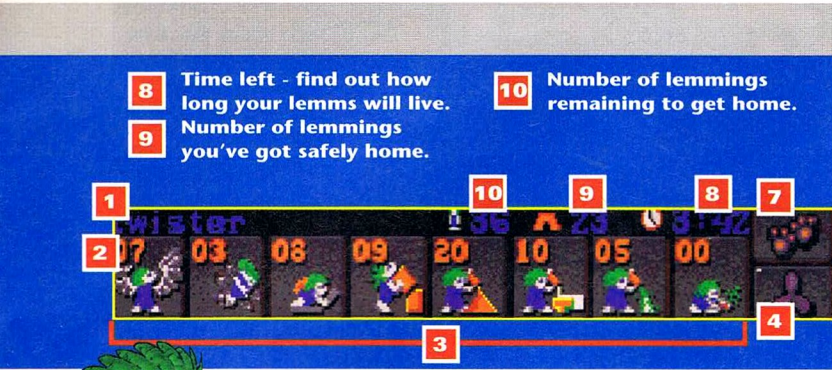
**Digger** - digs down vertically but seems to have a bit of a problem with solid steel. (C)



**Diver** - plunges off cliffs just getting a headache.



**Exploder** - explodes making a crater in the landscape. Dies.



**SPORTS WORLD:** Well, they never said getting fit was going to be easy - and this first level certainly proves that. Perhaps you should try to diet as well.

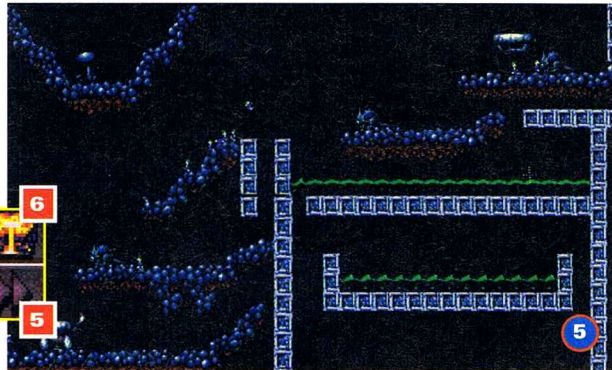
through a trap door and you have to guide as many of them as you can to the exit - usually a door or a building - within a usually-generous time limit. This time though, you only get 60 of them and you have to get as many as you can through the level because only that number survive into the next level.

#### More motivation!

This time there's also a plot to tie the whole thing together and give you an overall aim. So here goes, at the risk of sounding like a manual... There are 12 tribes of lemming, each of which lives on a

different part of Lemming Island. Every tribe has a piece of the talisman - so you've got to get at least one member of each tribe through to the final level to join up with the other 11 pieces. When the complete talisman is created the tribes may then escape. Depending how many lemmings you rescue at each level you get a different type of talisman piece - lots of lemmings rescued means you get a gold piece, but if you've led others to their death, however unintentionally, you only get a silver or bronze piece. The ultimate aim, obviously, is to get a

**SHADOW WORLD:** Beware the dark and mysterious goings-on in 'phone boxes.



**CAVE-LEMMING WORLD:** You want prehistoric lemmings?

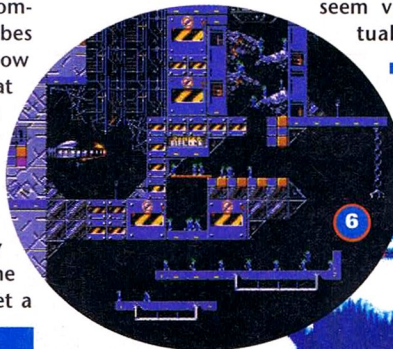
gold talisman and free all the creatures - but that's likely to take you a very long time.

#### Little local difficulties

Of the many excellent things about *Lemmings 2* one of the best is that you can just get straight into the puzzle solving - you know exactly what lemmings you've got with what skills (and how many times you can use each skill) - and it's dead easy to become engrossed to the point of never wanting to leave your ST. Some of the earlier puzzles are simple to solve - you only need to do a couple of things to lead the lemms to the next bit of the world but some of them seem virtually

impossible - like the first sports level, for example where you are blessed with only a flame thrower and three bombers and find all your lemmings being chucked to their death with no apparent way to stop it happening.

Sometimes you can see what you actually want to do but have got so many lemmings in such a small space that they're indistinguishable from each other and you can't click on a single one that's pointing in the right direction. If you take your chances and click on a random lemming, the chances are that he'll be facing the wrong direction and blast all the other lemms with fire, or whatever other skill you've endowed your creature with. Although this doesn't seem to



**SPACE WORLD:** Go to places that no man has gone before (or add your own *Star Trek* reference)... you might not find man, certainly, but there are enough lemmings to populate a planet - maybe that's where the Klingons came from.

**POLAR WORLD:** Go on, be perverse and play this Christmassy one in the middle of summer.



**Fencer** - cuts away landscape at an accessible upwards angle. (C)



**Filler** - pours a cement-like mixture from a bucket. Does not block the underneath of holes.



**Flame Thrower** - blasts away big areas of landscape.



**Floater** - floats slowly down to the ground without being hurt. (P)



**Glue Pourer** - pours glue into holes that can block the underside.



**Hang Glider** - sails down at an angle. (F)



**Hopper** - hops until he hits something.



**Icarus Wings** - flies horizontally until he hits something. (F)



**Jet Pack** - floats above the ground only moving with the fan. (F)



**Jumper** - jumps once when clicked - get near the edge of something for maximum effect. (R)



**Kayaker** - can cross water using a kayak. Has to be in the water before it takes effect.



**Laser Blaster** - vaporises landscape directly above it. (C)



**Magic Carpet** - floats above the ground until it hits something. (F)



**Magno boots** - walks on any surface whatever the angle. (C)



**Miner** - digs down at an angle - careful he doesn't go too far. (C)



**Mortar** - fires a shell into the air and damages the landscape.



**Parachuter** - floats downwards. (F, P)



**Planter** - grows plants that are very useful to walk on.

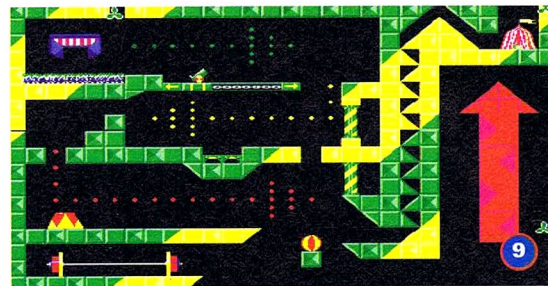


**Platformer** - builds a 12-brick horizontal ramp. Handy when used as a zig zag. (C)



**Pole Vaulter** - lifts into the air with a pole. Very energetic.

■ **HIGHLAND WORLD:** plenty of Scottish clichés here - tartan, the Lochness monster and a bagpipe tune.



■ **CIRCUS WORLD:** Tricky one, this. Watch out for that propeller thing on the top bit of the platform - it has this tendency to shoot your lemmings out cannon-ball like.

► affect your fellow lemmings it can be a waste of resources. The quality of your monitor also helps here - if yours is a bit dodgy they seem to merge together even more freely. Considering the size of the lemmings and their incredible detail, it's amazing that things don't get blurred together more frequently.

### Enter the world of...

Each of the levels is a different size and shape; some are only a single screen, some are several screens long horizontally, some several screens vertically and others are huge in all directions. The vertically-scrolling levels are hardest with huge drops you don't know whether lemmings are going to survive until you've tried their

resilience. Size doesn't necessarily determine how easy or difficult a level is, either - some of the single screens are the worst. It's best to work out what sort of area you're playing in when you start the level

**"It's massive, brain taxing, funny... and brilliant"**

and where the exit is. Don't be fooled when you come across a level and get loads of each skill - although sometimes they can indicate you're going to need them all, they're frequently red herrings.

### Verdict

*Lemmings 2* is a huge game with so many different levels, varied worlds with very strong identities and heaps of humour in the personality-crammed lemmings that it's difficult to find fault with it. You're certainly never going to get bored with it - there are so many bits and pieces and ways of doing things that you can keep coming back to

different areas of the game time and time again. It's accessible - everyone will want to play it, even if it's only to experience the satisfying thrill when you've nuked a whole tribe of lemmings having got them into an impossible situation.

You can feel smug after each level because you've achieved something; the controls are easy to use and explanations simple. The whole thing is tightly put together and the attention to the most minute details is impressive - for example when a lemming is about to explode or when you've nuked them, they start shaking their heads and bodies in a I'm-just-getting-ready-to-die-and-if-I-concentrate-on-my-body-shaking-maybe-it-won't-hurt-so-much sort of a way. And when you do nuke them the results are impressive - all the landscape is damaged bit by bit - you're left with a shell of the level.

Take *Lemmings 2* on for a quick brain-testing session every day for months or you can sit down and try and sort the whole lot out in a mammoth Lemmings-rescue effort. Unless you're the programmer, however, it'll take you weeks to work through it all. Graphically, it looks brilliant - massive bright

beach and outdoor worlds contrast with the dark and damp caves and the Egyptian and Classic levels add a bit of culture. The atmosphere of all the levels is enhanced by themed tunes, relevant to the world you're in. It's massive, brain-taxing, funny and visually and sonically brilliant. Even if you only buy one single game this year, this has to be it. You won't regret it. **stf**



■ **EGYPTIAN WORLD:** Lemmings come out of three trapdoors in this land of pyramids and the Sphinx.

## Lemmings 2

£29.99 Psygnosis

☎ 051 709 5755

1MByte RAM only

1 disk

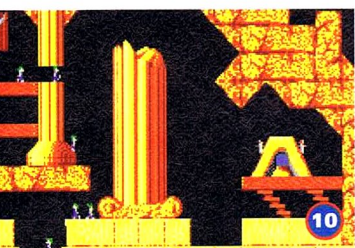
### Highs

- Far superior to the original.
- Incredibly detailed with 120 levels.
- Full of humour, great to look at and listen to.

### Lows

- Control's a bit difficult when there are lots of lemmings grouped together.

96%  
STEERING



■ **CLASSIC WORLD:** Lots of pretty solid stone in this world - just as well you get some tough lemmings.



■ **MEDIEVAL WORLD:** Take on the land of the Sheriff of Nottingham here.

## EVEN MORE LEMMINGS TO IDENTIFY

**Rock Climber** - can scale vertical surfaces and get around overhangs. (P)

**Roller** - rolls across the landscape and can take off if there's a conveniently-placed ramp. (C)

**Roper** - creates a rope which lemmings can walk on.

**Runner** - moves faster than a walker. (P)

**Sand Pourer** - pours sand. Can't fill bottomless pits, though.

**Scooper** - digs down diagonally, removing large chunks of landscape along the way. (C)

**Shimmier** - jumps into the air and tries to get hold of the ceiling, then shimmies along it. (C)

**Skater** - skates competently over slippery ice where other lemmings are unable to keep their balance. (P)

**Skier** - skies gracefully across the landscape and also has the ability to jump over ramps.

**Slider** - like a climber in reverse. Can slide down any vertical surface. (P)

**Spearer** - throws a spear which sticks in the landscape. (R)

**Stacker** - builds a vertical wall from 12 bricks.

**Stomper** - jumps up and down smashing a vertical trail through the land. (C)

**Superlem** - flies following the cursor. Wears Superlem t-shirt. (C)

**Surfer** - can surf if you're drowning or swimming. (F)

**Swimmer** - can swim without drowning. (P)

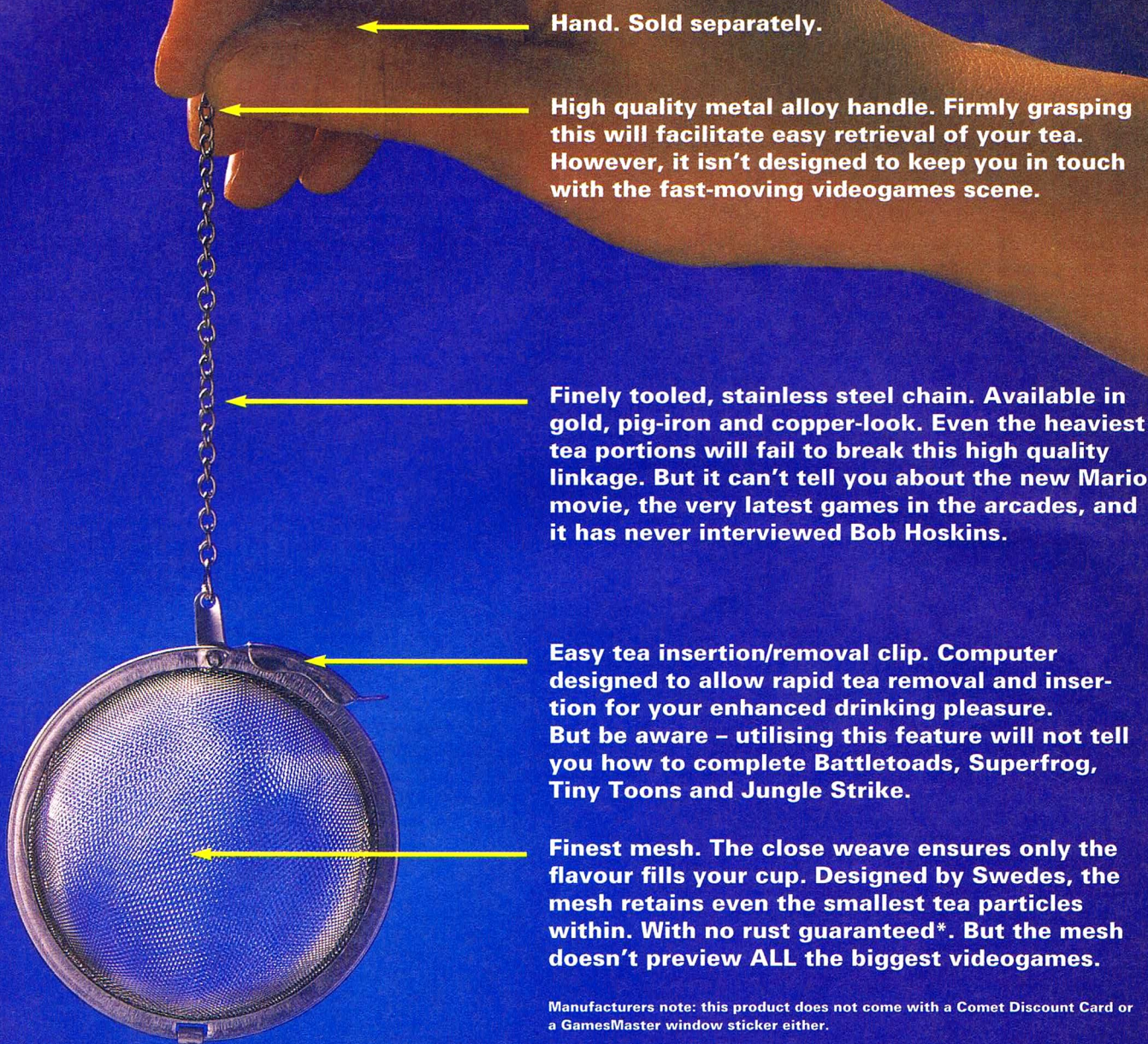
**Thrower** - throws rocks which stick to the landscape. (R)

**Twister** - spins very quickly, can make tunnels if blown into the ground by the fan. (F)

**Walker** - standard lemmings.



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# ISHAR 2

## MESSENGERS OF DOOM

■ Kendoria's hard won peace comes under threat again in *Ishar 2: Messengers of Doom*.



**One of the most eagerly awaited adventure games of the year arrives on your ST.**

**Rob Mead puts on his leather jerkin and takes a look**

*Ishar: Legend of the Fortress* was one of the gaming highlights of last year. French programmers Silmarils conjured up a deeply atmospheric role-playing game which plotted the trials and tribulations of five adventurers and their journey across a mythical land. This *FORMAT* Gold winning game also set the scene for an inevitable sequel – and here it is.

*Ishar 2: Messengers of Doom* finds the isle of Kendoria enjoying a much deserved peace. The foreboding fortress of Ishar has been transformed into a leading cultural centre and spreads Kendoria's influence beyond its shores to the six other lands.

Things start to go terribly wrong, however, when an evil drug syndicate start foisting mind-altering pills on the unsuspecting population, bringing the lands to the brink of anarchy. As Zubaran – Ishar's ruler – it's your job to round up four like-minded adventurers and defeat the syndicate, bringing

peace and prosperity to your kingdom once more.

The game drops you in the deep end as soon as you start – you witness a cowardly and brutal attack on a defenceless girl by a gang of thugs. You're powerless to help, so you head north to the nearest village to recruit members of your team and buy much needed equipment. Irvan's Island is an eerie swamp-infested land filled with vicious lizard men and killer insects. You're given a host of cryptic clues to unravel, once you do, you can escape from the land and set sail for Zach's Island, a bustling cityscape filled with houses, taverns and shops. Here you can build up your team's combat experience and discover the many clues, maps and artefacts which are going to help you on your quest.

*Ishar 2* is a massive adventure which claims to be three times larger than its predecessor. In addition to the swamp and city worlds of Irvan and Zach there's a myr-

riad of dungeons and villages to explore, as well as mountains and a Tree City to traverse. Each landscape is filled with its own peculiar inhabitants – zombies, skeletons, giants and pterodactyls, for example – and treacherous pitfalls to overcome. This is one serious game-playing experience.

### Character psychology

The key to any role-playing adventure is your ability to mix and match different characters in your team. One of the main features of *Ishar 2* is the introduction of complex character psychology.

■ You travel to each island by boat from local harbours – remember to buy a sick bag from the chemist's.



Each person you recruit has their own distinct personality and attributes. When you choose your team you have to take racial tensions and personality conflicts into account since these affect a character's willingness to help another when in trouble – an elf may be unwilling to heal a wounded orc, for example. You can even spark off a series of murders within your team by assassinating a well-liked character.

As well as having different personality profiles, your characters also possess a wide variety of skills associated with them – there are warriors, thieves,

scholars and magicians who can play a part in the successful outcome of your quest. High level, experienced warriors are crucial in combat situations, for instance, while magicians are useful for creating powerful spells and potions.

Another new feature found in *Ishar 2* is its self-mapping facility. This means you no longer have to wander aimlessly around a landscape trying to find clues for your quest. Each island has its own map – accessed via the Action menu bar – which ensures you know exactly where your team is in relation to the total game area. The Action menu also enables you to give first aid to your characters, as well as recruit, dismiss or assassinate them.

### Intuitive adventuring

If you've never played an adventure game before, *Ishar 2* can be a daunting experience. The screen consists of a main game window featuring a 3D landscape, as well as a series of mouse-controlled menus which enable you to arrange your characters and access their individual inventories. After an hour's play, the control system becomes second nature and you're soon belting around each island, slashing baddies and piecing together the puzzling information presented to you.

Although *Ishar 2* is stylistically similar to its predecessor, Silmarils



■ Zach's Island is a bustling city filled with taverns, shops and axe-wielding baddies.



■ The swamp world of Irvan is home to these unsavoury lizard men.



■ You witness a horrifying assault on a defenceless girl on Irvan's Island. Dare you risk going to her rescue?



■ Take time out from your adventuring for an evening at the local nightspot. Smart dress essential.



■ A fire monster lies in wait at the entrance of the Castle. Cast a Fire Protection spell to defeat him.



■ Fatally wounded, the hapless victim offers you her pendant before she dies.



■ A friendly giant offers you the sharp end of his axe. Do you take up his kind offer of instant death, or run like the clappers?



■ This is Zubaran - your character - checking out his neighbours' new satellite dish.



■ Taverns are notorious places for picking up local gossip and recruiting adventurers for your quest.

have managed to conjure up an entire new universe to immerse yourself in. Highly detailed, realistic graphics combine with atmospheric sound effects to produce a very involving game-playing experience. All the locations in the game - city, mountain or swamp - have a very different feel to them and you can't help but be enthralled by what's going on.

The only drawback is there's a lot of tedious slogging around the islands in the early stages of the game as your characters gather experience points and pick up the various clues lying around. There are also plenty of plot turns and twists as well as sub-adventures for you to get involved in so you don't feel bored for long.

Because *Ishar 2* is largely icon and menu-driven, using a keyboard or mouse is your best option - the joystick emulation is not recommended. Gameplay can be a little slow because of the complex 3D graphics and frequent disk accessing. This means game-play can be a little jerky, although installing the game on a hard drive improves things considerably. One major improvement to the game is the Save Game option - you no longer have to squander your precious gold on saving the game and you can save as many times as you like. You can also import your characters from the first *Ishar* into your new adventure. This appears to have been

included at the expense of the quality of the high res option - the clarity of the mono image is not as good as it was in *Ishar 1*.

### Verdict

*Ishar 2* is a sprawling role-playing adventure which manages to build on the success of its *FORMAT* Gold winning predecessor. With eight islands for you to explore, *Ishar 2* is an absorbing and atmospheric challenge which is going to keep you at your ST for months. The only drawbacks are the screen refresh rate and constant disk accessing, making gameplay a little slow at times. All in all, this is an adventure which has to be experienced. **stf**

## Ishar 2: Messengers of Doom

£29.99 Silmarils/Daze  
☎ 071 328 2762  
1MByte of RAM required.  
Three disks.  
Hard drive installable.  
All resolutions.

### Highs

■ *Ishar 2* is a massive RPG, packed with atmosphere and playability.

### Lows

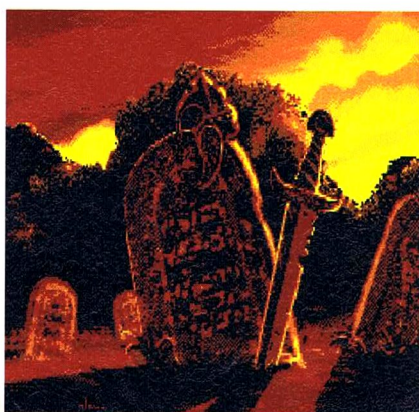
■ Getting around can get tedious and the game is a little slow.

92%  
STEERING  
%  
RATING



■ There are a wide variety of shops in *Ishar 2* which enable you to buy food, clothing weapons and even pets.

■ Your friendly local bank manager's always keen to take money off you. You can get it back by launching a daring robbery.



■ Fail in your quest and you could spend the rest of your days pushing up the daisies.

## Dungeons, dragons and icons

*Ishar 2's* main game screen looks a little bewildering at first, but it's a doddle to use - here's *ST FORMAT's* indispensable guide to it

assassinate characters in your team. The Red Cross is used for healing characters, while the Map icon enables you to access *Ishar 2's* mapping system.

**1 STATUS BAR**  
Gives your location, as well as the current time.

**2 3D GAME SCREEN**  
This is what you can see with your eyes.

**3 CHARACTER PORTRAIT**  
This is what your characters look like. Pretty, eh?

**4 CHARACTER STATUS**  
Gives each character's psychic and physical levels, experience and money held.

**5 MAGICAL ABILITIES**  
Scholars, magicians and druids can cast a variety of spells which are indicated here.

**6 CHARACTER'S ITEMS HELD**  
Tells you what items each character is currently holding - usually weapons.

**7 ACTION MENU**  
Enables you to recruit, dismiss or

**8 DISK ACCESS**  
Enables you to save, load or start a new game. A fourth option enables you to import your characters from *Ishar 1*.

**9 COMPASS**  
Tells you which direction you're currently facing.

**10 FIGHT STRATEGY ICON**  
Enables you to position your characters in a variety of battle formations.

**11 CHARACTER MOVEMENT PANEL**  
Click on one of the eight movement icons to move your team through the 3D landscape.

**12 FIGHT PANEL**  
Each character's weapons are indicated here. Click on each in turn to attack.



## Dressed up and no place to go

*Ishar 2's* characters each have their own inventory, detailing their current possessions and status

aspects of the Character Statistics menu.

**1 CHARACTER STATISTICS**  
Gives information on a character's race, experience and fitness. Click on the Book icon to see further statistics related to skill areas - lock-picking, perception, first aid, shooting and weaponry.

**2 INVENTORY**  
Each character can hold up to nine types of possession in their inventory.

**3 CHARACTER PORTRAIT**  
Shows which items of clothing an individual is currently wearing.

**4 ITEMS HELD**  
Tells you which items a character is currently holding.

**5 BOOK ICON**  
Enables you to access different

**6 MOUTH**  
Characters can consume food and other items by moving them on to this icon.

**7 EYES**  
Enables you to identify the different objects in your inventory - just drag them on to this icon.

**8 WASTEBASKET**  
Dump unwanted items by moving them onto this icon.

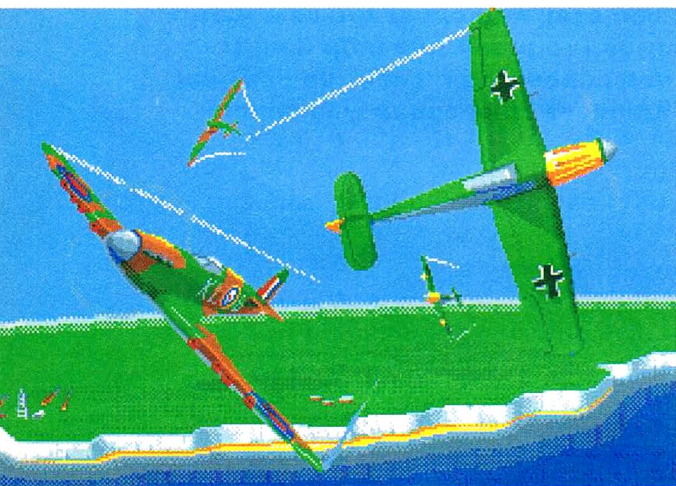
**9 MONEY HELD**  
Click here to access a sub-menu enabling you to give or share money with other characters in the game.





# REACH FOR THE SKIES

Practise those David Niven impressions – keep that upper lip stiff and get those kites airborne in this simulation of the Battle of Britain

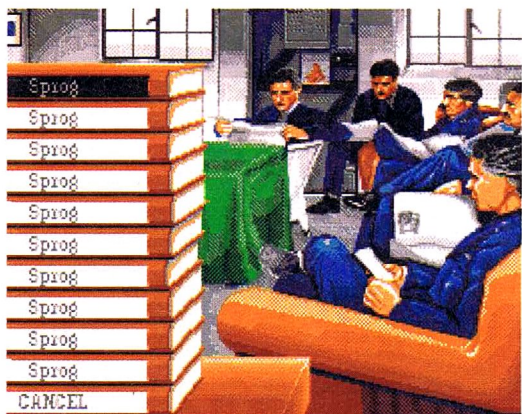


■ None of that computer assisted stuff with fancy head-up displays, radar and guided missiles here. It's all piston engines, sheep-skin jackets and skill. Chocks away, you fellows.

■ The sort of chaps you'd want on your side in a scrap, ahem. You can practise without ruining your war career, go for it proper or try for the big one by playing the controller as well as doing a bit of flying.



■ The chaps are desperately reading copies of Eagle comics in a frantic effort to pick up some useful hints on strategy, battle tactics and suitable insults for foreigners.



■ "We have successfully located the squadron's tea urn. We strike at dawn, one good hit could swing the whole war in our favour." The German controller plots the next day's raids.



■ This is your kite - and what a beauty it is. You can get an external view at any time and take a good look at your plane.

War is undoubtedly a thoroughly unpleasant thing, but swooping around machine gunning things in a simulation of aerial combat is great fun – strange but true.

Reach for the Skies puts you right in the thick of it. It's a comprehensive re-creation of the Battle of Britain, where the Luftwaffe tried to subdue the Royal Air Force before the invasion of Britain could begin. You can play the pilots or controllers of either side. The pilots get three lives to make it through the war and the controllers have to maintain or destroy the British fighter force, depending on which side they're on.

It's a game you need to approach in a determined manner, there's a respectably fat manual to read and a card showing the mass

of keyboard controls you need to master. You need at least 1MByte of memory to run *Reach for the Skies* and having a hard drive or two disk drives helps a lot.

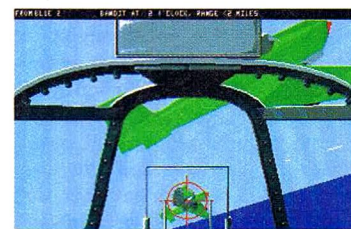
## Scramble scramble

After having decided which side you're on, it's time to give yourself a name and pick which phase of the battle you want to start in. The later you start, the higher your rank and the more realistic the game. You are briefed on a mission and off you go swooshing about, hunting down the enemy and blasting away while you try to stay out of the drink. You can opt to miss out the take off and landings and stick to the punch-ups which is a blessing if you're not terribly patient.

Although there are lots of controls to remember, flying about



■ Going in for the kill, your Spit coming behind a group of Stukas. There are options to reduce your chances of success with things like realistic flight and limited ammunition, bah!



■ This is what you should be aiming for - a Stuka dead in your sights. Getting into a good firing position isn't easy, you've only a second or two to get a good shot in.

## Ginger's top ten tips for survival

*Listen, you sprogs, here's some jolly old tactic stuff you fellows might find useful. It's tough out there and we don't want you pranging your kites on the first day, do we – what?*

**1** Keep the sun behind you when you attack, it gives you the added advantage of increasing the surprise when you hit the enemy.

**2** Don't look at the instruments too much; keep your eyes on the horizon scanning for bandits.

**3** Don't fly straight and level unless you're damn sure there are no bandits about or you'll end up a sitting duck.

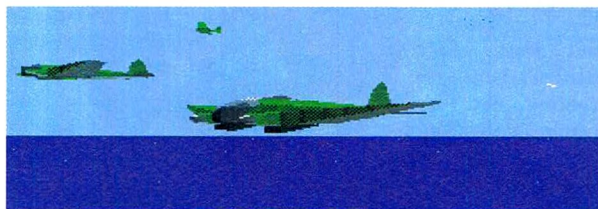
**4** Take it easy with the stick, it's all too simple to spend all your time over-compensating for your last manoeuvre.



■ The battle of Britain was fought in four distinct phases. You can start in any one but the difficulty gets progressively harder.



■ An external view of a Heinkel 111. The 3D vector graphics are fairly detailed and nicely shaded. You need to get close to the fighters to identify them and avoid embarrassing mistakes.



is easier than you'd expect. You control your kite with either keyboard, joystick or mouse and there isn't masses of technology to get bogged down in. Apart from firing the guns and adjusting the throttle there's almost nothing else to do when you're airborne other than concentrate on flying. The flight envelope and performances of the planes are supposedly realistic. If you start at the beginning of the battle the balance is swung in your favour. As a British pilot you get Hurricanes and Spitfires, while the Germans get to fly Bf 109 and Bf110 fighters, He111, D017 and Ju88 bombers and the infamous Stuka dive bomber.

Apart from looking straight ahead, there are seven other views from your fighter cockpit. You need to keep switching to these to

keep track of the other planes around you. Swirling around in three dimensions can all too easily leave you lost and easy meat for a fighter swooping from the sun and blasting you to bits while you are trying to get your bearings. Successful dogfighting takes practice. During the fight you get radio traffic appearing as text at the top of the screen. Your controller directs you towards enemies and your fellow pilots impart useful information like the fact that there is a bandit on your tail about to do nasty things to you.

If you're not too careful you spend ages chasing little dots on the horizon only to catch up with them, overshoot wildly and end up getting shot to bits. You need to develop tactics - at the very least take your time and circle around



■ In the big German bombers the tricky stuff of flying and bombing is all done automatically. You are left to man the machine guns and fend off the swarms of fighters.



■ You have plenty of different external views which you need to keep an eye on - don't panic, these crates are your wingmen.

**5** Remember your fellow fighters, you can protect each other's blind spots.

**6** Take your time getting into a good attacking position, try and swing around and attack from behind rather than going straight in headfirst.

**7** When your guns are in range so are theirs, keep the time you spend close to the bombers at a minimum.

**8** It's very easy to smash straight into a target, especially in a head-on pass. Get ready to pull out in good time.

**9** Turn towards an attacker rather than away, he overshoots and you can try and get behind him.

**10** If you're outnumbered, scarper - you can always come back later. Brave but dead pilots are completely and utterly useless.

## LEARN THE BANTER

**Before you can take to the skies you have to learn the banter or you'll sound like a damn fool in the officers' mess**

**ANGELS** - altitude in thousands of feet.

**BANDIT** - enemy aircraft.

**BOGEY** - unidentified aircraft.

**BRINY** - the sea.

**BUNT** - push the stick forward.

**CRATE** - an aircraft.

**JERRY** - a cartoon mouse.

**JINK** - weaving from side to side.

**KITE** - an aircraft

**PANCAKE** - landing in a controlled fashion.

**PRANG** - crash.

**SPROC** - inexperienced pilot.

**WHIZZO** - excellent.



■ You can activate a video at any time and your flight is saved to memory. At the end of the bash you can watch your moments of glory from any angle and save them to disk.

and try to get above the enemy. The dogfights can get huge too, with up to a dozen planes fighting for position.

### Tally ho!

The job of controller sees you deciding which planes go where and attack what. You ponder over a map of south-east Britain directing the chaps before taking part in the battle yourself as any one of the pilots. The Luftwaffe controller needs to pick his targets and concentrate on getting the bombers through. The RAF controller needs to distribute his forces and get his boys past the defending fighters and in among the bombers.

At the end of each day the state of the British fighter force is calculated. If it falls below a half of the initial strength, the Luftwaffe wins. Targets for the Luftwaffe include radar installations, convoys that are bringing supplies and aircraft factories and well as the airfields themselves.

The 3D vector graphics are good, the ground detail is particularly stunning. The sound effects and the music are a step above the usual flight sim. There's even snatches of digitised speech which really adds to the atmosphere. The general feel of the game is excellent and the amount of background detail and realism is impressive.

### Verdict

There's no doubt that *Reach for the Skies* is a superb game. It's aiming for realism and a lot of work has obviously gone into trying to achieve this effect. It can occasion-

ally crash when running from a hard drive which is annoying and combat can get a trifle tedious as you manoeuvre about for the best position and spend more time flying to the targets than in combat with them. Sometimes you also wish the planes didn't fly quite so realistically - especially when you overshoot an easy target. However, with practice you soon feel involved in the dogfights and learn to play as part of a squadron rather than a lone pilot determined to engage every enemy plane in the sky single-handedly. With the option to play both sides and the controller it should keep you going for a while. Being a front line pilot in one of the most vital aerial wars ever fought is no job for the faint hearted; you need a stiff upper lip and plenty of hot mugs of tea but it's a whizzo wheeze, pip pip.

CHRIS LLOYD

## Reach for the skies

£30.99 Virgin  
☎ 081 9602255  
1MByte RAM required.  
Hard drive installable.

### Highs

Bags of atmosphere giving a sense of involvement in battles. Historically realistic.

### Lows

Dogfights can be quick and confusing. A lot to get to a handle on before it shines.



# COOL WORLD

**Kim Basinger, eh? You can now get her on your ST thanks to Ocean's latest release. Rob Mead sighs pathetically**

If you think cartoon land is full of lovable, fluffy bunnies being terrorized by dozy game hunters, think again. The doodles in *Cool World* have got evil on the brain and the destruction of human civilisation in their hearts.

It all started when comic book creator Jack Dweebs inadvertently created a parallel universe between the cartoon world and the real world. His doodles are now upsetting the cosmic balance by crossing over into the real world and stealing objects to take back. You play a cop called Harris and you have to stop the doodles' destructive behaviour before it's too late.

Based on the film flop of the same name, *Cool World* is a platformer which takes the tension between reality and fantasy as its theme. You have to guide Harris around four levels of cartoon mayhem, traversing the divide between the real world and the cool world, where the doodles live.

The four levels are hidden behind 16 doors controlled by officious doodles who you have to bribe so you can gain access - money is gained by zapping the many doodles which wander harmlessly around the streets. The doors are spread over different streets and access to each section is reached in a random, illogical order. This has you wandering all over the place, although a map screen eases things considerably.

Once you enter a level you're confronted with swarms of manic

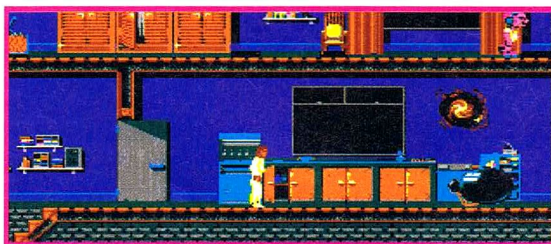


■ Your faithful cartoon sidekick sends a warning message about the stone gargoyles on Level Two.

doodles - anything from stone gargoyles to mutant babies - who zip back and forth between the cool world and the real world. Luckily you're armed with a magic pen which enables you to shoot and absorb the doodles before they cause too much damage. Once zapped, doodles release their stolen objects or bonuses for you to collect. Erm, that really is all, folks.

Sad to say, but *Cool World* is a major downer. Just like the film, it fails to live up to the hype - your hopes are unrealistically raised by the glam opening sequence but it's just one long anti-climax after that. The street sequences, for example, are furnished in glorious 2D with you guiding Harris across a horizontally-scrolling backdrop. Sure, the sprites are well-animated,

■ *Cool World* creator Jack is the first person to fall victim to the doodles when they try to loot his house.



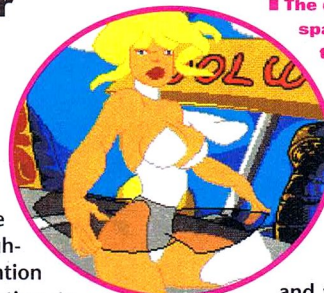
but Harris isn't particularly easy to control and the whole thing is laughable, not to mention tedious. It's frustrating to have to wander about from door to door when all you want to do is just skip from level to level.

Unfortunately, things don't get any better on the platformed

**"Cool World is a major downer. Just like the film, it fails to live up to the hype"**

sections either. You spend all your time switching between cool world and real world trying to stop the doodles from gaining the upper hand, but even this soon gets monotonous and you never really feel there's any point to what you're doing. To make matters worse, the joystick controls aren't particularly responsive and Harris frequently fails to leap to the

■ The delectable Holli sparks off all kinds of trouble when she tries to become human in *Cool World*.



desired location. Graphically, the game features some reasonably colourful backdrops and well-animated sprites, but they in no way compensate for the tedious gameplay.

The chip-based sound effects consist entirely of phut-phut noises as you fire the pen and the music sounds like the psychotic lift trash you love to hate.

## Verdict

*Cool World* is a disappointment, yet another below average platform game to add to the piles already available for your ST. Slick scrolling and well-animated sprites can't disguise the fact that this game gets very dull, very quickly. Sadly, the intro sequence is the most enjoyable part of the game. **stf**

## Cool World

£25.99 Ocean  
061 832 6633  
1MByte RAM required.  
Two disks.

## Highs

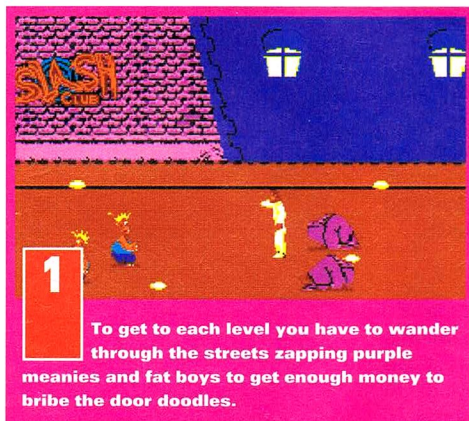
■ Smooth horizontal scrolling and well-animated graphics initially impress.

## Lows

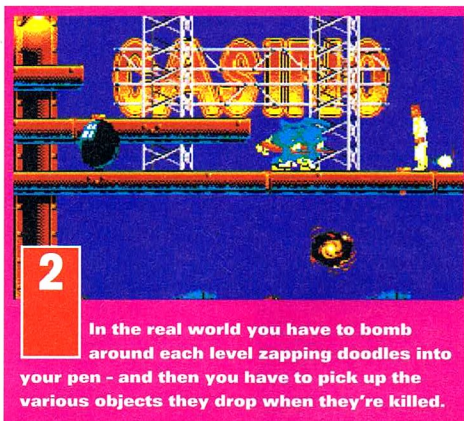
■ But *Cool World* is ultimately let down by its tedious one-dimensional gameplay.



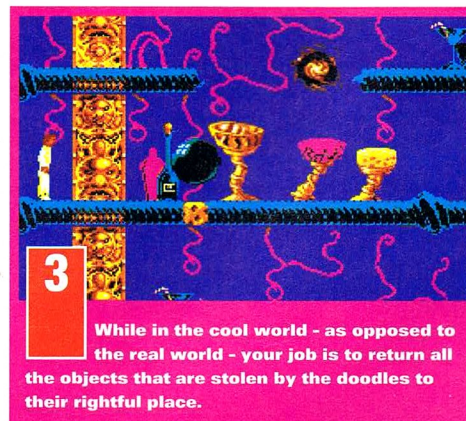
## SORT OUT THE REAL WORLD FROM THE CARTOON WORLD...



**1** To get to each level you have to wander through the streets zapping purple meanies and fat boys to get enough money to bribe the door doodles.



**2** In the real world you have to bomb around each level zapping doodles into your pen - and then you have to pick up the various objects they drop when they're killed.



**3** While in the cool world - as opposed to the real world - your job is to return all the objects that are stolen by the doodles to their rightful place.

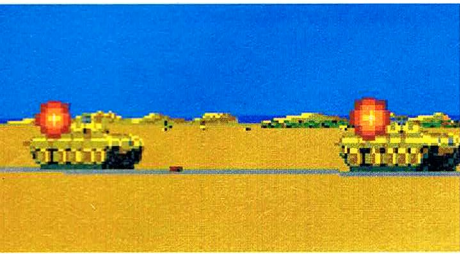
# WAR IN THE GULF

Saddam's up to his old tricks in Kuwait again and only you can stop him. Stormin' Rob Mead takes him on...



The Gulf War was arguably one of the world's first "surgical" conflicts. Allied forces knocked out entire sections of Saddam Hussein's war machine without incurring massive civilian casualties.

Now you can do exactly the same in Empire's latest war sim.



A squadron of Iraqi T-72s home into view, their 125mm cannons blazing in *War in the Gulf*.

Based on the same game engine as *Pacific Islands* and *Team Yankee*, *War in the Gulf* takes you to 1995 when once again, Saddam threatens Kuwait's sovereignty. Members of his elite Republican Guard have already seized the strategically important islands of Failaka and Bubiyan as well as a number of oilfields in the north. You play a member of Team Kuwait, a 1,000 strong force of US troops assigned to the Kuwaiti military. As your paymaster, the Sultan of Kuwait has given you strict instructions for your team to repel the Iraqi invaders while causing as little "collateral damage" as possible.

If you've never played *Pacific Islands* or *Team Yankee*, it's a good idea to start off with the Training mission where you guide four units



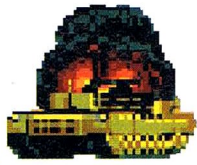
Use your thermal imaging camera to track down camouflaged opposition.

of four tanks each around an assault course and meet the set objectives. Only when you feel you can accomplish this successfully should you attempt the real missions against the Iraqi forces.

Why? Because in a battle situation events take place rapidly and you're usually heavily outnumbered. There's nothing worse than

fumbling over the controls when you've got a gang of Iraqi T-72s blowing the crap out of you.

Your primary objectives are to seize control of Failaka and Bubiyan, before taking on the hub of the Republican Guard on the Kuwaiti mainland – this is why you really need training as things get a little hot. There are 15 different tank battles over 400 square miles of terrain for you to complete before victory is yours.



No-one's going to let you loose on the battlefield until you're capable of telling a good guy from an Iraqi.

## STORMIN' NORMAN'S MIDDLE EAST ADVENTURE

Controlling your units in the Gulf couldn't be simpler, but winning the war is going to take a lot more effort

### 1 Quadrant/Expand icon

Toggles between the Quadrant display – which displays all four units – and the Expand display which zooms in on one team's activities.

### 2 Team Kuwait units

Click on each unit's name to see a full size screen view of the action from its perspective.

### 3 Map

Click here to go to *War in the Gulf*'s special map view.

### 4 Binoculars

Click here to enter the 3D mode (currently selected).

### 5 Spanner

Tells you the current operational status of your units.

### 6 Engine smoke

Makes your tank harder to detect by emitting clouds of smoke from the exhaust.

### 7 Infra-red sight

Makes spotting the enemy easier in the fog of war.

### 8 Compass

Changes direction of the gun turret. The direction of the tank is determined by the map screen.

### 9 Dead stop

Brings the currently selected unit to a sudden halt. Useful in the event of a surprise attack by Iraqi forces.

### 10 Zoom

Gives you a close-up view of objects which are still some distance away. Makes targeting your guns easier.

### 11 Weapons available

Enables you to choose from five different weapon types – HEAT, SABOT, TOW, Smoke and machine gun.

### 12 Laser range-finder

Enables you to target your weapons more accurately when stationary.

### 13 Money

Current funds available.

### 14 White flag

Quit current mission.

### 15 Pause

Suspends current mission temporarily.

### 16 Time

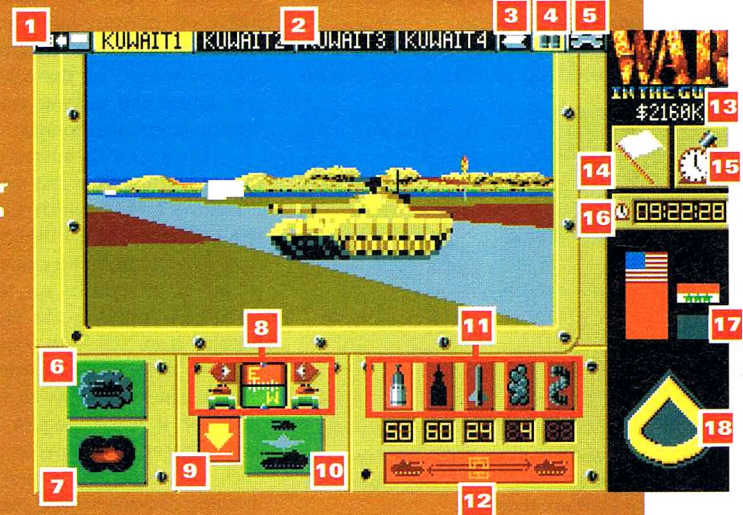
Current time. You usually have to complete mission objectives against the clock.

### 17 Morale/Unit strength

These status bars show the relative strengths of both Team Kuwait and the Iraqi forces.

### 18 Rank

Shows your current ranking as a tank commander – starting at the rank of Private.





## The AA's guide to Desert Storm

Keep overall control of the land battle with *War in the Gulf's* mapping system

### 1 Iraqi positions

Iraqi units do not always appear on the map screen at the start of a mission, but can suddenly emerge as you near their position.

### 2 US positions

Team Kuwait's four units are indicated by US flags on the main map screen.

### 3 Waypoint

Use the "X" to set a destination for each of your units.

### 4 ETA

Tells you what time a particular unit is expected to arrive at a set waypoint.

### 5 Map movement

The four directional arrows enable you to scroll the map around, while clicking on the blue square centres the map on the currently selected unit.

### 6 Zoom In

Gives you a close-up picture of your units by clicking on this icon.

### 7 Map Width

Tells you the size of the current map display in miles (or fractions of a mile).

### 8 Zoom Out

Click here to zoom out to the full map.

### 9 Dead Stop

Brings your Team Kuwait units to a complete halt.

### 10 Speed bar

Click on the up and down arrows to increase or decrease the speed of the currently selected unit.

### 11 Formation icons

Changes the currently selected units formation to one of the following (from top to bottom): Close formation, Wide formation, In-line formation, Column, Echelon right, Echelon left, Wedge and Vee.



### Soft targets, hard decisions

At the start of each mission you're briefed with your main objectives which have to be achieved against a time limit. Fail just one of your goals, and you lose.

Control of your tanks is achieved by placing a single way-

point on each of your four unit's map screens. Once they arrive, the tanks stop and you have to set the next waypoint. Timing is crucial here and you have to take the terrain into account - tanks move faster on purpose-built roads, but are vulnerable to attack, cross-country routes, on the other hand, are slower and getting your forces into position takes longer.

Once you've sussed out the map controls, you can access the 3D game screen which shows you the landscape in a bitmapped format. At any time you can view one or all of your units on the same screen by toggling the Quadrant/Expand icon. It's here you witness the full thrill of the battle - from spectacular explosions to the scary sight of a whole legion of Iraqi tanks descending on your position. Each tank even has its own thermal imaging camera, so you can see the



Iraqi's through the smoke and tumult of battle.

### Friendly fire

Despite a slightly exploitative feel, *War in the Gulf* is actually very good fun to play. Even if you're not a war sim addict, you soon find yourself deeply engrossed in what's going on. Keeping track of your four units is not easy - despite the novel Quadrant option - and you often find all four under attack at once.

You really do get the feeling of the heat of battle. The game can be a bit overawing at first and you can find yourself blundering blindly into situations without really planning how you're going to get out of them. You soon get the hang of things though, and you can achieve your initial mission objectives quite quickly, even if you do lapse into the occasional bout of US Army style friendly-fire by inadvertently attacking your own units.

Control of your forces is achieved entirely by a series of point-and-click icons and menus. You're unable to steer individual tanks but are responsible for collective targeting of the enemy objectives using a cursor gun-sight - this makes getting around dead simple and enables you to fully concentrate on knocking out the Iraqi tanks.

Graphically, *War in the Gulf* is identical to its two predecessors - the same 3D bitmapping ensures gameplay is fast and furious, even if not highly detailed. The different buildings are distinct enough for you to avoid destroying warehoused Kuwaiti art treasures - for which you are seriously penalised, while pummelling crucial Iraqi communications centres.

The tanks are not so easily identified, although you can orientate yourself effortlessly using each unit's maps. The sound effects are pretty unspectacular, consisting mainly of chip-generated explosions and tank rumbles.

■ Control four platoons of tanks at once? You're joking, aren't you? Apparently not.

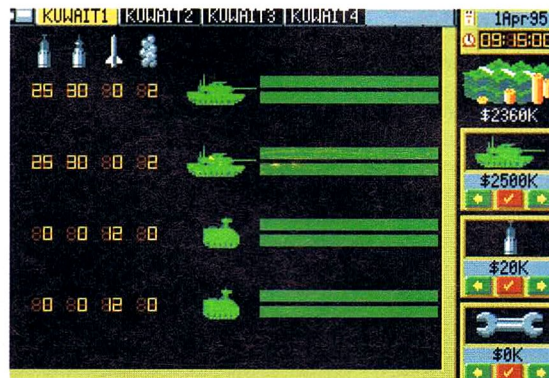
■ "See that, that's an ITV, that is." "Why's it got a Sky satellite dish on the top of it then?"



### Verdict

This is *Pacific Islands* with sand. Empire have cashed in on the whole Gulf War thing and come up with a highly cynical, but effective war game. If you own *Pacific Islands* or *Team Yankee* already, there's nothing here that's really any different - you're just getting a different set of missions for your money.

This doesn't stop *War in the Gulf* being any less addictive or fun to play and if you're the kind of person who can't stand complicated war sims, then this is the game for you. **stf**



■ At the start of each mission you can buy more weapons or tanks from the armoury.

## War in the Gulf

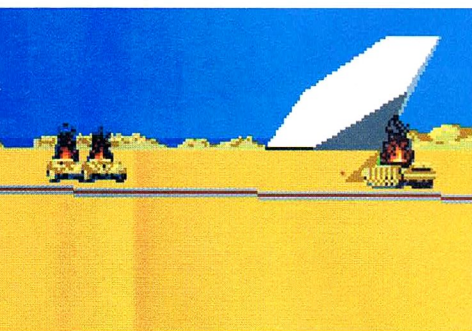
£29.99 Empire  
☎ 081 343 7337  
One disk.

### Highs

■ Humungous explosions and nail-biting gameplay makes *War in the Gulf* the best fun since Cleopatra's asp.

### Lows

■ You could find it too simplistic if you're a serious war games enthusiast.



■ Destroy the satellite and stop Iraqi ground forces from alerting their HQ to your presence.

WIN!WIN!WIN!

empire  
SOFTWARE

## WIN A '40S FIELD RADIO

This is your chance to participate in the thrills of war - just answer ten simple questions

**H**ow do you fancy owning a '40s field radio? Just imagine the fun you could have - doing the Jitterbug with Auntie Edna on the banks of the River Thames, smooching with your blushing bride to Glen Miller. Tuning into Gary Davies. The possibilities are endless.

Empire Software and *ST FORMAT* are offering you the chance to win the Spirit of St Louis, a collector's edition field wireless featuring FM, LW and MW wavebands

in all their steam-powered glory. The Spirit of St Louis field radio comes encased in a black cabinet with brushed aluminium front, side-mounted carry handles as well as a front-mounted speaker and top mounted loop antenna.

Battery-powered for maximum portability, the set comes complete with volume, tone and fine tuning controls as well as blinking lights which could transform a gloomy evening into the radio equivalent of Blackpool illu-

minations. Five lucky runners-up could also get the chance to win a set of three excellent war games, including two *FORMAT* Gold winners - *Team Yankee*, *Pacific Islands*

and *War in the Gulf*. So, fetch the bread and dripping from the pantry, stick your tin helmet and scribble the answers to the questions below on a saucy seaside postcard to: **Kippers and Custard Competition, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.** All entries should be received no later than **Friday 13 August 1993.**

### Competition rules

1. All competition entries must be received by Friday 13 August 1993.
2. Employees, friends and relations of either Future Publishing or Empire Software are ineligible to enter.
3. Duplicate entries will be forced to watch repeats of *Through the Keyhole*.
4. The Goons weren't the same after Harry Secombe left.
5. The Editor's decision is final and no correspondence shall be entered into. Thank you and goodnight.

## JUST ANSWER THESE WAR IN THE GULF RELATED QUESTIONS

1. What was the name of the Iraqi-launched missiles that landed in Israel?
2. In what year is *War in the Gulf* set?
3. What terrain do tanks move on fastest?
4. How big is the playing area in the game?
5. Which issue of *ST FORMAT* was *Pacific Islands* originally reviewed in?
6. What tactic can you use to make your tank much harder to detect?
7. Who was the Allied Supreme Commander in the real war in the Gulf?
8. What is the name of the head of the Kuwati royal family?
9. What piece of technology enables you to see through the smoke of battle?
10. What are the five weapon types that you can use in *War in the Gulf*?

### Home Accounts 2 Competition Winners

In *STF 46* we offered you the chance to win five copies of this excellent money-management program. The lucky winners are **M Kempster** of Cornwall, **Roger Hannaford** from Shropshire, **Al Buchanan** from Lincoln, **Malcolm Cole** from Kent and **A Hewitt** of Chester.

1. What does ASCII stand for?  
**A. American Standard Code for Information Interchange.**
2. What is "probably the most powerful accounting tool on your ST?"  
**A. The spreadsheet.**
3. What is Wayne Smithson working on

at the moment?

4. **A. The ST version of Lemmings 2.**
5. Who are in Beat System?  
**A. Derek Pierce and Jon Tizzard.**
6. Spell the sound a duck makes.  
**A. Quack.**
7. What sort of machine does Paul Hruza describe the ST as?  
**A. Bloody good machine.**
8. Who were Donald Duck's nephews?

**A. Huey, Louie and Dewey.**

9. What's "undoubtedly the best small accounts program for the ST?"  
**A. Home Accounts 2.**
10. What piece of furniture does a database do the same job as?  
**A. Filing cabinet.**
11. Which male character collects glasses in the Rover's Return?  
**A. Jack Duckworth.**



# OPERATION STEALTH

A top secret Stealth Bomber has disappeared. Its dopey pilot left the keys in the ignition and now the plane's winging its way towards the South American republic of Santa Paragua.

*Operation Stealth* is a James Bond style graphic adventure filled with Cold War intrigue, exploding pens and scantily-clad women who fall madly in love with you – just like real life, eh?

You play top CIA agent John Glames who's sent off to Santa Paragua to retrieve the missing bomber. Unfortunately, the KGB has a similar plan and the game turns into a race against time, with those darn Russkies trying to foil your plans every step of the way.

*Stealth* was one of the first games to use a fully mouse-controlled point-and-click control system, and it shows. The gameplay isn't particularly intuitive and you can end up walking around in circles trying to get your character to perform a particular action. The menu system's a bit fiddly as well – sometimes clicking with the left mouse button on a menu works, other times it's the right mouse button which does the job. However, once you've got used to these shortcomings, there's plenty here to reward you. The game is filled with cryptic clues and puzzles as well as the odd unwelcome surprise – you're blamed for the murder in the park, for example. Graphically, *Operation*

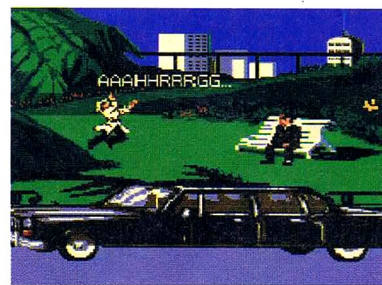
*Stealth* has a similar feel to many of US Gold's other graphic adventures like *Indiana Jones* and even shares many of their humorous elements. It all adds up to be an absorbing and involving adventure which soon gets its hooks into you.

## Verdict

*Operation Stealth* is a dated, but enjoyable graphic adventure which plunges you into the shady world of Cold War espionage.

The point-and-click controls are a bit archaic, but otherwise this game measures up quite well to the more recent adventures like *Fascination* or *Hook*.

ROB MEAD



■ A hail of bullets pours from the black limousine and you get fresh brains all over your new suit in *Operation Stealth*.



■ One of your first obstacles in *Operation Stealth* is getting past the customs official – just sneak off to the lav and have a rummage in your magic briefcase if you're stuck.



■ "Hey! Take me to El Porto." "Only if you promise not to spray egg foo-yung all over the back seat."

## Operation Stealth

£14.99 US Gold/Kixx XL

☎ 021 625 3366

Three disks.

Hard drive installable.

## Highs

■ An absorbing graphic adventure with plenty of plot twists.

## Lows

■ The point-and-click controls are a little unwieldy and the plot's too linear.



# HILL STREET BLUES

Ever felt the need to rid the world of all the wicked baddies – you know, men who nick old ladies' handbags right through to the really unpleasant, to say the least, serial killers?



■ This is your office – just click on the computer and you get to find out about all the crimes you should be solving.

Well, now's your chance with the re-release of *Hill Street Blues*, a huge game set in Chicago where you get to be Captain Furillo, in control of the police force and all their associated resources like the paramedics and specially trained marksmen. You have to keep the streets clean of crime (and bodies, so don't just haphazardly shoot everyone and hope for the best) – if you make too many mistakes you're likely to find your popularity deteriorating swiftly, and you'll be out of a job.

This is actually likely to happen sooner rather than later – although you can choose from a variety of difficulty levels, this relates to the crimes committed rather than the frequency with which they occur, so you start off with muggings and bag-snatchings, rather than the heav-

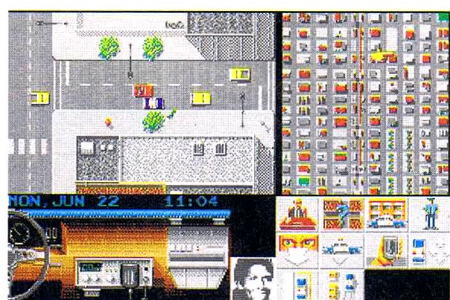
ier stuff. Time in the precinct moves much faster than it does in real life, so you're likely to find that you're overwhelmed with criminals all over the town before you've actually worked out what you're supposed to be doing. Don't panic though, take your time to remember what each of the 40-odd icons does and you can start to methodically put a stop to the crime wave.

The whole thing's controlled by the mouse and tends to be a bit slow on the uptake. Things are made even more confusing by the number of crimes committed – you need to keep a close eye on which offender you've got sorting out which offender in which bit of the town. Mental agility – or at least a pen and paper – come in very handy.

## Verdict

*Hill Street Blues* certainly has plenty of potential to keep you going for months on end – there are so many different ways you can approach the solving of a crime, not to mention mistakes that you can make, that you're bound to find something new every time you load it up. If you haven't got much patience however, and you prefer your relationship with the games you play to be based on instant attraction you might find this a tad complicated to master.

PAULA RICHARDS



■ See that block on the right, there, that's the map screen and shows what a huge area you've got to patrol. Click on a coloured bit and you find out where it is.



■ Your first view of part of the area you're supposed to be keeping an eye on. Click on any of the icons on the right to initiate an action.

## Hill Street Blues

£9.99 Buzz

☎ 0709 372290

One disk

## Highs

■ Plenty to keep you going; absorbing and detailed – a challenge!

## Lows

■ The icons and sub-menus can get confusing.



# MANIAC MANSIONS



■ Although it's not much to look at, *Maniac Mansion* has great gameplay to keep you interested.



■ To join Dave you can choose two kids from this interesting-looking bunch. Whatever choices you make affect the gameplay, so be careful.

Imagine yourself stuck in a dark house with two American kids for company. These kids would much rather be at the beach or studying physics, but you can't let them go and do what they want 'cos you've got to go and rescue your girlie – she's likely to kill you when she gets out if you haven't done your utmost to save her.

This is *Maniac Mansion*, first released back in 1987 but still giving you the chance for some great gameplay.

Anyway, that's why you're at this creaking gloomy-looking house taking part in an adventure game. You know the sort of thing you've got yourself into:

picking up objects and using them on the most unlikely bits of furniture, discovering rooms and other

hidden objects, finding limp lettuces in the fridge and you thinking they could be useful one day so you pick them up and carry them round with you; finding a chainsaw you could use on the mad scientist then finding it's run out of petrol – you know, the usual frustrating thing.

## Verdict

*Maniac Mansion*'s great fun to play – there are plenty of humorous bits that touch on the faintly macabre, like finding yourself locked in a dungeon with nothing but a skeleton for company – and

you also get to use your brain a bit as well, when you're trying to solve the puzzles to enable you to solve the main problem.

The animated sequences, over which you have no control, are fun to watch and give you the chance to see how Sandy's bearing up under the strain. They also give you an insight into how the other characters work. Although in appearance the game looks rather primitive, there's enough here to keep your interest and you don't really mind too much about its looks.

PAULA RICHARDS



■ Graphics are bright and colourful, the interface is very easy to use and all you have to do is rescue that cheerleader of yours.

## Manic Mansions

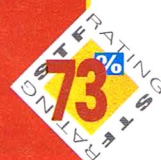
£12.99 Lucasfilm/Kixx XL  
021 625 3311  
One disk.  
Hard drive installable.

### Highs

■ Absorbing and gently humorous.

### Lows

■ Not exactly at the cutting edge of technology, graphics-wise.



# BULLY'S SPORTING DARTS

■ Better than *Sensible Soccer*, more playable than *Kick Off 2*, *Bully's Sporting Darts* is going to be the footy game this autumn.

Know what your right arm's for? Then pack it in and have a game of darts instead. Jim Bowen's only friend arrives on your ST, dragging loads of fabby darts games behind him.

*Bully's Sporting Darts* enables you and a pal to pit your arrow-throwing wits in six different tests of skill, tactics and beer-gut wobbling ability. The games – 501, Clock, Football, Tennis, Golf and Cricket all take place on a series of standard or custom dartboards with Bully chastising or praising you all the way. 501 and Clock are the kind of games you can play with any pub team, but the others need you to suspend your disbelief while you aim your darts at a sec-

tion of the board and pretend you're playing for Aston Villa or something. Great, eh?

You know you're in for a laugh as soon as you boot this game up – your ST's sound chip starts blasting out *Down at the Old Bull and Bush* and the graphics appear on-screen in all their crappy day-glo glory. But as soon as you delve into the first game of 501 you're hooked.

A dart-wielding hand appears on-screen which you control with either your joystick or ST's keyboard. As soon as you've lined up the dart for a shot, pressing Fire sends it winging into the cork.

Get a high score after you've released your darts and you're rewarded with a congratulatory "moo" from Bully. Of the "non-darts" games the footy and the golf

are the best as you try to lodge darts in their half of the "pitch" or try to score a hole-in-one.

However, the snooker game is the pits – it's over complicated and very dull. The game presents you

■ You can't beat a traditional game of darts, so try and beat your ST instead.

with nine increasingly hard-to-beat computer opponents.

To brighten things up a bit, there's also a two-player option so you and a pal can play against each other.

Graphically, the game's a bit of a disaster area – there's nothing here which wouldn't disgrace an 8-bit and the sound effects consist largely of the aforementioned chip music and the sound of Bully mooing constipatedly.

## Verdict

You're not going to believe this, but *Bully's Sporting Darts* is actually



a lot of fun to play, especially in two-player mode. It doesn't use any of your ST's capabilities, the music is going to drive you bonkers, but you're going to be playing this until the Bullies come home.

ROB MEAD

## Bully's Sporting Darts

£9.99 Alternative  
0977 797777  
One disk.

### Highs

■ Addictive, knock-about fun with Jim Bowen's only chum.

### Lows

■ The graphics are really crap, frankly, but who cares?



■ Bully is Eric Bristow's better-looking older sister. She makes great cow pie.

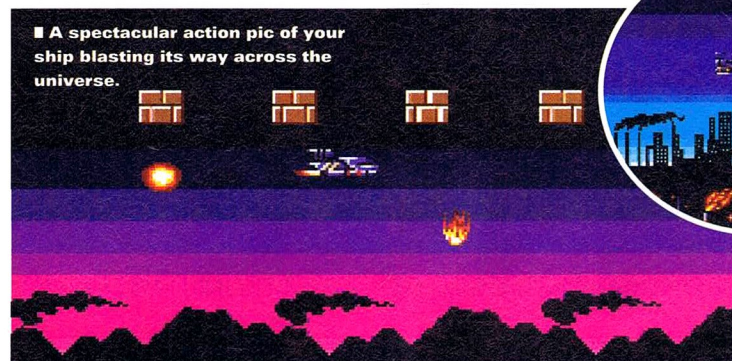
# METALLIC POWER

You want rare? We'll give you rare – this compilation isn't even on sale in the UK.

Rob Mead investigates



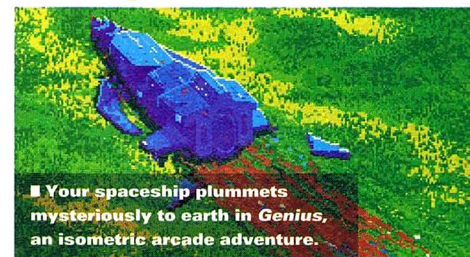
■ Big, bad racing cars separate the men from the Nigel Mansells in *Vroom*.



■ A spectacular action pic of your ship blasting its way across the universe.



■ Guide a stricken spaceship across 28 missions of mayhem and puzzlery in *Outzone*.



■ Your spaceship plummets mysteriously to earth in *Genius*, an isometric arcade adventure.

Until now French softies Lankhor have been able to get most of their ST games distributed either through Domark or UBI Soft in the UK, but *Metallic Power* is different. It's only available direct from the company themselves. So, before you pop down to the post office and send a bunch of fivers off to le Continent, you'd better see if it's worth the hassle.

## Vroom

The best game here has to be *Vroom*, the best racing sim ever released on the ST. It makes Nigel Mansell's *World Championship* look like a trundle around in a shopping trolley. Fast, smooth-scrolling graphics and extremely realistic sound effects make this a racing experience like no other. It's brilliant.

You're given a choice of Training, Arcade or Championship modes or you can watch the demo and see how the experts do it. Best of all, get one of your pals to hook up his ST to yours for tons of simultaneous tyre-squealing mayhem.

With only six circuits, the game lacks longevity and there are

no custom car options like more recent racing sims. But, hey, who cares? *Vroom* still knocks spots off the competition. The feeling of realism you experience as your car shoots around the track is awe-inspiring. Take a corner too fast and your tyres squeal in protest and you get some pretty spectacular explosion when you plough into obstacles at 300 mph. A more spectacular view of the action can be achieved by toggling the <F10> key – this zooms you even closer into the action, making the game appear faster still.

Only the Arcade mode can be controlled by the joystick, the rest of the time you need to use the mouse – something which can take a little while to get used to.

## Outzone

This is a horizontally-scrolling shoot-'em-up starring a disabled spaceship and an escort vessel. As pilot of the escort vessel it's your job to ensure the damaged

ship gets from one side of a level to another unscathed. Between you and the exit are a host of baddies, obstacles and puzzle blocks which you have to deal with. There are also a number of bonus objects – like weapon power-ups – for you to collect.

When you first start to play, *Outzone* looks like just another monotonous blast, but the puzzle element and dealing with the stricken ship soon has you glued to your ST. You have to keep constantly on the move, destroying obstacles and blasting baddies while zipping backwards and forwards to check on the drone's progress – it's a bit like a primitive version of *Sleepwalker* really, except it's not so cutesy.

Graphically, the game's pretty unremarkable – the ship sprites are small and there's nothing here to take your breath away. However, the backgrounds are jollied up a bit by the inclusion of some colourful parallax scrolling.

## Genius

All compilations have at least one dodgy game and *Metallic Power* is no exception. *Genius* is an isometrically scrolling arcade game featuring the cutesy robotic talents of G Nius, the chief maintenance robot who's thrown into turmoil when your spaceship crashes and the ship's inhabitants go berserk. You have to guide the little robot from one end of the ship to the other, killing off baddies and



■ What's worse than an 80 mph traffic jam? A 300 mph traffic jam, of course.

## PLEASE, MR POSTMAN

You can't buy *Metallic Power* in the UK. If you want a copy you have to send an International Money Order – no cheques – for £25.99 to Lankhor, 84 bis, avenue du General de Gaulle, 92140 Clamart, France.

## Metallic Power

£22.99 Lankhor  
☎ 010 33 1 46 30 33 03  
Three disks.  
Not available in the UK.

## Highs

■ This compilation's worth £25 for *Vroom* alone. *Outzone* isn't too bad either.

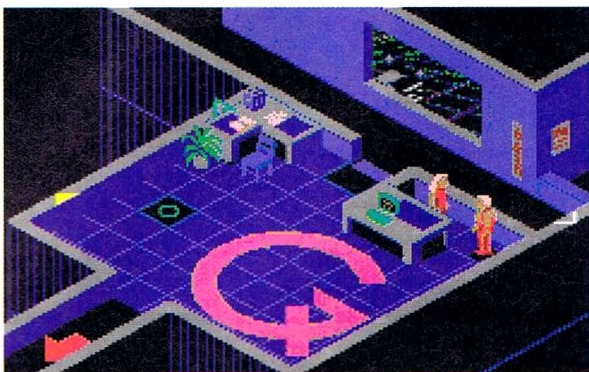
## Lows

■ Unfortunately, *Genius* is. Still, two out of three isn't bad.



# D/GENERATION

■ Once you find out how to trick your way past the first part of the security system, you get to chat up and rescue the trapped receptionist.



The *D/Generation* is an advanced form of the Neogen organism developed by a scientist from the Genoq Corporation. It's a particularly advanced stage of artificial evolution, and it just so happens that this vicious organism is loose in Genoq's Singapore lab.

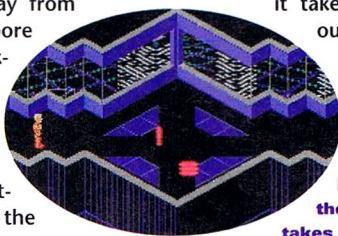
As an intercontinental courier you fly all the way from Finland to Singapore to deliver a package to Genoq's head scientist, Derrida. When you get there, you narrowly miss getting killed by the building's security system and quickly realise that the package you're carrying is more important than you thought. So, in a burst of courage you decide that you're the only one who can rescue the trapped workers and bring the package safely to Derrida.

*D/Generation* is an addictive and frustrating platform game with adventure-style undertones. Not only do you have to find Derrida and give him the package, but you also need to gather information from the surviving workers so that you can solve the mystery and destroy the D/Generation – there are over 120 rooms filled with traps and nasty surprises.

Graphically, *D/Generation* isn't brilliant, but there are some

humorous touches which make the game enjoyable to play – when the A/Generation blobs swallow you for example, they turn into space hoppers and when the B/Generation cylinders spot you they jump on you and hammer your character into the ground.

The most frustrating part of the game is the joystick controls – it takes a while to work out the relationship between your joystick's eight directions and those on-screen. Once



■ Trying to get past these electric fields takes a while to master... and if you miss, you fry.

you've sussed that out though, you can really get into the game as you dodge, shoot, rescue and devise your way to the 90th floor where Derrida is waiting for you.

## Verdict

*D/Generation* is an amusing and frustrating journey into adventure and platform land. When you turn on your ST though, just make sure you haven't anything planned, 'cos the chances are you're still going to be playing with it in the early hours of the morning.

Be warned, you won't want to put *D/Generation* down until you've solved it.

DAVID ROBERTS



■ Those red blobs are the A/Generation.. once they spot you, they bounce on top of you and turn into a space hopper... Weird!

## D/Generation

£9.99 Mindscape  
☎ 0444 246333

### Highs

■ Humorous animations and addictive gameplay make this an excellent budget release.

### Lows

■ The controls are confusing – and you're bound to hurl loads of abuse at your joystick.



There are much cheaper magazines.

Some have posters. Or stickers.

Some review every game good, bad or average.

Some are easy to get hold of, any time: they never sell out.

**Edge** isn't like that.

To be honest, **Edge** isn't for everyone.

**Edge:** decide for yourself.

**EDGE**

Thursday 19 August 1993.



■ The Kremlin is cheesed off with the Chinese... you have to scare them and show them who's boss.



■ You've just locked on to an arms depot. Blow it up and teach them a lesson they won't forget.

# MIG-29 FULCRUM

Remember the days of the cold war when there were two superpowers – the Yanks and the Soviets? In those days you couldn't get shoot-'em-up flight sims that enabled you to stage raids on Saddam or Gadhafi. Oh no! You had to put up with being a Russian or an American pilot upholding your country's status by scaring all the small countries around you.

Well, thanks to Hit Squad you can relive the days before the Berlin Wall came down with the budget release of the excellent *MiG-29 Fulcrum*. You get to train and then fly five missions shooting various objectives out of the sky or off the face of the earth.

The missions start off relatively easy; in the first one all you need to do is fly past a trapped American submarine so that you can film it and bring the revealing tape back to base. Sounds pretty easy, but it isn't because you've got to avoid the British Sea Harriers who are there to protect the submarine – and the RAF just happen to produce the best pilots in the world...

The other missions all get gradually more difficult as you find yourself having to exercise more skill and use a greater range of your MiG's fire power. You go through scaring the Chinese away, destroying a Middle Eastern dictator's oil supplies and blowing up a bunch of terrorists.

Once you've successfully collected 500 points from these missions you can go for the big bust-up in the desert and destroy the same Middle Eastern dictator's nuclear reactor. Good luck - you're

going to need it. You control your MiG either with your keyboard, mouse or joystick. On top of the usual bank left, right, climb, dive and shoot commands there are loads of other keys which have various crucial roles like turning your engines on or off, braking and selecting your weapons and targets. It's a good idea to press <P> to pause the game, then consult your manual to check which key to press.

## Verdict

When *MiG-29* first came out more than two years ago it was fast and furious and was greeted with open arms from flight sim enthusiasts. Today, it still compares favourably with the likes of MicroProse's flight sims although it hasn't quite got the depth of something like *B17 Flying Fortress* which we reviewed in *STF 48*. If you're looking for a competent flight sim, but don't want to splash out for the better full priced ones, get it.

**DAVID ROBERTS**

## MiG-29 Fulcrum

£12.99 Hit Squad  
☎ 061 8326633

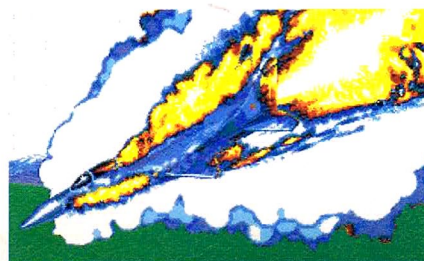
### Highs

■ Fast gameplay with interesting missions.

### Lows

■ You can get much smoother graphics on recent sims, and five missions is a bit limited.

STEERING  
78%



■ If you're not fast enough or lose your concentration for a bit you can easily get shot down. Watch those British pilots, it's not easy to trick 'em.

# CHAMPIONSHIP MANAGER '93



**Do you have what it takes to turn a squad of players into a winning team? David Roberts takes on the challenge and two months later...**

**W**hat is it about football that gets your adrenaline flowing? The action on the pitch or the trials and tribulations of the board room? Well, if

the club of your choice and you have five weeks to go before the season starts.

During the build up to the season you can organise up to seven friendlies at home or abroad. This option is great for testing your squad against teams of different strengths and skills.

After the first few friendlies, you spot which parts of your team need strengthening – each player gets rated at the end of the game giving you an indication of who's playing well and who's not.

## Gimme Waddle any day

If you have money available, it's a good time to go shopping for some talent. You can take a look at the transfer list, the foreign market or just unleash your scouts on a couple of unsuspecting players. The scouts follow these players around and produce reports on their performances helping you decide whether they're worth the fee.

Once the league starts, things can get quite stressful – especially if you have a small squad. The pressures of the game are such that injuries and match bans are quite frequent and you might find yourself selecting players from the reserve squad to help you out. In

**Balance your income and your spendings if you want to keep your club healthily in credit.**

addition to the league, you also have to compete in the Coca-Cola and FA cups as well as any European competition you might have reached – this includes the Anglo-Italian, Cup Winners', UEFA and the European cups. So, you don't only need good players, you also need ever-lasting ones.

## The match

*Championship Manager '93* is not an action-packed footie game. When you've selected your team and you get to the match screen, don't expect animated highlights and crowd noises, 'cos you don't get them. The screen is a very basic setup and the only indication you get on how your team is doing is three bars

moving up and down and messages like, "Waddle finds the net... but it's disallowed... the linesman spotted an offside." Get the picture? It's very much like going to a match with a bag over your head and asking somebody to tell you what's happening.

## So, what's it worth?

The original version of *Championship Manager* was very slow and it was practically impossible to feel involved. The information and statistics that you could get your hands on were great, but it's a pity they weren't representative of real players and clubs.

Domark obviously took notice of this criticism when producing the 1993 version, and have come up with a much more addictive and exciting management sim. Sure, it's still not very fast, but if you like management sims that make you think by giving you loads of options, more statistics and information than you can cope with and the chance to lead your team in a realistic environment, then this one's for you. **stf**

**The England squad according to Domark... Every month or so new international squads are announced – glad to see Waddle's back!**

## WHAT'S NEW IN '93?

**So, what makes the 1993 version so much better than its predecessor?**

**1993 STATISTICS** – you can choose to use the real 1993 squads, players as well as their club histories.

**FOREIGN PLAYERS** – don't limit yourself to home players, there's a host of talent to be found abroad.

**FRIENDLIES** – you can plan and organise up to seven friendlies in the four weeks before the season starts.

**LOAN PLAYER** – if one of your best players is out for four weeks you can always loan a player from another club to help you out.

**NEW FORMATIONS** – anchor man and support man are two of the new team formations you can choose.

**PREMIER LEAGUE** – all the correct leagues and cups – Coca-Cola and Anglo-Italian – have been included.

**PENALTIES** – decide which players are to take the penalty kicks.

**REHABILITATION** – decide how much money you want to spend on an injured player.

**RESERVE TEAM** – you now have access to the promising players in your reserve team.

**SCOUT SEARCH** – get your scouts to watch one or two players for a few weeks and then get them to report back to you.

**SPEED** – it's still slow, but is now just about bearable.

**THE MATCH** – still quite boring graphically, but you get more messages during the game.

**These are the guys you're going to have to rely on to do the job for you on the pitch. From this screen everything you do determines whether you'll be successful or not.**

you're looking for pure footballing action, get *Sensible Soccer* or *Kick Off 2*. If, on the other hand, all you've ever wanted is to juggle with the statistics of your favourite team and make it successful then Domark's updated *Championship Manager '93* could be the answer to your prayers.

Unlike the original version you now have the choice of using over 2,000 real player names and stats or Domark generated ones. Whichever you go for, just remember that your ST is going to take about half an hour to prepare the game for you before you can actually start. This is a real pain, but apparently that's the price you've got to pay if you want to get stuck into all these lovely player statistics and club records.

## Here we go! Here we go!

It's taken a while – well, 30 minutes – but you are now the manager of

**This is the engine room – decide on the formation and style that suits the players you've picked.**

## Championship Manager '93

**£25.99 (£8.99 for upgrade) Domark**  
081 7802224  
Three disks

### Highs

**Huge database of real players and you have control over all aspects of management.**

### Lows

**Still pretty slow and it could do with a little more action.**



## There are some great cheats, hints and tips again this month, including the long awaited solution to *Wizkid*. Rob Mead does the honours

### CAPTIVE MINDSCAPE

It's taken **SH Seymour of Liverpool** two years to reach Level 20 of this *Dungeon Master* "in space" adventure. It needn't take you half as long thanks to his tip for short-cutting some of the planets:

When you complete a level and have the planet probe in your possession, save the game at the point where you're about to enter your spaceship. Take off and send the probe to search for the next planet and, once there, land and make a note of the location coordinates. Commit suicide. Re-load at the re-entry point and blast off once again – make way to the new planet using the coordinates you now know. This way you keep possession of the probe – which can be left inside the entrance of the new

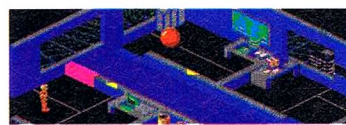
dungeon until it's needed – and you only need to find the generator room to take off again. You can do this on every planet. Of course, sometimes you find the computer before you come across the generators, but all this means is that you get a spare probe. By the way,

some of the levels have a bug and you're unable to find certain clipboards, so you just have to work out the keycodes for yourself. This is a real pain and to have any chance of success you must do it methodically – it takes a long time as there are an awful lot of combinations in the 16 keys.

### CHASE HQ OCEAN

Hold down <Fire> and press the left mouse button and type in GROWLER at the same time. Press <T> to reset the time.

### D/Generation MINDSCAPE



■ Watch out for the invisible space-hoppers on Level 80 of *D/Generation*.

**S Fotakis of Southgate, London** has sent in a level map for the first floor of this isometric arcade adventure game, recently released on budget – read the review on page 81.

EXIT TO LEVEL 81

#### KEY

Electric plate

Tracker

Hostage

Ventilator

Plasma barrier



### Wizkid RENEGADE

*It's been a long time coming, but the complete **Wizkid** solution is finally here. Thanks to **Jody Smith of Woodbridge, Suffolk** who's this month's **£25 winner***

#### Level One

Start the game in Head mode and buy the carrot-on-stick, newspaper, blue gem and token. Now leave the shop in Body mode.

Jump up and down on the well handle until a bucket reaches the top of the well. Jump into the bucket and you're taken to the underground toilets. You're now faced with two doors. Go through the door on your right and enter the ladies' toilets. Once inside, walk left to collect the spiked cola. Walk right to the exit. You're now facing the two doors again. This time enter the left door and go to the men's toilets. Once inside, use the fourth toilet from the right – by pressing Fire – and then walk right to the exit again. Quickly jump

back into the bucket before the toilets flood and go back to the ground floor.

Jump out of the bucket and walk left to the bell. Press Fire to ring it. A shed falls from the sky. Go into it and get past the dog by giving it the newspaper.

You're now in a small room. Walk left to collect the 10Kg weight, then jump onto the top right platform. Keep jumping up while on this platform until a trapdoor opens above your head. A switch appears in the centre of the room. Press the switch and exit through the trapdoor.

A donkey appears when you press the switch, so hop on its back and you're taken to the cliff edge.

Use the token in the oxygen machine, then fall off the cliff and collect the kitten. Jump into the water and prepare for Level Two.

#### Level Two

Buy the red specs and fishbone key from the shop. Exit the shop in Body mode. You find yourself beside a longboat. The six shields on the longboat have various effects – the first three change the ship's figurehead, while the last three release bubbles or change the colour of the screen. Put on the red specs and jump onto the fourth

shield from the left to make the figurehead face left and then jump onto the second last shield to make a door appear. Use the fishbone key on this door and enter it to go to Level Three.

#### Level Three

Things to buy in the shop – elephant, stars (if needed). Once you get into the shop make sure you have either two or four stars. If you don't have enough, buy some. If you have too many, buy a secret screen and lose a star by getting hit by an enemy. Now you can exit the shop in Body mode and enter the first left door. You appear on a platform with a red gem to the right of you, so collect it.

This is where having an even number of stars is important – having two or four stars means you can walk safely through the lava bubbles below you without getting hurt. However, the lava kills you if you have one, three or five stars. If you survive, walk right off the platform and then carry on walking right off the screen.

Now you're in a new room. Jump on the TV in the centre of the room to gain an extra life. Walk right to exit. You're now at the start screen again, so pull down on your joystick to summon the shop balloon. Once inside the shop



■ What's this green Pac Man got to do with *Wizkid* then? Check out **Jody Smith's** complete solution to this great bounce-'em-up.

## DYNA BLASTER

UBI SOFT

Yet more level codes for this frantic *FORMAT* Gold winning blow-'em-up, this time from Colin McAllister of Johnstone, Renfrewshire:

### Levels One to Four

UKBLHTVG  
MXVEEOYH  
UCCZVOEN  
UXNKWBVH  
UCRZVEEN  
UOHZHBRE  
MWCEHHEA  
MBHABVVA

MKYNNWVH  
UANVQIZN  
MUVCGGP  
UWOVQGHK  
MWFCIJVH  
UCFHQWPU

Level Five  
UOBHMOPA  
UOHMOTA  
MXECTLT  
MWCCWJCH

Level Six  
MWCCGTTY  
UWVVVTAT

There are eight levels of explosive fun in *Dyna Blaster*. Are you hard enough to survive them all?

MUWCPIHC  
UAVKQLKV  
MBAAIGVP

Level Seven  
MWEESLNK  
MUCETPHT  
MUBEVVKV



### Level Eight

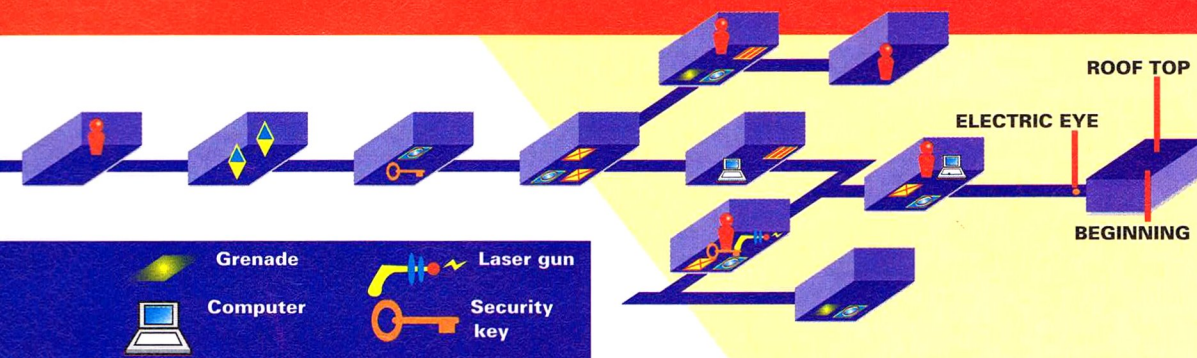
UBHOVBPK  
MCKAGILN  
UXYFWMGY  
UAEFVSLH  
MBCABOKN

## ELITE

MICROPROSE

Aussie Chris Macks might well be on the other side of the globe, but he's still managed to send in a few tips for this old, but fabby, space trading game:

Type SARA instead of the password. Then type in the real password. Press the <\*> key during gameplay to enter the codes below. The easiest way to get more spacebucks is to get 255 tons of all the cargoes and sell them all straight away. Keep your status



choose the Head mode, then complete this level by completing all the screens. Collect the kitten when it appears.

### Level Four

Buy the flying scarf and the bonbon from the shop. Exit the shop in Body mode and wait for the plane to appear. Jump into it and take flight. Pluck the cross from the top of the church then land the plane.

Jump on the tree trunk and press Fire to go underground. You're now standing next to a clown. Go left or right beside the clown and press Fire. A bubble appears above the clown's head and shows you what he wants. When you have what the clown wants in your pockets place it on either one of the two boxes. If the clown asks for something you don't already have, look in the lucky dip between the two boxes and try to find it. You must keep on doing this until you finally give the clown the can of spiked cola which makes him completely legless.

However, make sure that before you leave the clown you have the cross, spade,

red gem, blue gem and matchstick in your possession.

Jump back onto the blue platform you arrived on to be taken further underground. Walk to the centre of the screen and press Fire to dig your way to Level Five.

### Level Five

Because you're invincible on this level you must buy the hidden screen. Once on the hidden screen you must headbutt the bombs so they fall and kill you, making sure you don't kill the butterfly. Don't worry about this because, instead of losing a life, you're whisked off to a tomb and confronted by Dracula. Press Fire while in front of him to dispose of him with your cross, then walk right, collect the kitten and exit to Level Six.

### Level Six

There's no shop on this level. Kill the guardian by staying behind it, so it cannot shoot you. Staying on the right side of the screen means you can't be killed because you're in a safety zone. If you don't shoot anything apart from the guardian on this level you get five extra lives.

### Level Seven

Buy the TNT, mouse and sharp pin from the shop. Once in Body mode

jump on the seesaw and place the mouse on the cheese. After it's finished eating, stab it with the sharp pin. Jump onto the seesaw to send the weight flying through the drum. Jump down the hole in the drum. You're now in a room with a green gem flying around the ceiling. To get this gem you must jump on to the Jack-in-the-box which throws you into the air to catch it.

Outside the drum again, walk left over to the cannon. Use the TNT and the matchstick with the cannon before jumping to be catapulted to Level Eight.

### Level Eight

There's no need to buy anything for this level. Leave the shop in Body mode and jump straight up into the woman's mouth to be swallowed.

After a short story scene you end up in bed. Get up and jump up and down on the top bunk until a yellow gem appears on the carpet. Collect the gem, then walk right and exit.

After the woman spits you out, pull down on your joystick to summon the shop balloon. Now exit the shop in Head mode and finish the level by completing all the screens.

### Level Nine

Buy a can opener from the shop. In Body mode walk to the centre of



Wizkid definitely has a bit of that Dizzy feel to it.

the turtle and press Fire to cut the turtle's shell off with the can opener. Jump into the hole in the shell. You see four coloured orbs. Place a gem on each orb and collect the huge pile of cash in the middle. Walk right and exit.

Pull down on your joystick to summon the shop balloon again and exit the shop in Head mode. Keep playing until a key appears. Pick it up to let Nifta out of jail and to have a race to the final level.

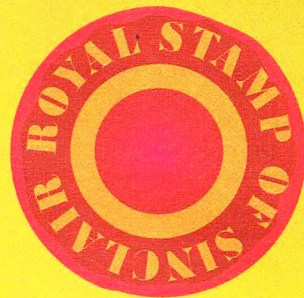
### Level Ten

There's no shop on this level. This final level takes the form of *Wizerooids*, which is an *Asteroids* clone. To complete the game you have to beat Zark's high score - about 55,000 points.

This is quite hard, so here's a tip - when the spaceship appears fly up the screen as far as possible, but without appearing back at the bottom of the screen again. Position yourself so you're totally off-screen and you're invincible. Stay here and keep shooting until your score reaches 55,000. That's it. You've completed *Wizkid*.



Follow this solution to the letter and you can keep on bouncing to your heart's content.



# *Now hear this*

*Your Sinclair's final, ultimate and amazingly last issue, containing a bumper 68 pages of spectacular wonderfulness, goes on sale on Tuesday 3rd August. Go on, buy it. You owe it to your Speccy. Or something.*

**YOUR  
SINCLAIR**

**It's crap. In a funky skillo sort of way.**

"clean" and the Galactic Police soon stop bothering you.

Function	Byte	Value
Galactic Superdrive	28	01
ECM System	18	01
ECM Jammer	30	01
Cloaking Device	32	01
Escape Capsule	20	01
Energy Bomb	22	01
Energy Unit	24	01
Docking Computer	26	01
Fuel Scoop	f0	01
Fuel	13	46
Missiles	15	04
Pulse Lasers		
all round	1b	9f
Change minutes	9b	0-3b
Change hours	9d	0-17
Change days	9f	User defined
Change cursor	ad	User defined
Change legal status	85	
Fugitive =		ff
Offender =		20
Clean =		00
255 tons luxuries	48	ff
255 tons alloys	58	ff
255 tons medicals	78	ff
255 tons slaves	40	ff
255 tons computers	50	ff
255 tons machinery	54	ff
255 tons alien items	74	ff
255 tons food	34	ff

## MIDNIGHT RESISTANCE OCEAN

Press <F10> during play to pause the game. Type in SAMANTHA-LYON for infinite credits and lives. While the cheat is active press the following keys:

F1 - Normal gun  
F2 - Full auto

■ The puny civilisation of the English offers you the recipe to clotted cream fudge in return for nuclear technology.

F3 - 3-way fire  
F4 - Shotgun  
F5 - Flame thrower  
F6 - Homing missiles  
F7 - Shower  
F8 - Nitro  
F9/F10 - Quit game

## PANZA KICK BOXING US GOLD/KIXX

Start a match and - when you can move the players - push a cursor key. Press <F1> and then <F2> and a yellow thing appears. The round is now recorded until the time stops - the colours of the game should change.

When the time stops, you can use the cursor keys or joystick to use the playback options. You can do this on every round.

## SKWEEK INFOGRAMES

Hold down the Spacebar and press <F2> on the title screen for a random level.

## SPACE CRUSADE: THE VOYAGE BEYOND GREMLIN

Alex Johnson of Ely, Cambridgeshire has discovered a cheat for this space war game:

Load in a commander from the original game who's completed all 12 primary missions - he should be Captain Supremus in rank. Now start any mission. If you complete the mission or die trying, your commander is automatically promoted to Fleet Admiral without having to win nine of the ten new missions.

## Civilization MICROPROSE



D Jones of Bilston, West Midlands has sent in a few tips for this FORMAT Gold winning god-game. Now there's no excuse for not taking over the world.

### General

Choose your starting race with care. Germans give you two settlers, but Greeks and Indians give you a technical advantage.

Develop the wheel as soon as possible. It's very useful for attacking and counter-attacking your enemies.

Bronze weapons should come next, followed by the alphabet, writing and literacy. This should give you the Great Library Wonder - build it as soon as you can as it gives you technology from other cultures - as well as the library and the diplomat.

Only build in the cities when necessary. At the beginning of the game you can set the tax rate to zero to speed up development, but as soon as you build something - except for a Wonder of the World - you have to set a tax rate or you go broke.

Explore as much as possible. You can pick up new cities, new technologies and friendly forces. You also learn where and when to expect attacks from unfriendly civilisations and you can plan ahead.

Develop all the land around your cities to their maximum. Even though you gain no resources by building roads in forests, you gain with improved transport. Joining all your cities with roads or railways also means you can rush forces quickly to a city under attack.

When possible change your government to Monarchy, then to Republic and, eventually, to Democracy.

If you build the Colossus Wonder expand the population of the city where you want to build it as soon as possible to maximise its effects.

It's possible to win the game - King level - with as few as eight cities, but can be a push, especially when playing Earth.

### Warfare

Attack and take over rival cities when they are around three to five in size. You can then take them over without destroying them.

The chariot is the best general purpose vehicle at the start of the game. So make sure you produce a few of them as soon as possible.

Remember that coast cities can be attacked by ships. Cruisers are wonderful for this, since they can take a lot of punishment.

Before you attack a city, send in a diplomat to steal whatever technology you don't have.

Just because another race has better weapons it doesn't mean you can't beat them. Short, quick wars even the odds out very quickly.

■ Set sail for foreign shores and the promise of war booty in Microprose's Civilization.



## Those priceless Cover Disks covered

Thanks to Matthew Beilby, Marcus Aidley and Nathan Jarvis for sending in level codes as well as the hints and tips for these STF Cover Disk games

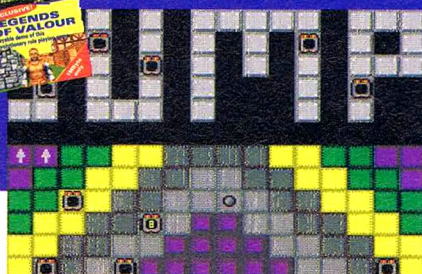
### ABOMBINABALL - STF Cover Disk 47

Level 5 - OOOER  
Level 10 - FILMS  
Level 15 - ATARI  
Level 20 - QUEEN  
Level 25 - GUMBY  
Level 30 - FRIED  
Level 35 - DWARF

■ Leap your way around this Abombinaball puzzle-em-up.



Level 40 - MURAL  
Level 45 - NIGHT  
Level 50 - FINISH  
To activate the cheat mode type CHEON at the password prompt. CHEOFF turns it off again.  
<Q> takes you up one level.  
<A> takes you down one level.  
<W> takes you up ten levels.  
<S> takes you down ten levels.  
<1> to <9> = numbers of jump (not at keypad).



### BALLS - STF Cover Disk 46

Level 5 - D MODE  
Level 9 - MELLOW  
Level 13 - K BUSH  
Level 17 - DELIUS  
Level 21 - T WEBB  
Level 25 - JOSHUA  
Level 29 - COOPER

■ Not much fun if you're colour-blind, Kubes is a Tetris-style puzzle-em-up from STF Cover Disk 46.



■ Bounce your ball around some tricky obstacles with the help of a few strategically placed mirrors in Balls.

### KUBES - STF Cover Disk 46

Select two blocks in a row and start. Highlight the first row and hold down <O> or <P>. Leave something heavy on the keys, being careful not to put it on <Q> or <A> and go away. Come back 20 minutes later and see how you're doing.





# CAPTAIN BLUNDER



**He's at it again – Captain Blunder, the ST gaming wonder, can't stop solving your gaming problems**

## Don't lose your bearings



I can't find the right keys for the NAV 2 preset bearing in A320 Airbus and the key combinations in the manual do not work. Can you please help?

**Steve Brown, Co Durham**

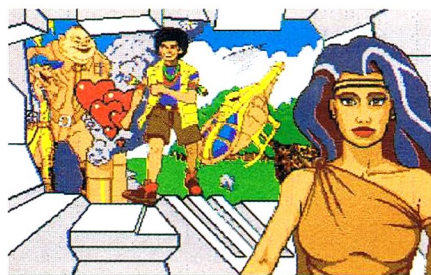
**CB:** There should be an ST supplement to the manual telling you the right key combinations, but if you haven't got that, press <Insert> and <Clr Home> to get the NAV 2 preset bearing. Thalion can be contacted on ☎ 021 442 2050 for more details.

## Cheating the environment



Do you know of any level cheats for Mindscape's Captain Planet and the Planetheers?

**George Leigh, Wiltshire**



■ Captain Planet is one of those eco-friendly, caring, sharing '90s men. What a wimp.

**CB:** Sadly, no. The only known cheat works solely with the original version of Captive. On the level selection screen, put your Captive disk in the drive and press <Fire>. Your ST tells you the disk is broken, so put in the Captain Planet disk and the cheat mode miraculously appears.

## Stuck in a corpse



In Cruise for a Corpse I've managed to proceed to 12:40 and my code from the mermaid is '8C. I've now been stuck for two months at this point. I've phoned the US Gold

helpline for advice, but it gives me advice on something which isn't accessible to me yet. Have I done the clues in the wrong order or am I missing something?

**Neil Crittenden, Scotland**



■ ... Unfortunately, so did the Jehovah's Witnesses. And, typically, I was in the bath.

**CB:** Without knowing what you've done so far, it's hard to tell you what to do next, so turn to our Back Issues pages on page 52 and order yourself a copy of STF 33 – it contains a complete solution.

## Call yourself a driver?



Can you please tell me which of the issues of ST FORMAT included the car setups for Microprose's Formula One Grand Prix?

**Andrew Acton, Kent**



**CB:** Sure, we printed the setups in STF 41 and a few gameplaying tips in STF 40. Turn to page 52 to order your copies if you missed them.

## Quadruple bogey



I've written to Gremlin complaining about a problem with Greg Norman's Ultimate Golf, but have received no acknowledgment or reply.

Basically, the game has developed a gremlin of its own and just hangs up with a white rectangle appearing on the screen. I'm now unable to complete the game with-

out this problem occurring no matter what options are set. It would appear to be either a memory problem or a corrupt games disk – I have had no problems with any other games or Pagestream. I have an STF running TOS 1.02 with a 2.4MByte upgrade.

**G White, Reading**

**CB:** We contacted Gremlin's Customer Services department and, unfortunately, they have no record of you contacting them. The problem you describe is one they've never encountered before and suggest you return the disks to Gremlin Graphics Software, Freepost, Sheffield S1 2AY with a note explaining the problem.

## Gods must be... faulty?



I've had a copy of Gods for about a year, but just recently it stopped loading up – all I get is the Desktop. What could be wrong with the disk?

**Simon Larkin, Kent**

ter's hand, the character sheet disappears and I'm unable to use the weapon. Is the game faulty or must I do something beforehand?

**Karl Debono, Gibraltar**

**CB:** To buy something, you simply click on the object you want, then click on the character box or on the character sheet to use it. If this doesn't work, then you obviously haven't got enough money to buy the goods. Give one character all the group's money and try again. If it still won't work you have to go bopping more baddies until you have enough gold to buy the weapon you want.



■ One minute you've got a lovely view over the Sussex Downs, the next someone's stuck a great big castle in the way.

## With a little help



I've recently bought Leisure Suit Larry and I can't get anywhere. I've read you can send off for a hint book, but the telephone number doesn't work anymore. Have you got the new number?

**Simon Topcliffe, Kent**

**CB:** The hint books are still available from Sierra Online, Unit 2, Technology Centre, Station Road, Theale, Reading, Berks RG7 4AA, price £7.99 each. You can also phone them on ☎ 0734 303171.

## Is it just an illusion?



I've just bought Magic Pockets and can't get from the first sector of the first world directly into the second. It takes an hour for me to play my way through and then the only message I get is "Piracy is killing computing," although I have

## Money makes the world go round



In Ishar when I buy a weapon and go to the character sheet to place the weapon in the charac-



a registered original. What am I doing wrong?  
**Simon Rosenheim, Switzerland**

**CB:** Don't quite know what's going on there and neither do Renegade. Just send your disk back to them at C1 Metropolitan Wharf, Wapping Wall, London E1 9SS with a note briefly explaining the problem and they'll try to sort you out.

#### Lock picking



I can't find a file to pick the locks in *The Secret Of Monkey Island*, where do I get one?

**Christopher Yates, Milton Keynes**



■ Otis the prisoner is a smelly reprobate, but his auntie bakes great cakes.

**CB:** Give the gopher repellent from the Governor's Mansion to the prisoner in *Melee* jail. He gives you a cake. Open it and then you find a file inside that you use on locks.

#### The spy who cheated me



Are there any cheats for *The Spy Who Loved Me*?

**Susan Johnstone, Aberdeen**

**CB:** Type MISS MONEYPENNY on the first title screen and you get infinite lives.

#### What a load of bollisticks



How can I get hold of two Cheetah Bollisticks when most mail-order companies won't send hardware abroad or charge huge amounts of money to do so?

**Bastiaan de Bruin, The Netherlands**

**CB:** Luckily, you can buy the Bollisticks direct from Cheetah, priced at £9.99 each. Simply send your order to Cheetah, Unit K1, Old Wellington Road, Lyn Town Trading Estate, Eccles, Manchester M30 9QG. Eurocheques should be made payable to Cheetah.

#### Earth shattering news



I've heard there's a cheat for *Sim City*. What is it?  
**Kevin Stapleton, Swindon**

**CB:** Press down one of the <Shift> keys and type MONEY, FUND or CASH for an extra \$10,000. Don't do this too many times though because every tenth time an earthquake destroys certain areas of your town.



#### The key to success



How do I get past the guard in *Fascination*? Do I need the card for the Digicode? Where is it?

**Jethro Day, Leicestershire**

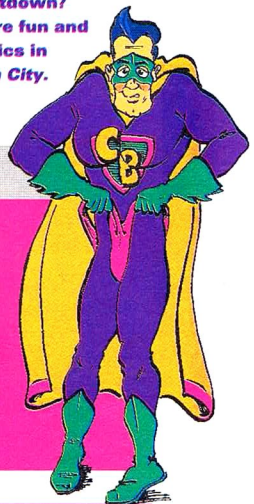
**CB:** The keycard for the Digicode can be found in the red car in the parking lot. However, you need to get the car keys from the storeroom and then get Jon the Tramp to kick the car tyre before you can get it. **stf**

■ Who cares about the rail system when the nuclear reactor's gone into meltdown? More fun and frolics in *Sim City*.

#### Ask me, ask me, ask me

Send in all your ST games problems to Captain Blunder, the ST Gaming Wonder, *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW and he'll do his utmost (as always) 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 and you could win yourself £25... if they're worth it, that is.



# The Grid & Orbital

## FUTURE MUSIC

Discover how two top dance duos get their acts together

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- ◆ Tutorials and how-to guides from the top names in modern music
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**FM 10 is at your newsagent on 20 July – don't miss it!**

Britain's best-selling music technology magazine



# PUBLIC SECTOR

Welcome to software that's cheap but often of a sunny disposition...

## DEMOS

### REVOLUTION FLOPPYSHOP DISK DEM 3624

*Revolution* is another one of those huge megademos – it has a chunky introduction leading to a menu where you have to fly a spaceship looking for bases to get to the sub-demos.

There's a couple of thumping sampled tracks and a lot of absolutely

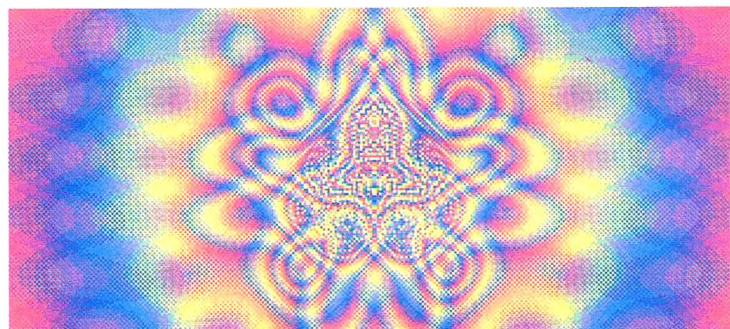
horrendous chip music. Among the sub-demos is a playable racing game, lots of scrolling borderless screens, starfields and very wibbly graphics.

It's all very clever, of course, but not amazing or wildly original. Some of the full screen scrolling stuff is impressive but it's all been done before a zillion times. One for avid collectors only.

**STF Rating: 65%**



■ Oh, my god! Everything's gone horribly wibbly. One of the eight sub-demos from the *Revolution* demo – it's all moving in different directions; makes you feel a bit sick after a while really.



■ Listen carefully, the secret of spiritual growth is to accept what is without prejudice. Remove your trousers and start whistling.

### BEDLAM FLOPPYSHOP DISK DEM 3630

Flash scaleable font-style credits lead into the now popular format of hypnotic colour cycling patterns and sampled sounds, stuff that makes temporarily confused people go "Cor! Wow! Amazing!"

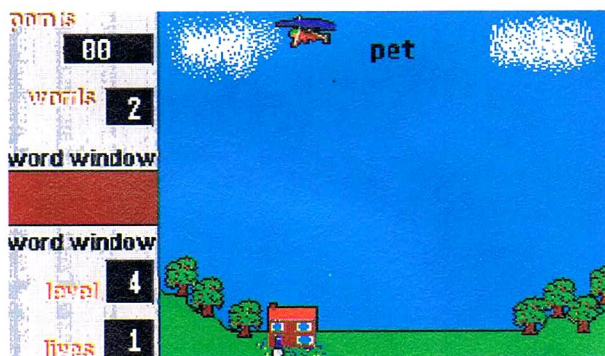
The sound module is a mean-dering synthy affair to match the trance-inducing screens. The screens

are all abstract patterns whose colours wobble about pleasingly. There are no really clever programming tricks involved and, although the pictures are very pretty and all that, it's likely to be a rather short-lived fascination.

Should keep the cat amused for half an hour and the rave generation happy for the entire weekend. No offence – you've got to laugh, haven't you? It's the law.

**STF Rating: 61%**

## EDUCATION



■ Even on Level Four you only have to spell "pet" – soon after the word drops, though, the letters are replaced by stars to help your memory develop.

### DROP DOWN WORDS MERLIN DISK NUMBER: SE 5008

Learn to spell and type simple three-letter words which drop from an aeroplane on to the ground. If you haven't managed to get the correct spelling within three goes you die in a huge and violent explosion, but if you do spell the word properly

you're rewarded with an encouraging sign saying something like, "Well done." The words are very easy to get right and don't get harder on later levels but there's a text editor so you can replace the ones your child knows with harder variations. While there's nothing particularly wrong with this game, it doesn't offer anything new or special in terms of techniques or graphical appeal.

**STF Rating: 69%**

### SUPER JUMBLE AND SASHA GOODMANS DISK GD 1955 1MBYTE ONLY

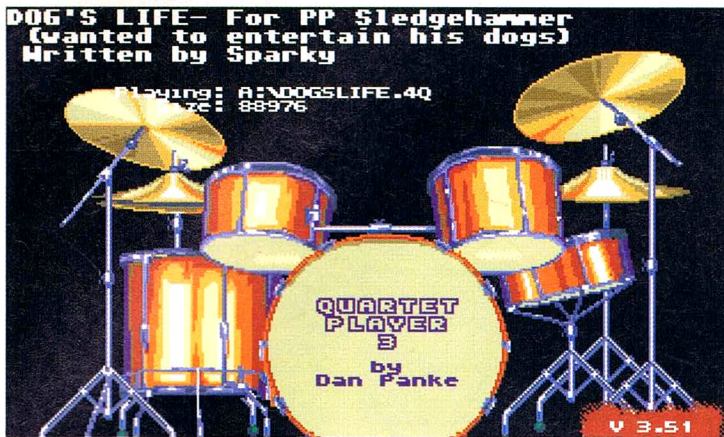
There's one alphabet puzzle here in *Super Jumble* along with some times table questions with Sasha the Siberian husky. Yes, the dog type of husky. Bit of a mixed bag really – *Super Jumble* goes one step beyond the traditional, "put your alphabet on the right order by clicking on the letters to swap them" by using some of the more obscure alphabets, like Hebrew and sign language as well as

clocks. Alternatively, you can talk maths with *Sasha*. You get a picture of this dog next to your questions which come from totally different levels of times table, so you could get 1 x 4 next to 9 x 7. Get the question right and Sasha barks, get it wrong and she whimpers pitifully. It's quite fun trying to give the dog a sore throat, but the usefulness of the program is a bit dubious because of the different level of question. One for precocious kids who think they know their multiplication and alphabets inside out.

**STF Rating: 67%**

■ The first dog ever to know her times table better than you – and she gets so upset when you don't understand either...careful you don't give her a nervous breakdown.





## THE FANTASY SHOW

### EMERALD CITY

#### DISK SP 14

A slideshow of digitised screens accompanied by some very ropery chip music that'll soon have you turning the volume right down. The pictures are fairly good quality and mostly taken from scans of air-brushed artwork. There are 14 in all and they all have a fantasy theme.

The pictures are in Spectrum 512 format and, although not top notch stuff, are interesting enough to have you watching the show a few times before filing it away in your disk box. You can get at the files from the Desktop so if you've got Spectrum 512 you can mess about with the pictures for your own nefarious purposes.

**STF Rating: 46%**



■ A dreamy image from the *Fantasy Show*, the sort of program you run when people ask what kind of graphics the ST is capable of.

## SPARKY QUARTET MUSIC COLLECTION

FLOPPYSHOP  
DISK DEM 3628

Four pieces of musically competent Quartet music including a smart version of *Magnetic Fields 2* by that French bloke with all the keyboards.

■ *The Sparky Quartet Music Collection*, four pieces of sampled soundtrack, a picture of some drums and a cheeky grin. Beep, beep, beepy-beep.

It's not half bad, and the author gives permission for you to use the songs as you want. There is a utility to join the voice sets, song files and a bit of text into one file. This can then be packed with *Pack Ice* to save heaps of disk space and played with the player program. If you're into using *Quartet* then these could turn you a little green. Listen to too much of this kind of thing and you'll never be able to tolerate a chip tune ever again. Groovy stuff.

**STF Rating: 52%**

## SONIC VIOLENCE DEMO

NIGHTSHIFT  
DISK DEMO 170

A music demo featuring the work of Sonic Violence from the album *Transfixion*. It's called industrial music or something equally er, interesting and it involves hitting things rather hard and making lots of loud noises. There are three fairly long samples

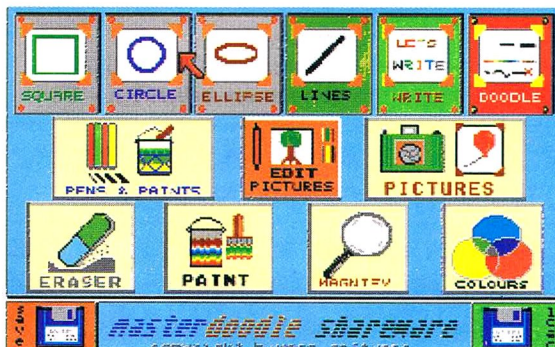
and a few piccies and credits. The type of music is a bit of an acquired taste – perhaps you'll like it if you're from an institution.

Really, though, it's perfect if you really want to annoy someone older than you or if you're feeling particularly psychotic. Not so much entertainment as an experience and not one you're probably going to want to repeat too often.

**STF Rating: 33%**



■ These are the people responsible for the noises coming from your monitor during the *Sonic Violence* demo, remember to act appropriately if you should ever meet them.



## MASTER DOODLE V1.3

FLOPPYSHOP  
DISK EDU 3554C

A Shareware selection of programs enabling you to doodle to your heart's content – there's the chance to write on the screen in any colour and in any direction you choose, which could be good for creating crosswords, then there's the chance

to make lots of pretty but totally meaningless pictures out of lines with spots of various colours.

Choose pictures from a ready-made selection to create your own scenes and generally fiddle about with the controls – the only faintly educational bit is where you get the chance to learn about the RGB sliders and the effect it has on the end shade in the "colours" section.

**STF Rating: 62%**

■ Take your pick of doodles with this selection of tools. A telephone or meeting really should be provided with this disk to feel the real benefit.

## TALKING JUMBLE AND ALPHABET MONKEY

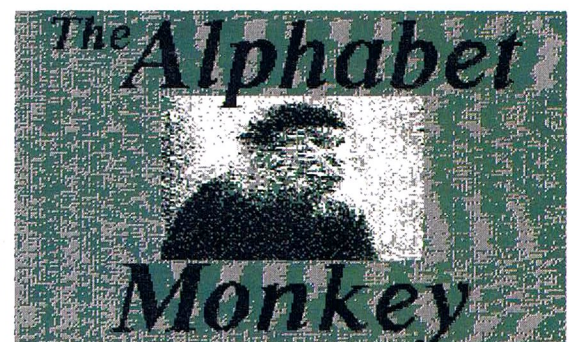
GOODMANS  
DISK GD 1957

Two simple alphabet games to familiarise you with the order of the alphabet and the layout of the keyboard. *Talking Jumble* is a bit like one of those plastic sliding puzzle games – you get the alphabet, jumble it up and then, by clicking on different let-

ters, put it back in the right order. If you can't remember how it goes, you can ask the program to say the alphabet for you – the blocks flash as they speak. *Alphabet Monkey* is a picture of a monkey who invites you to press a key – when you do he tells you what letter it is. Could be good to help you improve your typing skills. Both puzzles run in mono with the help of the mono emulator *Monulator*.

**STF Rating: 55%**

■ A simple program with some nifty sampled bits – just an excuse to see that the ST can cope perfectly well with them. Shame the graphics weren't done by someone equally ambitious.



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GAME 131 - Glass Buttock of Tharg - Take control of 12 heroes in a quest to free the land in this great game based on 'Lords of Midnight', from the author of the above.  
GAME 128 - Dungeon Lord - Travel back through time to repair history in this new Shareware game based around the classic Dungeon master.  
GAME 129 - Arthur of the Britons - A superb Shareware game of battle! Lead your men across various lands in this strategy epic from Ralph Erffmeyer.  
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### APPLICATIONS AND UTILITIES

- UTIL 13 - German to English. MINT DC Units 'A'  
UTIL 33 - Gemini Replacement Desktop, Mortgage 'A'  
UTIL 39 - ST to PC. Calendar 4.7, Desk Switch, Form, Autobox, System 2, D Format, GDOOS select + many more 'A'  
UTIL 42 - Intro Maker  
UTIL 46 - STOS Shoot 'em up builder kit  
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- MUSI 23 - Sound Merlin, Mozart Dice Waltz 'H'  
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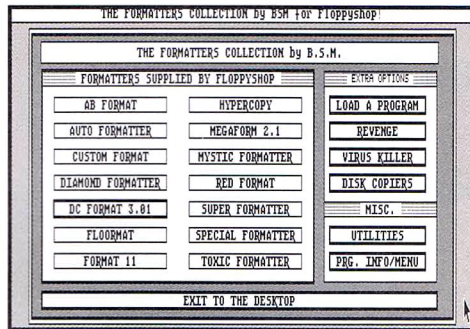
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## UTILITIES

### FORMATTER'S COLLECTION FLOPPYSHOP DISK UTL404



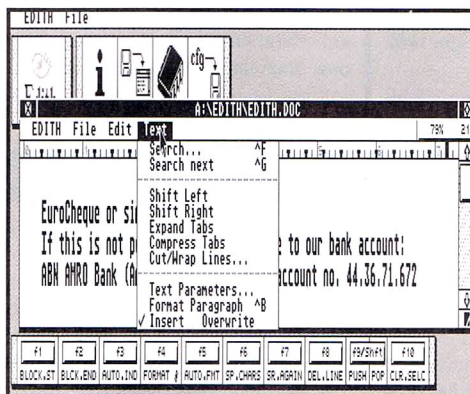
■ Every major PD and Shareware formatter is represented in the *Formatter's Collection* - the shell menu program provides a simple point and click interface enabling you to easily access each program on the disk.

So you think that the built-in formatting routine on your ST is good enough for you? Well, plenty of programmers don't think so, and have written their own formatters to give you extra options over and above the standard 80 tracks and nine sectors provided by the ST's Desktop routine.

This disk uses a shell program enabling you to run any of the 14 formatters, two disk copiers, virus killer, document reader or any other program you choose. Extra features of the formatters include PC-compatibility, extended formats, the ability to format disks in both drives simultaneously and format disks as a background task. Good stuff.

**STF Rating: 82%**

### EDITH FLOPPYSHOP DISK WRD3727

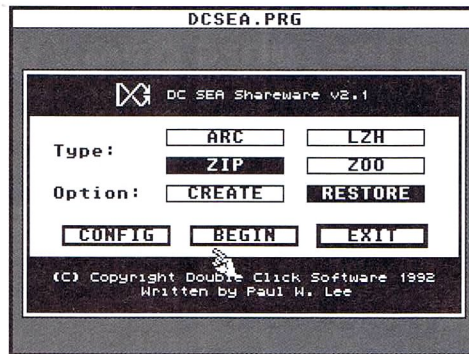


■ Simple use of function keys, Desktop icons and drop-down menus in the text window means that *Edith* can be mastered by everyone.

Everyone needs a word processor or text editor at some time, even if it's just to dash off that quick thank you letter for your Christmas present from Granny. A neat new Dutch text editor called *Edith* copes with all your basic word processing needs, with all the functions you would expect to see in a full professional program. Excellent use of GEM ensures that there is no need for a manual, you just run the program and use it. It's Shareware and well worth the £10 registration fee, which is refundable if you buy the professional version of the program that's going to be released this month.

**STF Rating: 73%**

### DC SEA GOODMANS INTERNATIONAL DISK GD1962



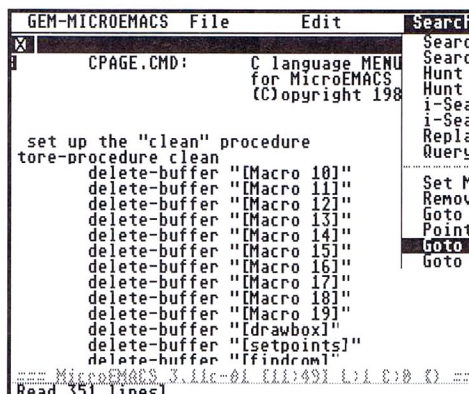
■ *DC SEA* only has nine options available but these should cater for all your file compression problems, just click on the file type to convert and hit the Go button.

Bulletin board files, Cover Disk programs and PD library files now usually use file compression to cram more info into a smaller space. This is fine as long as you can decompress the files so you can get to the software in them.

If you are given compressed files and you cannot extract them it can be very frustrating. *DC SEA* is a handy utility that converts the four major ST archive types into self-extracting files, and does it very well too. The archive types covered are ARC, LZH, ZIP and ZOO files, *DC SEA* can also convert self-extracting files back to standard archives. A must for every serious utilitarian.

**STF Rating: 77%**

### MICRO EMACS 3.11 FLOPPYSHOP DISK WRD3726

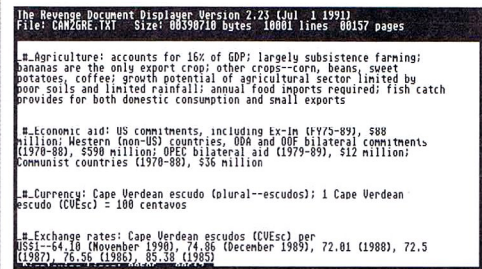


■ *Micro EMACS* is a professional standard text editor written by programmers for programmers, just look at all of the search options available. Good quality stuff, but a bit specialised.

*Micro EMACS* is a text editor designed specifically with the C programmer in mind. It is ideal for generating C code in ASCII format to be imported into your C compiler. Although this latest version uses a GEM shell with drop-down menus for all major functions, the bias towards experienced computer users is revealed by the fact that an IBM PC-style command line is used for loading and saving files rather than the more convenient GEM file selector. That said, *Micro EMACS* is packed with functions to give you complete control over your C file output.

**STF Rating: 69%**

### CIA WORLD FACTBOOK TUMBLEVANE DISK EAC 21

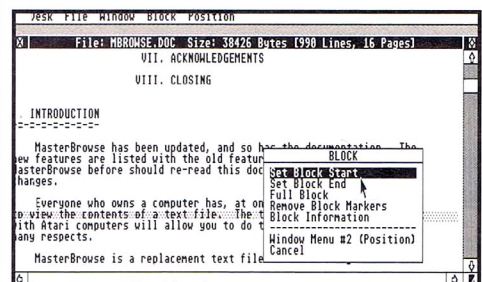


■ The 1991 *CIA World Factbook*, previously produced exclusively for use by US government departments by the CIA. It's a huge mass of text and comes with the *Revenge* document reader.

Because of the Freedom of Information Act in the US, previously restricted information is now freely available, including the *CIA World Factbook*. Don't expect loads of secret stuff because they're not quite that liberated. What you do get is a four disk set of text files with details on every country in the world. There's loads of stuff about area and population right through to political and economic make-up. All very interesting and ideal if you want to quickly get a picture of a country for a project or something. Unfortunately, most of the entries for the UK seem to be missing, so start working on your conspiracy theories now. Also included is the number of communists in each country - handy if you're planning to destabilise a foreign government, not that anyone would, of course.

**STF Rating: 74%**

### MASTER BROWSER GOODMANS INTERNATIONAL DISK GD1964



■ Clicking on a line of text pops up the Block menu, you can switch to the Position menu with a single mouse click to move to another area of the document. This enables you to quickly select large blocks for printing.

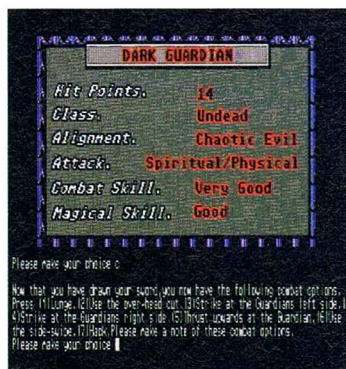
Yet another text-related disk, this one contains a clutch of file viewers enabling any file to be loaded and examined on-screen at leisure, whether it's a text file or a program file.

The best of the bunch is *Master Browser*, with a wide variety of options including block functions, search, Atari Clipboard compatibility and a comprehensive printing setup. The use of pop-up menus is an excellent touch, click on a line of text and the Block function menu is instantly available on-screen, making marking of blocks a simple task. Marked blocks of text can be printed or written to disk, this is just about the extent of the program's capabilities. Some editing functions would improve the usefulness of *Master Browser*.

**STF Rating: 61%**

# GAMES

## SLAYER TUMBLEVANE DISK HST 2

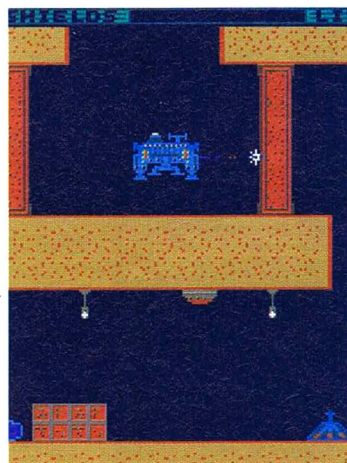


■ All quests involve a few scraps and *Slayer* is no exception. You get a selection of strategies to try, dropping your weapon and screaming for mercy isn't one of them - tough lot these adventurers.

One of a new range of Licenceware, by an outfit calling themselves HeavenSent, *Slayer* is a text adventure - stop groaning out there, they're good fun. Instead of typing in your commands you are presented with options and you press a key to select them. This means it's very easy to play and you don't have to wrestle with the programmer's idea of English. It also makes the game very linear and more limiting than a normal text adventure. The plot is the usual middle Earth wibble, you are on a quest to beat up demons. The text is readable, entertaining and free from too many obvious grammar and spelling mistakes although the punctuation is a bit dodgy. Playable and surprisingly engrossing.

**STF Rating: 76%**

## THE RETURN OF JUSSE BUDGIE DISK BU 114

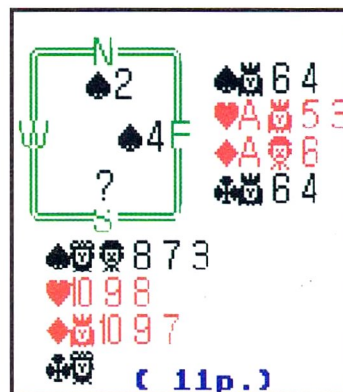


■ *The Return of Jusse* is good, and with a name like that, it's surprising. That's you, the little blue chap blasting away at the door with your laser, you'll have someone's eye out with that if you're not careful.

A straightforward arcade game, you control a little spaceship with the mission to retrieve pods. You have a laser to blast things and a shield to protect you from a limited number of prangs into the scenery or laser hits from the inevitable hostiles. It uses a combination of keyboard and joystick controls and moves smoothly. The gameplay is simple and frustrating as you negotiate tunnels and frantic aliens in search of the pods. The only real disappointment is the flip screen scrolling which can get annoying as you slam into obstacles close to the edge of screens. Pretty chunky stuff.

**STF Rating: 74%**

## BRIDGE PD4U DISK G 155



■ Your ST-controlled opponents have won the bidding with three no trumps, the dummy has revealed a well-stacked hand and your pipe has gone out. *ST Bridge* sets the pulse racing again.

What a civilised pursuit of enjoyment this is, no horrid noises or alien scumbags to deal with. *ST Bridge* is a straightforward version of the card game. You're dealt the cards, bid as high as you dare and away you go - it's all mouse controlled.

You never play dummy, if your ST-controlled partner wins the bidding, you play their hand instead. The graphics are nothing spectacular and ace *Bridge* players might find it plays a rather tame game.

There are also a few bugs that mar an otherwise engrossing match. If you're into *Bridge* and can't rustle up three *Bridge* playing friends, then you're a bit sad really. This might help you feel less so.

**STF Rating: 73%**

## DARKLYTE LAPD DISK G 288



■ Left, right, left, right, bash like crazy. *Darklyte* puts you in control of an elite squad of droids intent on denting another elite squad of droids, they're like that you know.

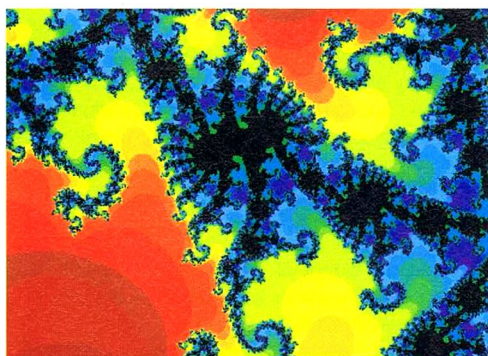
*Darklyte* is a small scale skirmish war game between two sets of droids fought over a chessboard-like arena. You get four metal chaps with different attack and defensive capabilities. Each chap gets a number of moves per turn in which to clump forward and take swipes at your opponents. There are pieces of special equipment and various statistics to ponder. If you succeed in reducing an opposing droid to rubble you receive gold and experience, there are shops to buy new gear and other special squares. Bash all the enemies and it's on to the next level - as long as your commander survived. The graphics are fairly good although the droids themselves are rather indistinct. There are a few samples to spice it up. It's reminiscent of *Space Crusade* and provides useful entertainment if you like to take time over your alien-wasting.

**STF Rating: 67%**

# FALCON

## FRACPLAY FLOPPYSHOP DISK ART 3699

It had to happen, fractals have arrived on your Falcon in glorious 256 colours. *Fracplay* uses the basic *Mandelbrot* set as well as *Julia* and *L-system* fractals. One claim to fame is that you can adjust the colour bands after



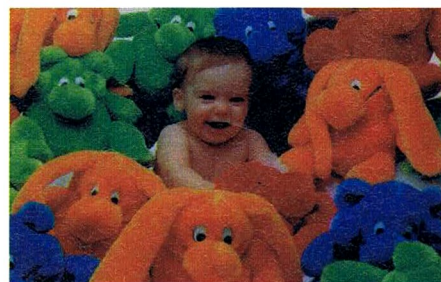
you've generated the fractal so you can get a good spread of colours, very useful. Finished pictures can be saved in *Neochrome*, *Degas Elite* and *IMG* formats. As a bonus it also runs on STs and TTs. This is the first of what will undoubtedly be a small flood of fractal programs for the Falcon showing what it can do. Really speedy fractals will come when programmers start to use the DSP chip for the calculations - it's more than twice as fast as a maths coprocessor.

**STF Rating: 78%**

■ Yes, it's those nutty maths pictures again. The glories of 256 colours brought home with *Fracplay*. There are plenty of parameters and functions to play with and the results can be stunning.

## FALCON SLIDESHOWS FLOPPYSHOP DISKS DEM 3700 TO 3708

A set of gob-smacking slideshows that blow a big fanfare for your Falcon's incredible true colour graphics. There are between three and five high quality pictures on each disk. They only work on an RGB monitor and use overscan and interlace to get as many pixels as possible on-screen at once.



The graphics aren't alone, you get a funky soundtrack - a very high quality sample module. You need some amplification and decent speakers to get the most out of it. Pity it's the same module on most of the disks. The pictures were originally 24-bit, over half are created with *POV*, and clever programming tricks are used to extend your Falcon's considerable palette. A brilliant look at what is possible - although you're likely to soon get bored, you can impress the hell out of family and friends. Pity the pictures aren't on high density disks, because they take up lots of space even when highly compacted.

**STF Rating: 57%**

■ Phoar! Now that's groovy! More colours than you can possibly count and then some more.

## CASTLE CAPERS

LAPD  
DISK G 292



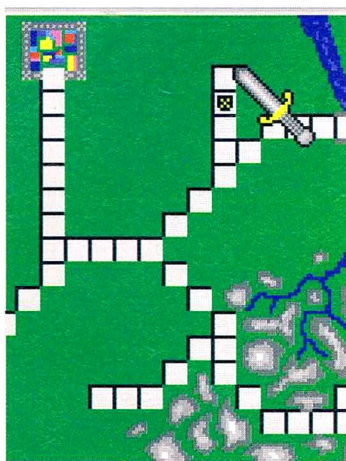
■ Here you are in *Castle Capers* on one of those moving logs where you have to moonwalk on them so you don't fall off. Like similar heroes of the genre, you haven't bothered to learn to swim.

The first ten screens of a 50-screen platform affair. You control a blobby main character and try to get him to the other side of the screen. It's all joystick controlled; left, right and jump. There are the usual nasties floating about, one touch means you fly off the bottom of the screen and have to start again minus one of your five lives. Once you've figured out the path through each level it's just a question of using dexterity and timing. This is where it gets tricky, too tricky in fact. Even the first screen is frustratingly difficult, you need to be skilled or stubborn to make much progress. Not the most sparkling of romps but die-hard arcade fanatics may get a masochistic hit.

**STF Rating: 58%**

## QUEST KNIGHT

LAPD  
DISK L 33



■ *Quest Knight* is full of involved tactical decisions. Do you go left or right and exactly which white square do you click on? Phew! Luckily that's about the most complex thing you have to handle.

Knights can't just sit around and take in the breeze – heroic and dangerous quests are their bread and butter. Luckily a magical rose has been stolen and your party of four knights are picked for the recovery job. You guide your group along the paths until you find a dungeon and then around the dungeon map. There are punch ups where you have no control, all you can do is watch your hit points go down and hope the nasties cop it first. The basic game format lacks imagination and involvement, that's putting it politely. In actual fact it's utter twaddle, avoid it like the plague.

**STF Rating: 24%**

## Ups and downs

### UPS

Seeing people's jaws drop when they see one of the *Falcon* slideshows.

Finally making that difficult jump in *Castle Capers* and getting to the next level – an afternoon well spent.

Putting out all the lights, getting seriously ginger beered up and finding out why the *Bedlam* demo is called the *Bedlam* demo.

Getting some hard facts from the *CIA World Factbook* and putting a know-it-all in their place.

Seeing how people's ears fall off when they hear the *Sonic Violence* demo.

### DOWNS

Getting zapped on the second level of *Castle Capers* and realising that you got through Level One last time by a complete fluke.

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# THE BYTECRUNCHER'S GUIDE TO ASSEMBLY



In the last part of our assembly series, Tony Wagstaff shows you how to tackle sprites and how to keep up with your joystick's movements

If your ambition is to write a cracking shoot-'em-up, then you need to know one or two things about drawing sprites and reading the movements of your joystick.

Sprites can be designed using your favourite art and graphics package and then incorporated into your programs. To understand how a sprite is drawn, let's first take a look at how the screen is stored in memory.

In high resolution mode each pixel – those tiny dots that make up your screen – is either black or white, so each one can be represented by a one or a zero – this is easy when using binary numbers as they consist entirely of ones and noughts. In low res – with its 16 colours – we need to use the numbers nought to 15, requiring four bits since 1111 is binary for 15. However, these four bits are not stored next to each other in memory but are woven. The first 16 bits of screen memory represent bit 0 of the first 16 pixels, the next 16 bits, bit 1, and so on.

The numbers themselves refer to the colour register used for that pixel. Setting the palette changes the colours in the registers. If you change the palette the screen changes even though the numbers haven't – check out the diagram above that shows you how to get a pixel's colour.

## Mask over

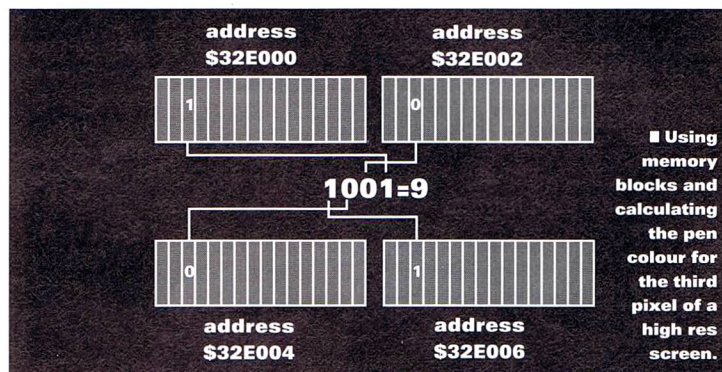
Sprites themselves come in all manner of shapes and sizes, which creates problems when you come to draw them over a background picture, since the layout of the ST's memory makes it easier to draw rectangular blocks. The solution lies with a mask.

A mask is like a silhouette. In high res, wherever a sprite's pixel is set to a foreground colour, the mask's pixels are set to the background colour, or pen nought. If on the other hand, a sprite's pixel is set to pen nought the mask's pixel is set to pen 15. The MASKER.S listing on this month's Cover Disk creates a mask file for a collection of high res sprites stored in *Degas* format. Try creating a mask file and then use your favourite picture viewer to check out the effect.

## Logical operation

Having created a mask, you cannot draw it straight to the screen, but you need to combine it with the background using a logical operator. Logical operators are similar to mathematical operators – plus, minus and so on – and like them are applied to two numbers.

The first logical operation we need to consider is **and**. When two numbers are **and**-ed together, each bit of one is compared with the other's corresponding bit. If they are both set to one, the same bit in the result is set, otherwise it is



cleared. So, binary 0101 and 1011 = 0001, since only bit nought is set in both numbers.

We can now see what happens if we **and** the mask with the background picture. Since 15 is binary 1111, if we **and** this with a 4-bit number, the result is always the same as that number. On the other hand, **and**-ing a number with 0000 always results in 0000. **and**-ing the mask with the background draws the sprite's silhouette in the background colour, leaving a hole just the right shape for the sprite. You can alter the SPRITE.S listing on this month's Cover Disk to see this effect for yourself.

Once the mask is in place, we can draw our sprite, again using a logical operator, this time **or**. When two numbers are **or**-ed, each bit in the result is cleared, or zero, if both of the corresponding bits in the numbers is zero.

When a number is **or**-ed with 0000, the result is the same as that number. Since the pixels of the sprite rectangle that we don't want to see are set to nought, **or**-ing these with the background leaves it unchanged. The pixels we do want to see are **or**-ed with the zeros created by the mask, so we only see the sprite. Clever, eh?

## Joy ride

Reading the joystick exploits one of the most powerful features of the 68K processor, its ability to interrupt a running program. There are many ways of generating such an interrupt – the end of a screen redraw known as a vertical blank, for instance can generate an inter-

rupt. An interrupt handler is a routine designed to perform a specific task whenever a particular interrupt occurs. The routine is run automatically whenever the interrupt occurs.

Such a handler can be used to read the joystick. The Intelligent Keyboard, or IKBD, can be requested, using **Bconout**, to send what is called a joystick packet. The handler, once installed, runs automatically whenever a packet request is made, and finds the packet itself in the address pointed to by **a0**.

The second byte of the packet contains the joystick information, the first four bits are set if the stick is moved, the seventh if the fire button is pressed. The handler itself simply stores this information, which the main program can pick up and process at its leisure. Handlers should be as short as possible, and must restore any registers they alter. The JOY.S listing on the Cover Disk shows how it's all done.

The sprites listing should give you enough information to begin writing your own games. Many programmers spend a lot of time developing ultra-fast sprite routines, and studying source code, like the STF\_DEMO on Cover Disk 45 can pay rich dividends.

## That's all, folks!

That brings us neatly to the end of our assembly series. We trust you've enjoyed it and hope it has inspired you to produce some serious bytecrunching programs of your own. **stf**

## DRAWING ROUTINES

In the SPRITE.S listing, the drawing is done using the Line-A Bit-Blt – or BIT Block Transfer – routine. The Line-A is a series of routines, rather like the VDI (in fact the VDI itself uses the Line-A routine). The BitBlt routine is called using this command:

```
dc.w $a007
```

and is used to move rectangular blocks of memory. It can also perform the logical operations

needed to draw the mask and sprite to screen.

First a set of parameters needs to be initialised. These are stored at the blit label, the important ones being **B\_WD** and **B\_HT**, the width and height of the source rectangle, **OP\_TAB**, the logical operator, set to 01010101 for **and**, and 07070707 for **or**. **S\_XMIN** and **S\_YMIN** contain the coordinates of the source rectangle and can be used for animation purposes.

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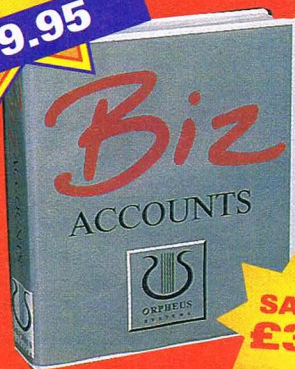
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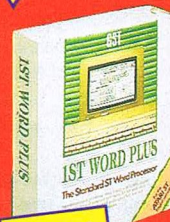
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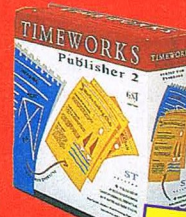
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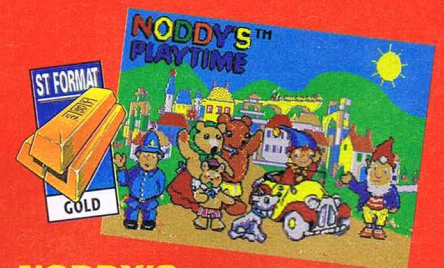
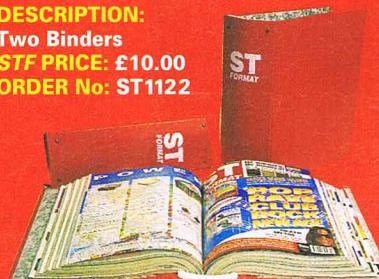
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**90% STF RATING**

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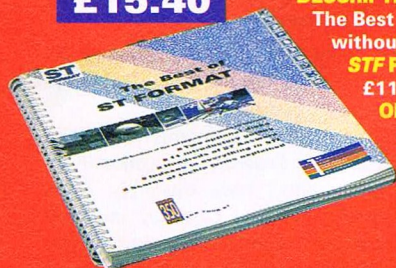
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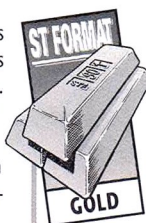


# FOOTLOOSE AND FANCY FREE

Every scene has to have an independent sector, and the ST industry is no exception...

**T**here are the software houses – commercial companies releasing programs for profit. There's the Public Domain – which specialises in software released just for the hell of it. Floating around in the middle are the small independent programmers and distributors.

There's all sorts of stuff out there, from specialised applications and utilities to platform games. You can pick up the efforts of amateur and professional programmers alike. Some of the programs are Shareware – you pick up the program from a PD library and you register with the author to receive the latest version and a manual. Other programs are sold directly by the author or a small company. Although many of the programmers still have their day jobs, the quality of independently distributed programs can match that of full commercial releases. If you've written or distribute a program that you think deserves a look drop it in to us at – Indie Reviews, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.



## CRACK ART VERSION 1.36

PRICE: 30DM  
FROM: PUBLIC  
DOMAIN

FULL VERSION: DETLEF  
ROTTGER AND JAN BORCHERS –  
SEE BOXOUT BELOW

**Crack Art, one of the newest and best art packages available, has been updated. The latest version, like the previous one, is Shareware. A restricted demo version is available from the Public Domain libraries, but for the full blown program you need to register with the program's authors.**

Crack Art works in low resolution and needs 1MByte. It works in the same way as *Degas Elite*. You switch between a screen packed with icons and your work screen where you do the artistic bit. There are all the usual functions with definable parameters and a host of less common ones. There are nine work

screens and the range of file formats is most impressive including its own compressed format. It even converts medium and high resolution *Degas* screens, *Spectrum 512s* and GIFs to low resolution. There is an unrivalled range of block manipulation tools too. You can distort blocks in all sorts of ways including perspective, bulge, tube and skew.

The name comes from the ability to crack into files and disks to, er, borrow pictures for inspiration. It has a comprehensive print function with drivers for the HP 550C among others.

There are few things missing – screen coordinates and a hot spot zoom function would be welcome additions. Support for animation is very limited. No art package has everything you could want but *Crack Art* comes very close to achieving it.

The original release of *Crack Art* was put out as Shareware in its final form and, unfortunately, people didn't bother to register it. "It's important to support the Shareware concept not only from the programmers' side but the users' side. If you don't pay the registration fee, you won't find good Shareware programs being released, so what's the gain?" Registration from the UK for *Crack Art*

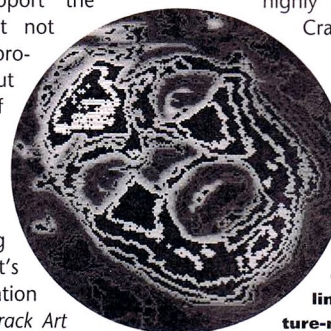


■ The main screen of *Crack Art*, just look at those options and features. You flip between this screen and the drawing screen with the right mouse button. There are keyboard shortcuts for most functions and double-clicking on some of the icons brings up a dialog box to set the parameters.

v1 only amounted to a handful even though it's the most popular Shareware art package.

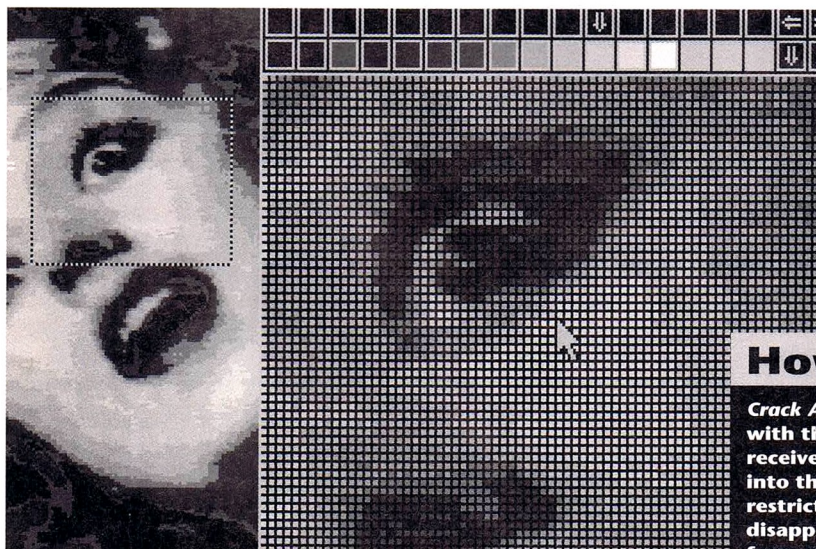
The rival programs like *Deluxe Paint* are expensive in comparison. The authors have obviously taken great pains over *Crack Art* and have created a wonderful program. If you are serious about your art, this comes highly recommended.

Cracking stuff.



■ The range of special effects is unrivalled; anti-aliasing, diffusion, dilation, and in this case, one of the out-line modes. Serious picture-mangling made easy.

STEERING  
RATING  
90



■ The *Crack Art* zoom mode – it has several magnifications and is very fast. All the functions in *Crack Art* are fast, slick and ooze with professionalism.

## How do I register?

**Crack Art needs to be registered with the authors – once you do, you receive a special code which is typed into the program and the restrictions of the demo version disappear. Send your 30 DM in the form of an International Money Order to one of the following addresses:**

Jan Borchers  
Vititorwall 10  
W-3380 Goslar  
Germany

Detlef Röttger  
Vienenburger Str.27  
W-3387 Vienenburg 2  
Germany

## VIDEO REPLAY 3

**PRICE: £5 – CHEQUES PAYABLE TO P I SCOTT**  
**FROM: MOVIE MEDIA**  
**CONTACT: 1 RYELANDS PLACE, KILGETTY, DYFED, WALES SA68 0UX**  
**MACHINE: ALL 1MBYTE STs**

*Video Replay* is designed to load and play digitised animations created with *VIDI ST* or the *Silicon Animation Machine (SAM)* and combine the animation with sound samples to create mini movies or demos.

A PD program is included so you can distribute your masterpieces, and you can grab frames directly into *Video Replay* if you have *VIDI ST*. The

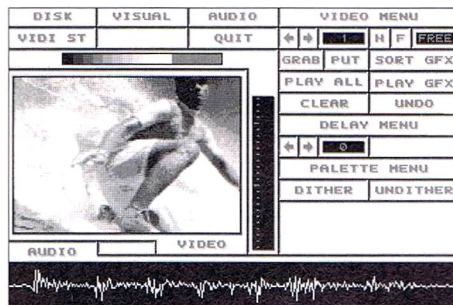
program requires 1MByte of memory and has a maximum capacity of 24 frames of animation – the ability to create longer animations would have been handy.

*Video Replay* uses large friendly menus and looks very similar to the software supplied with *VideoMaster*, a quarter screen video display to the left with the sound sample window running along the base of your screen. Above the video display there are the four main options of *Video Replay*: Disk, Visual, Audio and *VIDI ST*, these options access the various sub-menus controlling the program.

Sound samples must be in .SPL format and are restricted to four sample speeds, 5KHz, 7KHz, 10KHz and 15KHz. STE DMA samples are not catered for, but you can expand or shrink samples, convert them to a different sample rate and save them to disk. Samples can also be filtered and have their high bit altered so AVR format samples can be used.

The Visual menu enables you to cut and paste frames, insert a delay to slow down the playback speed and to dither the animation into eight greyscale shades.

Using the program is very easy, everything is performed by



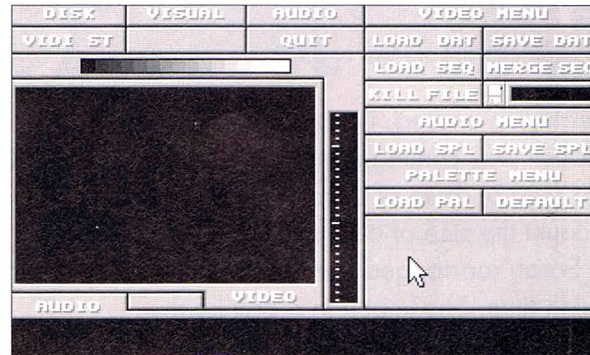
■ The Silver Surfer swoops into the camera while a dodgy sound sample shouts "He's dead, Jim." "But that's impossible," replies Kirk.

## But why did he do it?

Version 2.0 of *Video Replay* is available from most PD libraries and is Shareware, but version 3 is only available direct from the author, Simon Scott, and costs just £5.

Simon wrote *Video Replay* for his own use. Other people with *VIDI ST* expressed an interest in the program so he decided to release it as Share-

ware. Simon uses *GFA Basic 3.5* to write his software because he got it free from *ST FORMAT* Cover Disk 35 and because it is more compatible across the differing versions of the ST operating system than other languages. Simon also reckons that *GFA* is a more workman-like language and easier to learn.



■ As you can see, *Video Replay* is reminiscent of *VideoMaster* in looks and is just as easy to use. The buttons at the top of the screen access the main menus.

pointing and clicking on the menu options with your mouse. Because *VIDI ST* animations are stored as a series of sequential *Degas* or *Neochrome* frames you can create animations by using pictures you have drawn yourself in your favourite paint program.

Remember, all the picture files have to have the same name and end with the frame number, so the first

picture could be called TEST00.PI1, the second TEST01.PI1 and so on.

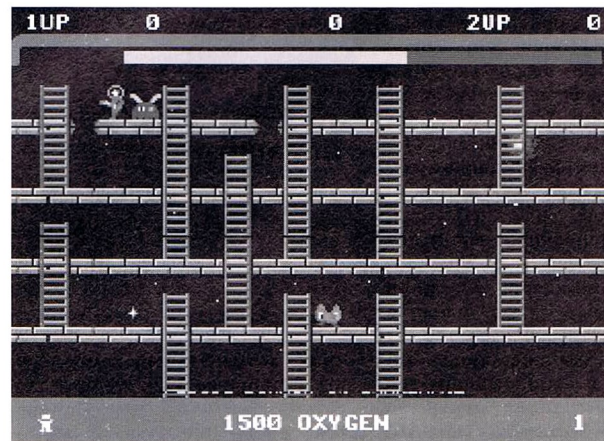
A couple of small points detract from the program. *VIDI ST* animations can only be loaded from floppy disk drive A and the screen sometimes corrupts after loading animations. Apart from these minor quibbles it works very well and is fun to use.

## SPACE MONSTERS

**PRICE: £3.95**  
**FROM: GOODMAN'S**  
**CONTACT: 0782 335650**

If you haven't played *Space Monsters* you don't know what terror is, probably. Monsters coming after you faster and faster, you digging holes to bury them in, you frantically bashing them on the head in the hope that they'll die instead of turning back into speedy green monsters or even speedier blue ones, failing and then dying a horribly loud and frightening death... gulp!

And that's about it really. Your aim is to rid the platform land – which is completely made up of lad-



ders and walls – of the nasty creatures. You do this by digging holes with your handy trowel and waiting for the monsters to fall in. When they're trapped you have to bash 'em

over the head by pushing up on your joystick and pressing <Fire> until the wall's filled in or until they come to life again transformed into a much friskier and more determined to kill you creature.

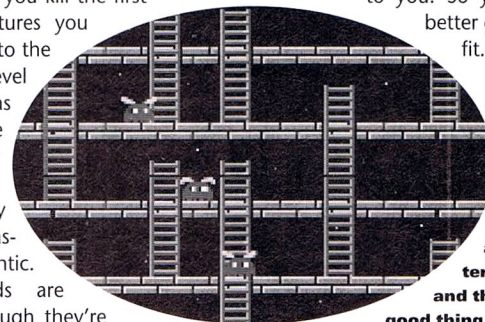
When you kill the first lot of creatures you progress onto the next level which has even more of the nasty things and game play gets increasingly frantic. The sounds are good, although they're

■ You're trapped! Didn't think that one through very well, did you? So now you can only hover around on the edge of the hole or just wait patiently for death. Nice.

fairly sparse there's none of that irritating chip music, just appropriate noises of your trowel hitting walls and that awful noise of fear when it looks like you're going to die.

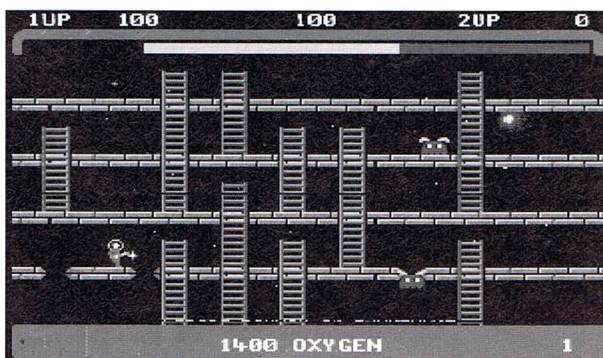
It's a version of an arcade game. The author, Darren Ithell, decided to write it more for fun than anything else. "I'd seen versions on other machines and realised it wasn't available for the ST, so I thought I'd write one. I had it lying about for ages, then I heard of Goodman's Micromagic label and decided to send it in."

*Space Monsters* is a good little game for a quick waggle – you need to use your brain to work out where the best place is to dig holes without cutting yourself off, you need to be quick so that when a creature falls in you get there in time to kill him and also fast enough to run if there's no other option open to you. So you'd better get fit.



■ Further through the game and even more monsters appear to terrorise you – and that's not a good thing. Is it?

■ You've got it in the hole and that's just where it should be. All you have to do now is get over there and wave your trowel at it.



# FOR SOMETHING OUT OF THE ORDINARY...

Sarah was excited. Not only was *Emmerdale Farm* about to start, but Ken was coming round tonight. Ken, five feet seven, blonde hair (two or three of them), and a bank account the size of a small village.

Sarah rearranged her hair for the eighth time. She kept it in a box by the door for effect, but it kept spilling over the sides. Her Aha poster needed replacing. She pulled it down and put up a picture of Gloria Hunniford she'd found in the *Radio Times*. Ken liked Gloria Hunniford.

Suddenly the phone rang. Phones do tend to ring suddenly. It was Ken. He said something that sounded like "Chhhhi Thara," but Sarah was used to his speech impediment.

"Hi Ken."

"Ttthhharah, I can't make it tonight. In fact, I can't make it ever. I met a mortician in Boots and we're in love. She's promised to show me the correct way to drain a body."

"But... but... what about us... all we had together..."

"Yes, sorry about that, hope it's cleared up now. Anyway, must run. There's a post mortem at five. B-bye."

Sarah was shocked. She was angry. She was sad. But most of all she was lying in a daze on the floor, because her scale model of *Brookside Close* had just fallen on her head.

The first thing she saw on coming round was her copy of *PC FORMAT*. Sarah was odd, but she wasn't stupid. She knew when to take a break. Thank God for *PC FORMAT*.

## THANK GOD FOR PC FORMAT

Inside this month's issue: We overdose on hints and tips with our A-Z guide, PC tips, games solutions and Q&A section. Win £5000 worth of prizes in our fabulous *Strike Commander* compo - win a holiday in America, be a real fighter pilot win a 486 PC and more! Strap yourself down for the most violent strategy action game ever - we've got the full review of *Syndicate*. We're also taking a look at *Windows* to ensure it never gives you grief again. And we're looking at video cards to find out whether you ought to consider upgrading and what you need to look out for. All that and the liveliest letters pages anywhere, looking at sexism, violence and Satan. Phew! Get down to your newsagent on Thursday 24 June.





# FEEDBACK

**Times are changing in the ST world... so, why not let us know how you feel about the situation?**



## Caring, sharing Shareware?

After Jeff Minter's resounding success with his two games *Llamatron* and *Revenge of the Mutant Camels*, you were only too eager to print in your mag the greatness and fairness of Shareware.

As I am sure you are aware, there is another side to this story – we never hear about the authors who get very little response in terms of registrations – and that may be because they are too numerous to mention. The truth is painful, but the truth is that the ST is practically dead as far as commercial games are concerned, with software companies and retailing stores leaving the ST without a second thought and this means that Shareware is the way forward in ST games. Take the case of Martin Brownlow, an esteemed and, dare I say it, skilled programmer. *Grav 2* was given away on an STF

Cover Disk a few months back and no-one can deny that it is excellent. But how did Martin do with this game? A year after its initial release, he has received a measly 30 registrations – that is, 30 from over 60,000 STF readers.

I know a lot of people think that you can't trust these authors and you'll probably never receive your promised registration pack. I can tell you, from my own experience, that these authors care about their registrees and take pride in the speed and care with which they deal with questions and pleas.

**Ron Nussey**  
London NW5

**stf:** You're quite right about people not bothering to register Shareware programs with the author – in the Indies section starting on page 100 you can see that the authors of *Crack Art 2* came across a similar apathy when they released the first version of the program so they've taken steps to encourage people to

register by making only a demo version of the program freely available in the Public Domain.

If people don't bother to register then programmers aren't going to be encouraged to continue producing quality software and everybody loses out. Register-

**"We never hear about authors who get very little response - perhaps they are too numerous to mention"**

ing programs benefits everyone – and if you want to see more Shareware releases, I suggest you get your cheque books out and register that program you've been using.

However, I must disagree with you when you say that in commercial games terms the ST is

dead. This is simply not true – if anything the ST scene is undergoing a revival. Just look at the news story on page 7 about the incredible sales of *Street Fighter 2*. It just goes to show that great games do sell brilliantly.

## Gissa job

I'm writing to ask you if you would let me do reviews for your magazine. I am a young lad of 13 years of age and I am mad on computers (aren't all boys of this age?). I have been reading your magazine for ages and I really enjoy your reviews, hints and tips. I'm good at reviews because at my school our class was doing an article for our own made-up newspaper and I decided that I would do a review on a computer game. Since it was around Comic Relief I decided to do *Sleepwalker* and when I had finished it my teacher said: "You want to be a reporter when you grow up." So this gave me an idea

## "I'll convert Monkey Island 2 – I'll do it for free and you can have all the rights..."

Hopefully the day US Gold decide to release *Monkey Island 2* is quite near. I enclose a disk which contains a demo that I have written showing just how well the ST can cope with the game *Monkey Island 2* – a game which many people think is impossible to convert to the ST. The demo features the same 256 colour screens from the PC version and yet takes up very little disk space – around 20K when compressed. I have been trying for some time to try to get someone to notice my demo because I wish to convert the whole game on to the ST, but US Gold have taken no interest.

I offered to write the game in my own time and sign the rights over to them without any payment whatsoever; I thought the offer would be too good to resist and finally the game would be released. Alas, no, they wouldn't even reply to any of my letters! Please could you let me have the address for LucasArts so that I can get in touch with them?

**Paul Bates**  
Leicester



**stf:** Well, Paul, the address you're after is LucasArts Games, PO Box 10307, San Rafael, CA 94912 USA or you could fax them on 0101 415 721 3344. But be warned, although you've compressed the screens to 20K, there's an awful lot of them – the



Amiga version of the game needs 11 disks to run, and if you used samples for the sound they'd also take up a lot of space. There is no doubt that this is a mammoth task if ever there was one. Make sure you let us know how you get on.



■ Converting screens like these may not take up much disk space but for a game with so many screens and options that's not the only thing to consider – think of the sound and programming mechanism. And just think of US Gold's profits if they sold 20,000 copies...

to write into you asking for a job. The good thing for you is that I don't want to be paid because I want to do it for pleasure. Please consider this offer.

**Nicholas O'Donnell**  
Nottingham

**stf:** Nicholas, and everyone else who writes in to us wanting to review games, thank you for your offer but we have plenty of writers on the team who can write all the reviews we'll ever need. Your best bet, if you want to be a writer for a magazine like this one, is to work really hard and get all the qualifications you can so that you'll impress potential employers, get involved in as many writing projects as possible – school and college newspapers are good places to start – read loads and loads of magazines and newspapers so you can get an idea of the hundreds of different ways of writing what is basically the same thing. If you want to specialise in a particular field, get to know absolutely everything you can about it, that'll help you no end. And when you write for job applications, make sure you'll impress the person you're writing to with your knowledge of their specialised subject. Don't, for example, write to an ST magazine saying you want to write for them citing your review of Sleepwalker that you wrote around Comic Relief time as you wouldn't have been able to play it on the ST because it hadn't come out then. Oh yes, and it's not obligatory to believe everything your teachers tell you.

### Monochrome mania

Why is there seemingly such a shortage of games and Cover Disk material generally for us "serious" ST users – the ones with monochrome monitors? I spend most of my time making MIDI music and dabbling in desktop publishing but occasionally I like to play the odd game. Just simple games, usually, not the type that you need to have studied at postgraduate level to understand! There must be some

## Great debates – where Atari should go from here

Atari must drastically reduce their product line. The company is just too small to devote its attention to so many machines. The STFM, STE, TT, Lynx and PC should all be dropped. The Falcon030 would become the company's base machine and, for cost reasons, would remain in the old ST case. To replace the TT would be a Falcon040, with the high resolution capability of the TT. The 68040 machine should be upgradable to a 68060 and run at 25MHz at the very least. The Falcon040 would use the new case to distinguish it from the base model. Both machines should be advertised as "PC and Mac compatible" and in small print "separate card required." This may seem a bit underhand, but as head of Atari Jack Tramiel once said, "business is war." Chances are, someone buying the computer thinking it was a PC would be pleasantly surprised.

Replacing the Lynx by their Jaguar console, Atari would have a chance to compete in the games market without massive advertising. The 64-bit machine would have instant appeal to software developers and games players alike and hopefully, would sell itself.

**Gair Shields**  
Glasgow

**stf:** You're a bit ahead of your time, I reckon – you've got some interesting ideas in there, some of which I'm sure will actually happen. Atari aren't producing their PC any more; they've only just gone back into producing the STFM (although there is speculation that this is actually just a cobbling together of STFM parts which would otherwise

**"They should be advertised as 'PC compatible' and in small print 'separate card required'"**

have been dumped); STE production is only expected to last another two to three years having earned a stay of execution earlier this year and the US Lynx section is reported as doing very badly financially – what impact that has on the UK division remains to be seen. Which leaves the TT, Falcon and Jaguar. Development of the Falcon family is likely to happen but it would be very misleading (and sure to be picked up on by the Advertising Standards Authority as such) to

advertise it as PC and Mac compatible without also including the relevant emulators. I'm not entirely sure that "pleasantly surprised" would be the phrase used when you found you couldn't run any of your PC software without having to spend even more money. As regards the casing, you seem to have hit the nail on the head. As reported in the news section starting on page 7, it now seems unlikely that there is to be a new case for the Falcon030 – according to Bob Brodie, Director of Communications at Atari US, the casing will develop in pretty much the same way as it did for the ST – when there is a significantly higher spec for the machine, like when the Mega ST came out, the casing is likely to change.

While the Jaguar certainly is an incredible machine, it is highly unlikely to be able to sell itself. Part of the task of advertising is to create awareness in people – because if you don't know something exists, you're never going to decide you actually need it. This has to be particularly important in the console market that's presently dominated by Sega and Nintendo – everybody's heard of them even if they don't want to buy a console and this recognition factor is very important.

writers out there who enjoy making a mono game look good on the screen and play well too.

**Carolyn Johns**  
Naremburn  
Australia

**stf:** There are actually quite a few mono games around, but the general lack of them can be explained by the fact that while not everyone has a mono monitor, most people have colour TVs so they can easily load up any low or medium resolution game. In the commercial sector you could try raiding Silmarils' selection – they've created games like Transarctica, Ishar (1 and 2), Bunny Bricks, Storm Master to

name but a few – all of which run in mono. Monkey Island from US Gold and the flight sim ProFlight from HiSoft also run in mono. There are even more games in the Public Domain where commercial viability doesn't matter so much –

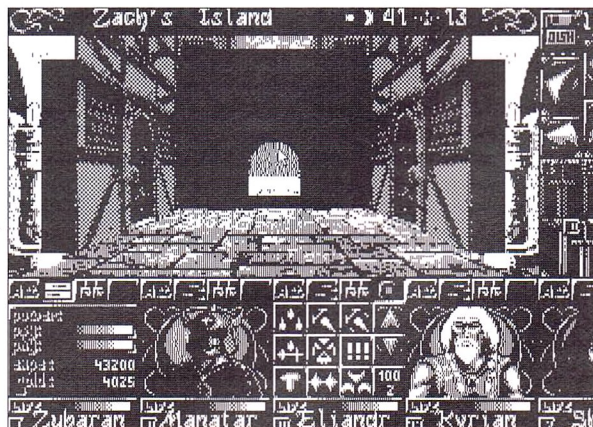
**"Most people have colour TVs so they can easily load any low resolution game"**



**Bunny Bricks sounded quite entertaining before it came out, but ended up rather like a glorified version of Breakout.**

check out the individual library catalogues for details – you'll find delights such as versions of Tetris and heaps of text adventures – and there are even compilation disks full of mono games.

■ French programmers Silmarils are one of the most prolific producers of mono games, maybe because the French are more "serious" than their UK counterparts.



■ We review Ishar 2 this issue which functions reasonably well in mono although some of the detail is lost in a mass of darkness.



### That age-old question

To add to your excellent reviews you could add a bit that tells you what the ST version is like compared to Amiga or PC versions so we can go up to Amiga fans and say "that game's better on my machine than yours."

**Mysteriously anonymous  
Tyne and Wear**

**stf:** Er, we trust that you always say that anyway – we certainly do!

### Golfing mad

I have just started the MicroProse Users' Golfing Society for players of MicroProse Golf and wondered if anyone would be interested in joining. I have permission from MicroProse to use their name and they have agreed to donate a trophy for the national winner. It is only open at this stage to scratch players so that everybody competes at one level.

Providing I get enough support I propose to run a regional competition over 36 holes and the final stage over 72 holes. If anyone wants further information, please send an SAE to me at the address below and I will send you details of the club and a registration form.

**Andy Jervis  
MUGS,  
9 Portland Drive,  
Nuneaton,  
Warks CV10 9HZ**

**stf:** Thanks for that, Andy – sounds like a great idea...

### Who needs packaging anyway?

The next logical step in a perfect world, following the decrease in price of the STFM, would be for the software houses to follow suit and slash the exorbitant prices they charge for their products. I understand that producing each game must have incredible overheads – I mean that it must cost the world to produce all that lovely packaging. However, I do have a small suggestion for the software houses, try making the boxes to fit the game contained. You never know, it may just reduce those production costs a little.

**M Phillips  
Cardiff**

**stf:** Software houses deliberately put games into large boxes so that you feel you're getting lots of value for money. Take, for example, the boxes that budget games traditionally have appeared in – those small square things with a small leaflet inside. You somehow never feel that the game's actually going to

be any good – or at least it's certainly not going to be mould-break-ing stuff. Compare that to the new spree of mid-priced games that are coming on to the market from people like US Gold's Kixx XL label. These games are packaged in big shiny boxes so that they look and feel like quality games and at the end of the day they make you feel more positive about the gameplay even before you load it up.

### Crazy about music

I have been the very proud owner of an STFM for over eight years and not once have I been unfaithful and looked at that other machine whose name escapes me. My allegiance, however, may be swayed by the mighty thunder-clapping appearance of the Falcon. One of my passions is music, especially tracker music using *TCB Tracker* and *Noisetraacker*. I have a fairly extensive collection of music for both programs – many of which I have composed myself. I am not a professional musician – just an Atari music genius and my main concern is being able to compose music on the Falcon. I have never seen a MIDI setup, let alone used one because it looks rather complicated – although I'd hardly describe myself as a technophobe. Anyway, I'd like to know whether anyone has any plans for producing any Tracker programs for the Falcon.

**Les Rayner  
Suffolk**

**stf:** We haven't heard about any commercial tracker programs being created for the Falcon – the only thing we've come across so far is the *Public Domain program Pro-Tracker Replay* which we gave an *STF Rating* of 65% in last month's PD section – it enables you to play any of your modules that you created on your ST. Watch out for any more news of such programs in the pages of *STF*.

If you're interested in progressing beyond tracker music then you ought to check out last month's issue of *ST FORMAT* where we showed you how to get started in making your own music using a MIDI setup – it's much easier and less daunting than you think! For more details on all this you need last month's *STF* – turn to page 52 to order your copy now.

**If you've got anything you would like to share with us and 60,000-odd other ST enthusiasts, address your letters to Paula Richards, The Editor, Feedback, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW – you could even win some cash!**

# ESSENTIAL CONTACTS

**Need to find that number of that company but lost the reference? Look no further...**

Company Name	Telephone Number	Company Name	Telephone Number
Acclaim	0962 877788	Krisalis	0709 372290
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Alternative Software	0977 797777	Ladbroke Computing International	0772 203166
Analogic Computers	081 546 9575	Laser Distribution Ltd	0579 82426
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Care Electronics	0923 894064	Michtron	010 1 313 334 5700
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Cheetah	061 707 7080	MicroProse	0666 504326
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Electric Distribution/GST	0753 549442	Roland	0252 816181
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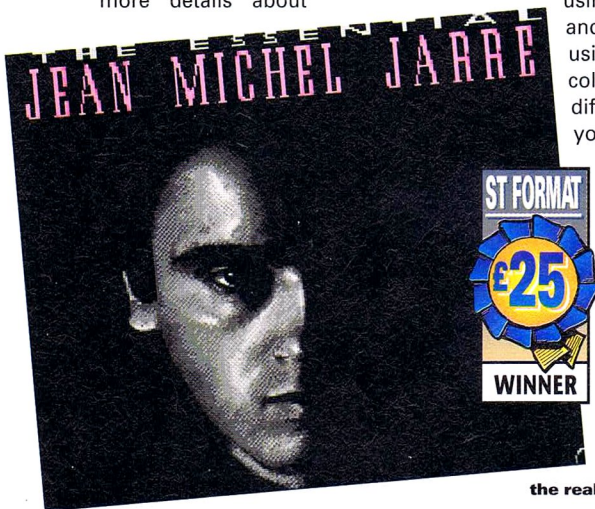
**■ If you would like to correct or add to any of the entries in this directory, please write to Essential Contacts, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW**

# PIXEL PAINTING

**Following this month's raytracing feature you should be exploding with creativity - let's see what you can do...**

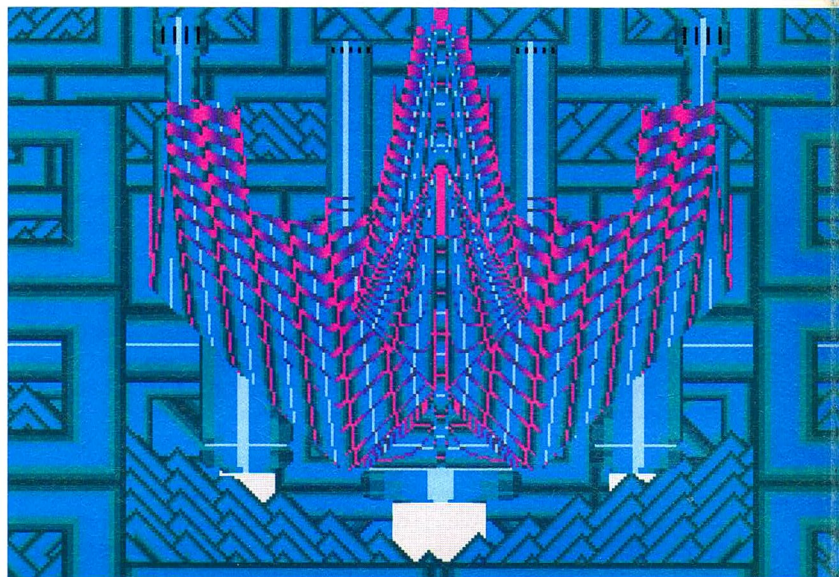
**T**his month we've got two contrasting pictures for you to gawp at - you can find more details about

each pic in the captions below them. One's an almost photographic replica of an album cover using a very limited palette and the other, while also using a limited range of colours, produces a totally different abstract effect. If you think you can do any better, send in your submissions on a disk together with all the intermediary stages and full instructions, to Pixel Painting, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.



■ Creating a face in shades of grey is an unusual idea but one which works very well, as shown here by Colin Thomas of Glasgow. Colin worked mostly in the Zoom mode of *Deluxe Paint* in this copy of *The Essential* album cover. The shading and the highlights look really good, adding to the realistic appearance of Jarre. It's all very effective and took around 30 hours to complete.

■ This abstract butterfly-like image comes from Ed Sheppard of Powys. Unfortunately, he didn't give us any indication of how he created it - but it looks as if it was made with the pattern generator *Kosmic* that we gave away on Cover Disk 32. He's chosen an effective contrasting palette and the shading in the background gives a decidedly 3D effect.



## THESE ARE THE PEOPLE TO BLAME FOR THIS ISSUE...

### EDITORIAL

(☎ 0225 442244)

**Editor** Paula Richards  
**Art Editor** Steve Fardy  
**Production Editor** David Roberts  
**Disk Editor** Chris Lloyd  
**Technical Editor** Clive Parker  
**Staff Writer** Rob Mead  
**Art Assistant** Helen Hayward  
**Contributors** Billy Allan, Peter Crush, Andy Curtis, Mac Marsden, Tony Wagstaff

**Photography** Rick Buttner  
**Illustration** Barry McCulloch  
**Photo manipulator** Chris Stocker

### ADVERTISING

(☎ 061 474 7333)

**Advertising Manager** Gail Blincow

### PRODUCTION

(fax 0225 423929)

**Group Production Manager** Judith Middleton

### Production Coordinator

Laurie Van Huss

**Ad design** Louise Cockcroft

**Production Controller** Claire Thomas

**Production Control Assistant**

Ginette McKeown

**Paper Controller** Fiona Deane

**Admin Assistant**

Suzannah Angelo-Sparling

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Greg Ingham

**Circulation Manager** Jon Bickley

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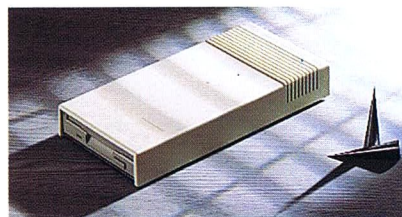
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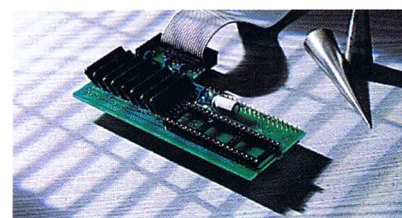
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SuperMon comes with all the features of the "Ultimate Cartridge" and more. Some of the SuperMon features are, Program Switcher- allows two programs to be in the memory simultaneously and switched between at the touch of a key, Printer Spooler- allows files to be printed at the same time as other tasks, Comprehensive Debugger- disassemble programs and step through them, intercept OS calls, search memory or find where a routine is called from automatically, Diagnostics Function- check the internal functioning of your ST disk analyser, custom format disks, read/write sectors, hide files, Utilities- The SuperMon also has many utility functions available, including reset proof RAM disk, mouse trap function, time display, screen snapshot and 50/60Hz display toggle.

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The Atari RAM Expansion requires no soldering and plugs directly inside the ST using the latest capacity RAM chips. Full fitting instructions are supplied.

The ST RAM Expansion is available either as a 2MB or 4MB RAM expansion.

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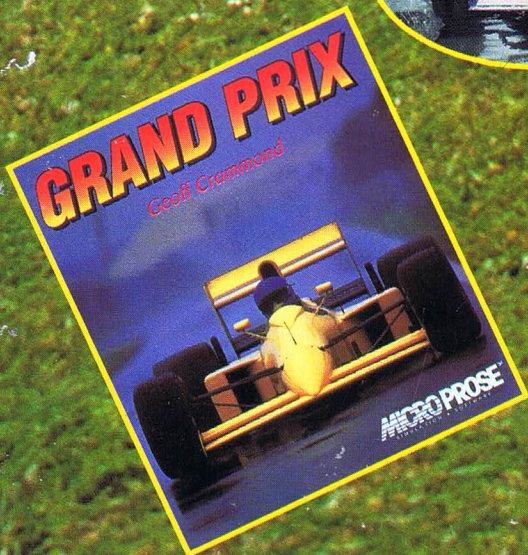
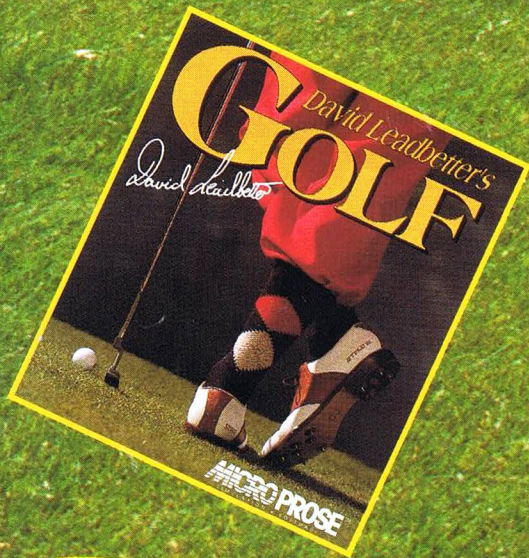
## MONITORS

Philips CM8833 Mk2 colour monitor including cable and on-site warranty. Many other monitors are available from greyscale to multi-synch.

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