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CONTE

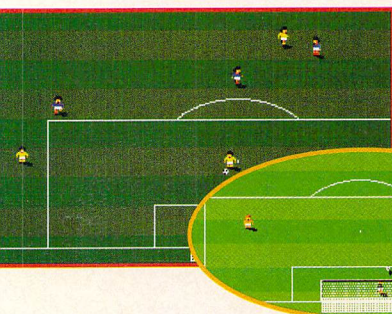
BLOW YOUR MIND!

Boost the power of your ST with our five essential hardware projects, starting on page 23



FOOTBALL CRAZY!

Get into the football season with a look at soccer games for your ST, starting on page 42



■ Four new footie games are coming to join the 40-odd already available. Is there a place for them?

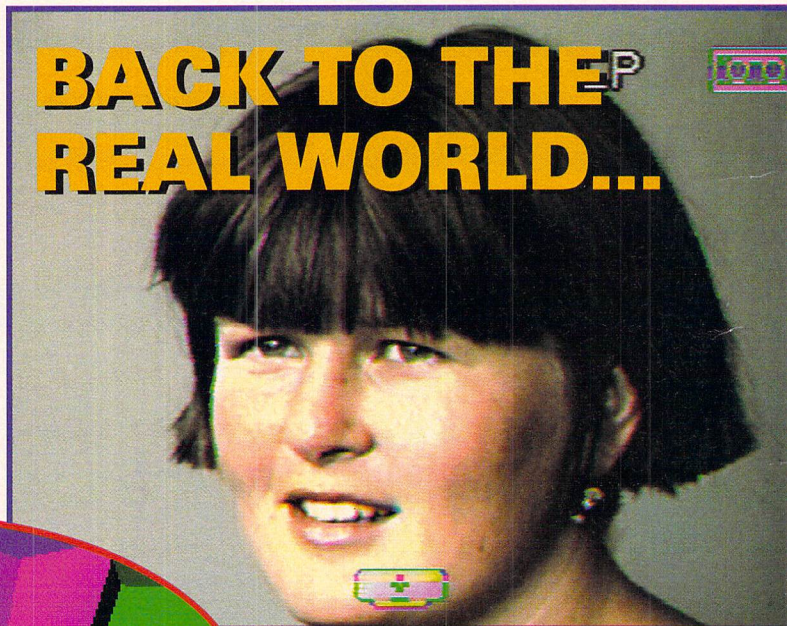
CLOWNING AROUND

You had a great time playing around with the Persistence of Vision raytracer that we gave away on Cover Disk 49. Here are the results...

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BACK TO THE REAL WORLD...



Bring any image you like onto your screen with our five page guide to scanning, digitising and sampling on page 32

ST
FORMAT

ABC Jan - July 1993
52,810
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NTS

ST FORMAT ■ ISSUE 52 ■ NOVEMBER 1993

WELCOME TO ST FORMAT

You wanted more second disks with commercial packages on them - and now you've got 'em! I hope you enjoy *Wordflair*, our first offering that we're bringing you in conjunction with Hisoft. Since we're starting a

Paula Richards,
EDITOR

season of two disk issues, why not take the chance to subscribe? There has never been a better opportunity to save yourself money and take the hassle out of hunting for *STF* at the shops. Remember too that it looks very likely that VAT will be imposed on the price of magazines. If you subscribe now, you're

protected from any price rises that occur during the lifetime of your subscription - even increases because of second Disks and taxes! Turn to page 50 for more details.

The issue's packed as usual with heaps of features, reviews, news, views and ideas. If you're into DIY and boosting the power of your system look at "Bigger, Better, Faster" starting on page 23, or if you'd just prefer a quick game of footie you'll be interested in "Football Crazy" on page 42. And if you use your ST in a business environment, it's essential you check out our networking feature "Get Yourself Connected" on page 89.

Enjoy the month!

FEATURES

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Upgrade your ST with our simple step by step guides.

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Get aspects of real life onto your ST's screen.

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Why are football games on your ST so popular?

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Create samples via your printer port.

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There has never been a better time to do so.

53 REVIEW: INKJET PRINTER

This printer looks good but how does it function?

55 REVIEW: PHOTO SHOW

How does the first Photo CD software shape up?

56 REVIEW: DRAGON GRAPH

A viable program to show off your vital statistics?

57 REVIEW: BEGINNERS GUIDE TO STOS

Get to grips with *STOS Basic* using this huge package.

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Discover how networking your STs can help you.

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Win yourself the adventures of Colin Curly.

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Crack those games with our tips and solutions.

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Ask him a question and he'll help you out...

96 EDUCATION

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Find those telephone numbers quickly and easily.

104 SPECIAL OFFERS

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106 PIXEL PAINTING

Can you draw any better than this?

COVER DISKS 52



TWO DISK SPECIAL

Magic Boy - get into this playable demo of Empire's bright and breezy platform game

■ Exclusive four level demo of this amazingly colourful bound about platform game - help Hewlett retrieve the wizard's magical creatures.

Movie Master - create your own stunning animations with music and sound. Brilliant stuff.

■ Give Steven Spielberg a run for his money with this simple to use film and demo creator.

Wordflair - make your documents look professional with this integrated document processor!

■ It's worth £50 and it's yours free on this month's special second disk. Bargain!

And much much more!

TURN TO
PAGE 12 FOR
THE FULL STORY

Ladbroke Computing



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Ladbroke Computing International are one of the

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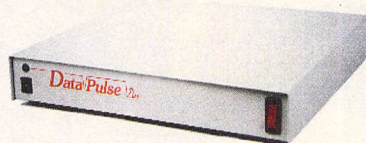
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- Ideal for fast data backup from hard drive. Diamond Back II compatible.

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.

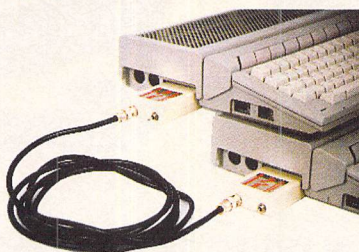
21Mb 3.5" Floptical Disk £22.00
5 x 21Mb Floptical Disks £99.99

Aries Upgrades

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

512K Board £39.99
2Mb Board £89.99
4Mb Board £169.99
512K SIMM's STE £6.99
2Mb SIMM's STE £69.99
4Mb SIMM's £139.99
2 x SIPP to SIMM adaptors £3.00

ST/Falcon Networks



Datanet Network Hardware

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

Powernet Network Software

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

DataNet with PowerNet £69.99

LanNet with PowerNet £59.99

MidiNet with PowerNet £49.99

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

STE Packs

1040 STE Curriculum 2 £189.99
2Mb 1040 STE Curriculum 2 £259.99
4Mb 1040 STE Curriculum 2 £329.99
520 STFM
Discovery Pack £149.00

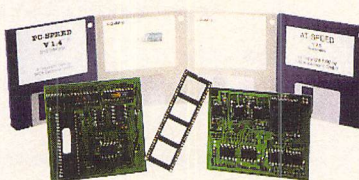
Falcon 030

- 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 120Mb HD £999.00**
FALCON 1Mb No HD £599.99

Software

Scanlite Accessory £20.00
Diamond Back 2 £34.99
Diamond Edge £44.99
Image CAT £24.99

PC Emulators



- Run PC Software on your ST
 - Full installation instructions
 - XT or AT Emulation
- PC Speed STFM (XT) £49.99**
PC Speed STE (XT) £49.99
AT Speed STFM (8MHz) £129.00
AT Speed STE (8MHz) £139.00
AT Speed C16 STFM £189.00
AT Speed C16 STE £199.00

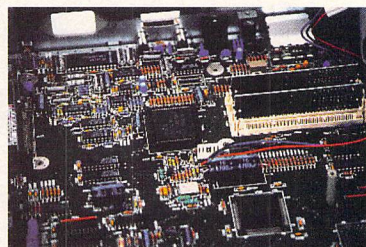
Repair Services

The ONLY Atari authorised Service Centre
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 £32.25
Same day service £15.00
STFM(E) PSU £34.99
1Mb internal drive £39.99
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
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
Fully Remote control 60 channel. Fast text TV with Scart input for near monitor quality display.
Colour SVGA Monitor £239.99
High quality Colour SVGA Monitor 28 dot pitch. For use with Falcon.
Falcon VGA Adaptor £9.99
Falcon ST Monitor Adaptor £9.99
Philips SCART to ST/STE £9.99
8833 MK II to ST/STE £9.99
Microvitec Multisync Monitor £399.99
Will display all ST resolutions when used with Switch Box.
Switch Box ST £29.99
Includes Sound Output.

Printers



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

Citizen
Citizen Swift 240 Colour £270.00

Hewlett Packard
HP Deskjet 510 £299.99
HP Deskjet 550 Colour £599.99

Lasers
Star SJ144 £569.99

- Colour, thermal wax transfer printer
- 144 Element Head
- Compressed Data Mode
- 360 DPI Resolution
- Emulates Epson LQ860

IBM Pro Printer & NEC Graphics
Ricoh LP1200 £789.00

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

ATARI ON THE ROAD TO PROFITS

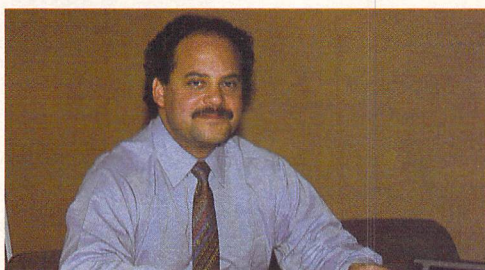
by Paula Richards

Atari claim they're well back on the way to the successful financial position they held four or five years ago when the ST was at the peak of its popularity. Their shares have quadrupled in value to \$4.75 each over the last six weeks following the release of the news about Jaguar, a huge spurt coming immediately after they announced that IBM would be manufacturing the machine.

They've also just announced their results for the second quarter of the financial year – net sales were \$5.7 million compared to \$23.3 million for the same period the previous year. Their net loss this quarter was \$6.6 million compared to \$9.7 million in 1992. Sam Tramiel commented "The company has focused all of its efforts on the development and launch of its new multi-media video entertainment system, the Jaguar. We have approximately \$35 million in cash."

They have spent the last year cutting back and consolidating the

company – pulling out of all the European countries bar the UK, France, Germany, Italy and Holland, only remaining there indirectly via Atari dealers. They've also cut down their product line to focus on the Lynx, and the start of the Falcon and Jaguar families and have organised their distribution methods so they're in a better position to serve Europe. Although



■ Sam Tramiel seems confident about Atari's ability to be profitable, emphasising what they have in the bank rather than their trading loss.

"As a corporation we're still around and we're not in some kind of dire straits"

they've undoubtedly been quiet on the marketing front this year that's all set to change now that all these new systems are in place.

Paul Welsh, Atari's UK Sales Manager, speaking at a Falcon dealer day commented: "As a corporation we're still around and we're not in some kind of dire straits." He went on to explain that they

haven't really pushed the Falcon so far because there hasn't really been enough software around to sell it effectively but now "we are starting to put more of a determined effort into promoting Falcon – the delays have largely been because of a lack of availability of software."

Support for the company and commitment to the Falcon

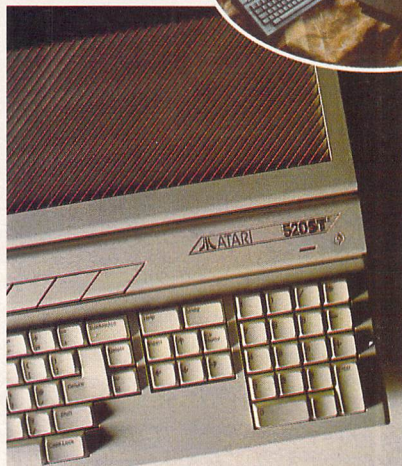
comes from across the industry. David Link of Hisoft reckons "Atari are very well set for the future – they have got things just right, they're in a tight, lean position and are ready to go forward." Compo are equally enthusiastic about the Falcon. Theo Briers, head of Compo in Holland and Germany is vigorous in his praise: "Atari have designed a machine that is expandable, it's a system that's ideal for everything – the Falcon brings a whole new aspect to computing."

It's now make or break time for the company – as far as the computer market goes, at least. Software's now available in reasonable quantities – and the programs generally look stunning, really showing off the capabilities of the Falcon's hardware; the machine's in the country in quantity and Atari are advertising in the ST and music press.

The launch of the Jaguar, assuming it all goes to plan, won't do the Falcon any harm to be linked to the Atari name and the only thing now is for Atari to convince dealers to stock the machine and persuade their customers to buy it. If this doesn't happen the chances of the Falcon ever becoming more than a specialist machine are remote. They've started on that track holding "Falcon Dealer Days" – with the promise of more to come. How successful they are remains to be seen.

■ According to Atari you're going to find it very difficult to find an STE after November.

■ The Falcon's the machine that's going to ensure Atari stay in the home computing market.



SNIPPETS

Working Title drop the ST

In an unexpected move, Working Title are dropping support for STs in the UK. We contacted Nigel Johnstone at the company to find out why. Nigel told us, "It's a matter of economics – we are losing money on every copy of *Calligrapher* we sell and were advised by our financial advisors to discontinue the program. We are continuing to sell fonts and support registered owners of all of the *Calligrapher* range." Working Title are on ☎ 0865 370175.

Faster Falcons

Double the speed of your Falcon with the Eagle Sonic 32, a new accelerator board that increases the speed of the Falcon to equal that of the TT for just £179.

The board fits into the external expansion slot of the Falcon and deactivates the original 16MHz 68030, its functions are then taken over by the 32MHz 68030 on the Eagle Sonic card. The board is triggered by an Auto folder program and can be disabled at any time. Another version of the board is available – the Mighty Sonic 32 includes 32MBytes of fast TT RAM to increase the speed of memory access. Both boards are available from Gasteiner on ☎ 081 365 1151.

Photo Show update

You can now get *Photo Show* (reviewed on page 55) for £39.95 from System Solutions – call ☎ 0753 832212 to order your copy.

Burst into colour

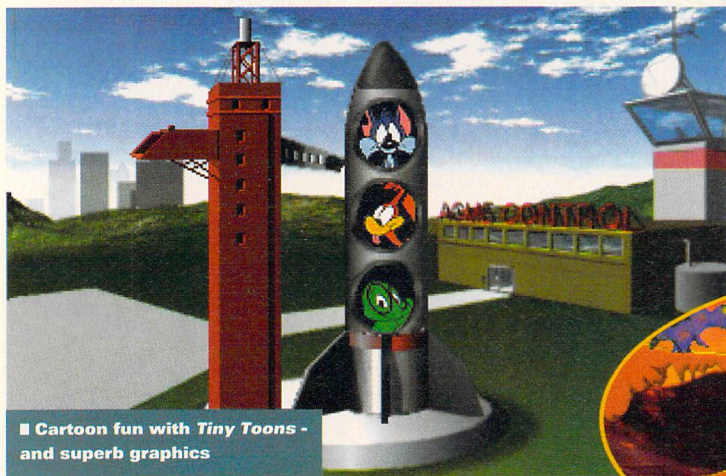
The first colour hand scanner for the Falcon is available now from Gasteiner Technologies. The Colour Burst Scanner from Migraph enables you to scan in up to 262,144 colours at resolutions up to 400 dpi, perfect for creating colour desktop publishing images.

The Colour Burst Scanner costs £399, although the first 250 orders received are to be discounted by £100 to £299. To use the scanner you need a minimum of 4MBytes of memory and a hard drive is recommended. Call Gasteiner on ☎ 081 365 1151.

Falcon system software

The Falcon Owners Group are distributing system software missing from some Falcon hard drives like SpeedoGDOS, *Audio Fun Machine* and *System Audio Manager*. You must have bought a Falcon with a hard drive installed, if you have bought the floppy drive only version then you are not entitled to a copy of SpeedoGDOS. To receive your copies, send your Falcon's serial number, the name of the company you purchased the Falcon from and your name and address to: The Falcon Owners Group, 10 Oak Drive, Portishead, Bristol BS20 8QS. This offer only applies to UK residents.

ATARI LAUNCH JAGUAR TO UK PRESS



■ Cartoon fun with *Tiny Toons* - and superb graphics

by Paula Richards

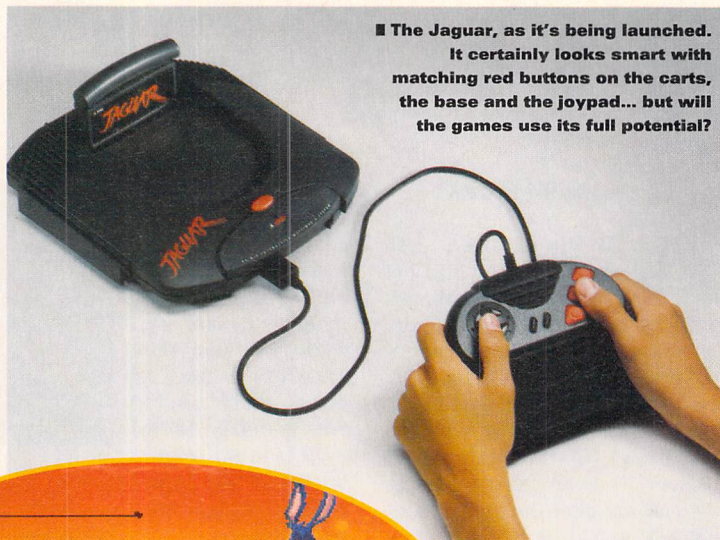
Atari are "taking the Jaguar seriously," the company announced at an informal press gathering to show off the machine and its potential. This was encouraging to hear, especially since they are expected to spend many millions of dollars on it - it's been three years in development and they have no fewer than 30 in-house software developers creating games for it.

Atari reckon that their commitment to the machine can be seen in the fact that they're invest-

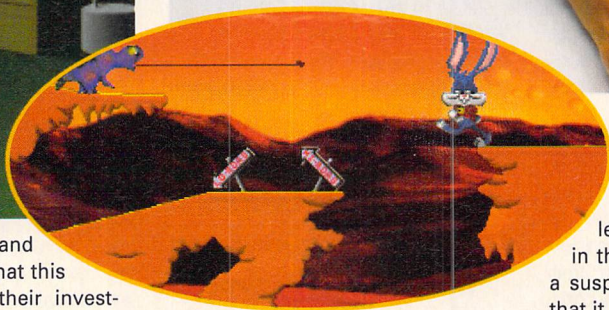
ing all this time and money into it - and that this is just the start of their invest-

"The first Jaguars are likely to hit the streets before Christmas though this wasn't Atari's plan"

ment. What this says for their commitment to the other machines in their line-up remains to be seen.



■ The Jaguar, as it's being launched. It certainly looks smart with matching red buttons on the carts, the base and the joypad... but will the games use its full potential?



■ Beautiful graduated backgrounds make most of the Jaguar's graphics capabilities.

From that meeting we bring you some of the world's first pics of the machine - including what it looks like under that rather attractive black and red casing.

The first Jaguars are likely to hit the UK streets just before Christmas - although this wasn't ever Atari's original master plan they appear to have decided not to

let unauthorised importers get in the country first. There is also a suspicion, unconfirmed by Atari, that it is to be test marketed in London and Paris as early as late October or early November this year. Atari expect to sell \$200 million worth of Jaguars and \$200 million worth of Jaguar games next year - and mostly in the US.

Although Atari are showing their commitment to the machine by pouring in their own resources, the real test of how seriously it is

INSIDE THE JAGUAR

Feast your eyes on all those chips and, er, things! We've got this exclusive first look at the insides of the Jaguar...

The Jaguar has everything that you're going to need if you're serious about playing games for the next generation of software; CD quality stereo sound, immensely fast graphics processing for fast gameplay, the ability to generate complex 3D objects "on the fly" while you're playing a game and as well as a CD-ROM drive that enables huge games to be designed and full motion video to be displayed.

The two custom chips designed by Atari for the Jaguar ensure that they are staying

well ahead of the competition in terms of both sound and graphics processing.

Called Tom and Jerry, these two chips are the very heart of the Jaguar. Tom contains the 64-bit graphics processors; the GPU (Graphics Processing Unit), the Object Processor and the Blitter. Jerry copes with the sound side of things with the 32-bit DSP (Digital Signal Processor) chip and the sound DACs (Digital to Analog Converters). The end result of this combination is a true colour palette of 16.7 million colours and better than CD quality 16-bit sound output, games are never going to be the same again.



■ More cute-style graphics and pretty backgrounds to what your appetite for the stunning things to come on the 64-bit Jaguar.

THE JAGUAR AND CD-ROM

Atari seem slightly confused when it comes to the question of whether CD software is actually any good or worthwhile investing in. On the one hand they've gone as far as developing a CD peripheral and describe it in their press releases as a "much anticipated feature." When you actually talk to the people who are in the business of marketing it, however, you discover that they think it's just a good storage device and it'll never be used for anything apart from including a few extra MBytes of data – and leaving the rest of the disc

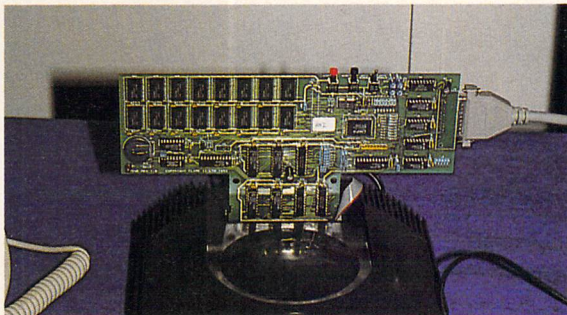
empty. While that may be true of the games available today on CD, few of which actually use its true potential, as the medium develops and programmers get used to using all the available space, the quality and the scope of CD games should logically increase. Jean Rechin, Atari's European Marketing Director, explained that you could get all the data you needed onto a Jaguar cartridge since they use unique data compression methods to cram even more information into a game – therefore Jaguar games should be superior to any

■ Here you can see the CD ROM peripheral that Atari have developed in the arms of one of the US Atari people, Julie Wade.



other cartridge-based games. The benefit of CD Atari do agree with, however, is that they avoid, to a greater extent, the piracy problems being experienced by Nintendo and Sega whose carts are being counterfeited.

■ The Jaguar's been three years in development and this is one of the developer's machines. Atari assure us that the carts won't be quite so bulky as that!

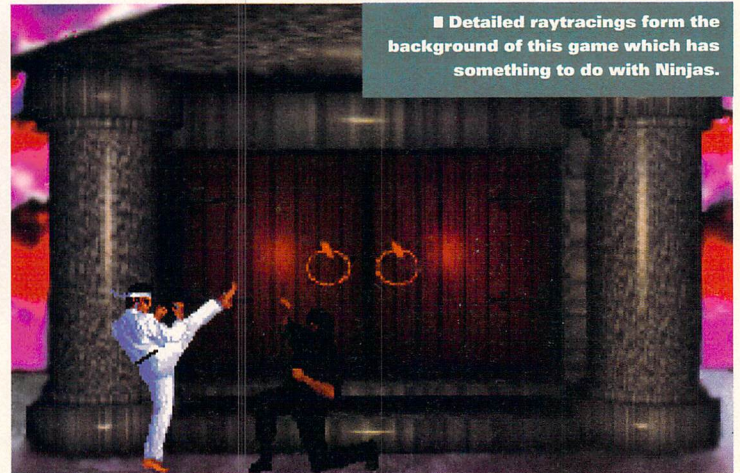
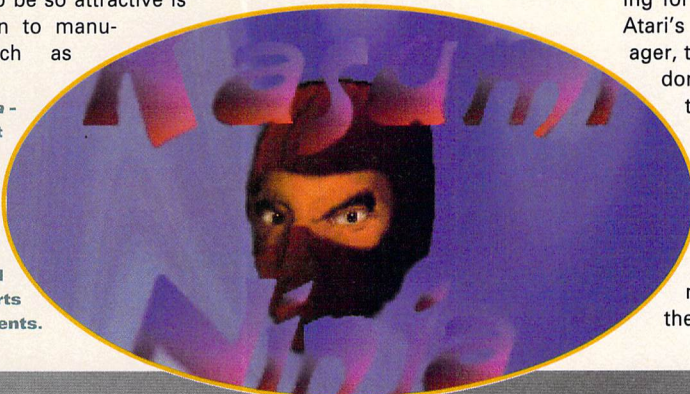


taken by the rest of the world is shown through the software houses' interest in the machine. And one of the ways in which they are hoping to encourage developers is by having a "very open software policy," as Jean Rechin, Atari's European Marketing Director, described it. The reason that this is likely to be so attractive is in comparison to manufacturers such as

Nintendo, who apparently operate very restrictive practices when it comes to permitting softies to develop for their machine.

The third party developers who have signed up are likely to include some very big names indeed, although Atari are cagey about who they actually are it is

■ Kasumi Ninja - this is, not surprisingly, set in Kasumi, and you take the chance to learn any of 91 martial arts movements.



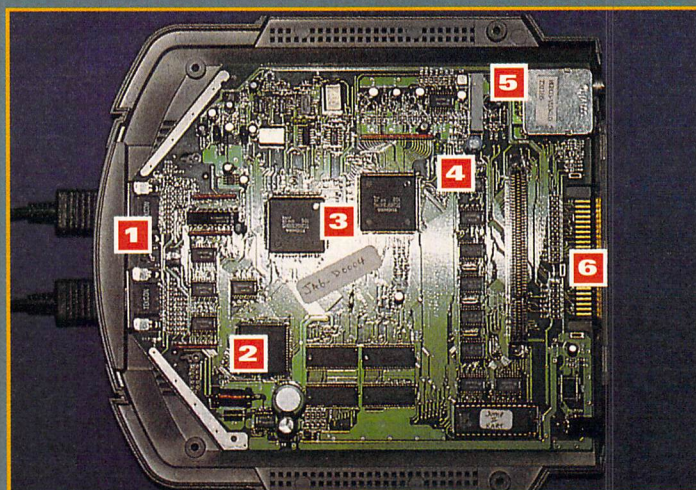
■ Detailed raytracings form the background of this game which has something to do with Ninjas.

likely that Ocean, Audiogenic and Imagitec are to be among those companies committed to developing for the machine. Peter Walker, Atari's UK Public Relations Manager, takes the attitude that softies don't really care what machine the develop for, they just want a platform on which to sell their games. Atari are understandably wary of this, wanting to have excellent titles that show off all the capabilities of the machine, although they take the attitude that it takes a long

time to realise the capabilities of advanced technology – as yet they don't actually know the limits of the machine. They are aiming to have five titles available upon the release of the Jaguar, and ten more available by Christmas. The price

"One of the ways they hope to encourage developers is by having a 'very open software policy'"

- 1 Analog joystick ports for the game controller.
- 2 Motorola 68000, used as a general purpose controller.
- 3 The custom chips "Tom and Jerry." Tom contains the Atari developed 64-bit graphics processors and Jerry the 32-bit sound processors.
- 4 Cartridge port. Jaguar game cartridges and the CD-ROM drive plug in this port.
- 5 Modulator for TV output.
- 6 Expansion port for future add-ons such as modem links, cable networks, direct DSP connection and TV I/O.



range is expected to be around £39 to £59 per cartridge – although that's still high considering Atari are aiming for the mass market.



■ Evolution Dino Dudes, or Humans as it's more commonly known, is apparently nearly ready for release.

US GOLD TO DRIVE SIERRA

Sierra On-Line have signed a deal with US Gold to release over 25 of their ST titles on the mid price Kixx XL label. The games, including classics such as *Heart of China* and the *Leisure Suit Larry* series, are to be released over the next two years, beginning in October. Incidentally, last month we

reviewed *Secret of Monkey Island* and *Cybercon 3*.

We have been asked to point out that the games were budget releases on the Kixx XL label, and sell for £16.99 and £12.99 respectively.



■ *Leisure Suit Larry*, one of the classics to appear sometime in the next two years on the Kixx XL label.

HOORAY FOR CYBERSPACE

Cult role-playing board game *Cyberspace* is almost certain to be converted to the ST by Empire Software which is great news.

The game is based around a huge city, with over 100,000 buildings and one million inhabitants, where you can take on any number of "virtual" roles. These include a private investigator, street fighter and courier, each with a specific set of missions to crack.

The game is set in the future, and a cyberpunk/hacking aspect of the game is provided by a com-



puter within the program, which you can log into and enter *Cyberspace* itself. The whole thing's

hideously complicated, but it looks like being lots of fun. Expect more news next month.

THE TOP TWENTY

Your guide to the top-selling ST games this month

This Month	Last month	Game	Publisher	Price	STF Rating
1	(1)	Sensible Soccer 92/93	Renegade	£25.99	91%
2	(-)	Zool	Gremlin	£25.99	89%
3	(5)	Championship Manager '93	Domark	£29.99	80%
4	(12)	Civilization	MicroProse	£34.99	92%
5	(8)	Premier Manager	Gremlin	£25.99	85%
6	(-)	Formula One Grand Prix	MicroProse	£34.99	81%
7	(2)	The Chaos Engine	Renegade	£25.99	94%
8	(11)	Prince of Persia	Hit Squad	£7.99	90%
9	(6)	Streetfighter 2	US Gold	£27.99	91%
10	(3)	Lemmings 2	Psygnosis	£29.99	96%
11	(4)	Pirates!	Kixx XL	£12.99	74%
12	(-)	Treasure Island Dizzy	Codemasters	£4.99	82%
13	(16)	Manchester United Europe	Buzz	£9.99	77%
14	(-)	MicroProse Golf	MicroProse	£34.99	95%
15	(-)	Super Space Invaders	Hit Squad	£9.99	70%
16	(17)	RBI 2 Baseball	Hit Squad	£7.99	62%
17	(-)	Nigel Mansell's World Championship	Gremlin	£29.99	69%
18	(-)	Ishar 2	Daze	£29.99	92%
19	(-)	Graham Gooch Cricket	Audiogenic	£29.99	85%
20	(13)	First Division Manager	Codemasters	£7.99	64%

Zool leaps in at number two this month, not quite beating *Sensible Soccer* which retains the number one position (surprise, surprise.) Further down we have *Formula One Grand Prix*, which makes a re-entry at number six - obviously a rush of sales there because of Damon Hill's success in the recent Grand Prix. Curiosity of the month: *MicroProse Golf*, re-entering at number 14, over two years after its release.

■ Check out page 470 of Teletext on Channel 4 for the latest ST chart and other games news from Digitiser.

Game snippets

ST games for £2.99?

Games Worth Playing is a new budget software label from Daze Marketing. Daze, who have recently published *Ishar 2* for the Falcon and *The Patrician* for the ST, intend to sell the budget games directly from their offices for just £2.99 each including postage and packing. The initial list of games is as follows: *Starblade*, *Metal Mutant*, *Storm Master*, *Boston Bomb Club*, *Crystals of Arborea* and *Superski 2*.

To buy one, send a cheque or a postal order, made payable to Daze Marketing, to: 2 Canfield Place, London NW6 3BT. The offer ends on 31 December 1993. Daze Marketing ☎ 071 328 2762.



■ The classic *Boston Bomb Club* is now available for £2.99

Dandy alternative

Dennis the Menace, Gnasher and the Bash Street Kids are to be the subject of several ST games next spring. Alternative Software, producers of *Dalek Attack* have secured the licence for those characters, along with others from the Beano and Dandy comics. Let's hope they can produce a better game than their *Huckleberry Hound* platformer (see page 75). Call Alternative on ☎ 0977 797777.

World Class budget

Audiogenic are to re-release *World Class Rugby* at £14.99. The budget package is to include both *World Cup* and *Five Nations* versions of the game, only previously available at full-price. Peter Calver of Audiogenic told *ST FORMAT*: "We decided to re-release *Rugby* because our previous release, *Graham Gooch's Cricket*, sold very well on the ST." The company is looking to release an upgrade to *Cricket* early in the new year. Audiogenic are on ☎ 081 424 2244.

Word games

US Gold would like us to point out that the phrase "spelling mistakes and non-existent words are included" in our review of *Scrabble* last issue is, in fact, incorrect. All the words that appear in the game are included in the *Official Scrabble Words Dictionary*. They would also like us to point out that the game is designed for everyone - from five year olds up to more mature Scrabble champions - and especially for those people who play on their STs alone.

PINBALL DREAMING?

Pinball Dreams, the highly successful pinball game for home computer formats, has been converted to the Falcon by staff of 21st Century Entertainment.

21st's Paul Topping told *ST FORMAT*: "Our producer is a big Atari fan, and he is converting *Pinball Dreams* in his own time just to see if it can be done." Although the game is nearing completion, sadly 21st Century have no plans to release it in the near future.

You can do something about this, however. If you would like to see *Pinball Dreams* for the Falcon released, write to 21st Century and tell them. That way, they will know just how high the demand is for the game. Send your letters to: We Want Pinball Dreams!, 21st Century Entertainment Ltd, West Brook Street, Blewbury, Oxfordshire OX11 9QB.



■ A pinball craze is sweeping the country and the Falcon's missing out. Don't let it! Write to 21st Century.



IMPORTANT - PLEASE NOTE

1 MEG = requires at least 1 meg of RAM to run.

D/S = Double sided disks

* = NEW item

A320 AIR-BUS D/S (1 MEG)	19.49
A320 AIRBUS (USA VERSION) D/S (1 MEG)	23.49
ADDAMS FAMILY (1 MEG)	9.99
ADVANTAGE TENNIS	14.49
AIR BUCKS D/S (1 MEG)	19.49
ANOTHER WORLD	12.49
ARCHER MAC CLEAN'S POOL D/S	18.49
AWESOME	14.49
B17 FLYING FORTRESS D/S (1 MEG)	14.99
BART VS THE WORLD	18.99
BATMAN RETURNS D/S	18.99
BATMAN THE MOVIE	18.99
BATTLE OF BRITAIN D/S	12.49
BEACH VOLLEY	7.99
BLUES BROTHERS	7.49
BOXING MANAGER	8.49
CAESAR D/S (1 MEG)	8.49
CAMPAIGN D/S (1 MEG)	24.49
CANNON FODDER D/S	20.99
CHAMPIONSHIP MANAGER 93 UPDATE DISK (1 MEG)	17.49
CHAMPIONSHIP MANAGER 93/94 D/S (1 MEG)	18.49
CHAMPIONSHIP MANAGER D/S	11.49
CHAOS ENGINE D/S (1 MEG)	18.49
CHAOS STRIKES BACK	19.49
CIVILIZATION D/S (1 MEG)	24.49
CORRUPTION (MISCROLLS)	7.49
CRAZY CARS 3	9.49
CRUISE FOR A CORPSE (1 MEG)	11.99
CRYSTAL KINGDOM DIZZY	13.99
DOGFIGHT (1 MEG)	22.99
DREAMLANDS	
(TRACARTIA, STORM MASTER, ISHAR) (1 MEG)	18.99
DUNGEON MASTER & CHAOS STRIKES BACK	20.49
DYNA BLASTERS D/S	20.99
ELITE 2 (FRONTIER) D/S (1 MEG)	24.49
EPIC D/S (1 MEG)	20.49
ESPANA - THE GAMES 92 (1 MEG)	18.49
EUROPEAN CHAMPIONS (STE)	18.49
F1 (DOMARK) D/S	17.99
F15 STRIKE EAGLE 2 D/S (1 MEG)	11.49
F16 FALCON - DATA DISK'S	7.49
F16 FALCON - DATA DISK'S	7.49
F16 STEALTH FIGHTER D/S (1 MEG)	12.49
FACE OFF ICE HOCKEY	9.49
FANTASTIC WORLDS	
(REALMS, PIRATES, MEGA LO MANIA, POPULOUS, WONDERLAND) D/S (1 MEG)	24.49
FANTASY WORLD DIZZY	7.99
FINAL COMMAND	4.49
FIRE & ICE D/S	18.49
FIRST SAMURAI + MEGA LO MANIA D/S (1 MEG)	13.99
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(DYNAMITE DUX, NINJA WARRIORS, SHINOBI, DOUBLE DRAGON 2)	16.49
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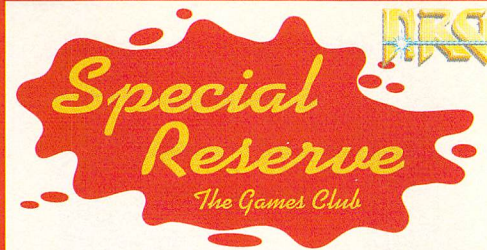
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COVER DISK 52

A tasteful mixture of games, demos, graphics, sound and puzzles to suit every palette blended by Clive Parker



■ Recapture the spell-casting creatures that have been released by Hewlett, the apprentice wizard.

Magic Boy

BY: EMPIRE
RESOLUTION: LOW
RESOLUTION ONLY
MACHINE: ALL STS AND STES
MINIMUM MEMORY: 512K
FILES: MAGICBOY.TOS
UNCOMPRESSED SIZE: 386K
GET STARTED WITH: SEE BELOW
JOYSTICK REQUIRED

Hewlett, the apprentice wizard, is a mischievous little devil who has been left in charge of his master's home. Unfortunately, the little scamp has accidentally released dozens of dastardly spell-casting creatures who are now creating havoc around the huge magical house. Your task is to help Hewlett capture the creatures and lock them up again, accompanied by a catchy jangly tune.

This exclusive fully playable demo of *Magic Boy* features four complete levels from Sand Land – the full version of the game features a massive 64 levels. Using your joystick you have to run and jump around each level shooting the little creatures, don't worry about hurting them, they are only dazed. When you have stunned a creature rush up to him and stuff him into your sack, once inside he struggles frantically. Pull

This month's amazing line-up of goodies

Magic Boy

Exclusive four level playable demo of the great new creature catching platform game from Empire.

Uncompressed size – 386K Page 12

Movie Master

Create your own superb animations complete with sound effects using this excellent animation program. You can even create sprites using other paint packages.

Uncompressed size – 509K Page 14

525

Not the time of a train but a sound sample convertor enabling you to use Mac, NeXT, PC, Sun and Falcon sound samples on your ST. Falcon compatible.

Size – 110K Page 16

Soma

A brain-racking puzzle to get you tied up in knots of frustration.

Size – 23K Page 13

Buttonz Basic

A superb shell program to link all your GFA utilities together, making programming simple.

Uncompressed size – 23K Page 14

Squidgey 2

Deceptively cute platform puzzler that's not quite as easy as it looks.

Size – 56K Page 13

Monkey

Create up to 20 function key macros in any program with this great Desk Accessory.

Size – 13K Page 16

Video Tape Catalogue

Make life simple and keep track of all your favourite tapes with this high resolution video catalogue.

Size – 47K Page 16

DMA Sound

Stereo STE-only sound sample utility using the DMA hardware. Sample directly from your Desktop.

Uncompressed Size – 68K Page 13

Back-Up

Play safe and make backup copies of both of your *ST FORMAT* Cover Disks. It must be done.

Size – 13K Page 16

■ Turn to page 19 for our second Cover Disk – *Wordflair* an integrated document processor from Hisoft.

down on your joystick and drop the creature into the cages at the bottom of the screen, you must cage the creatures as soon as you catch them or they escape from your sack. There are bonuses to collect and obstacles to avoid, beware of the skull and crossbones and conveyor belts.

The *Magic Boy* demo is huge, so we've squished it down into a self-extracting archive to fit it on the Cover Disk. To un-squish it you have to get a blank formatted disk and copy the MAGICBOY.TOS program onto it from your Cover Disk. Once you have copied the program

from the Cover Disk, put your Cover Disk away in a safe place. Now run MAGICBOY.TOS on your new disk, the demo decompacts itself while you wait. When the demo has finished decompacting you can delete

MAGICBOY.TOS from the disk. To run *Magic Boy* put the disk in the drive and press the reset button, the demo loads and runs automatically and you are ready for some creature-catching action.



■ Here's Hewlett dazing the dinosaur. The bomb, believe it or not, is a bonus, so you must collect it.

HOW TO HELP HEWLETT

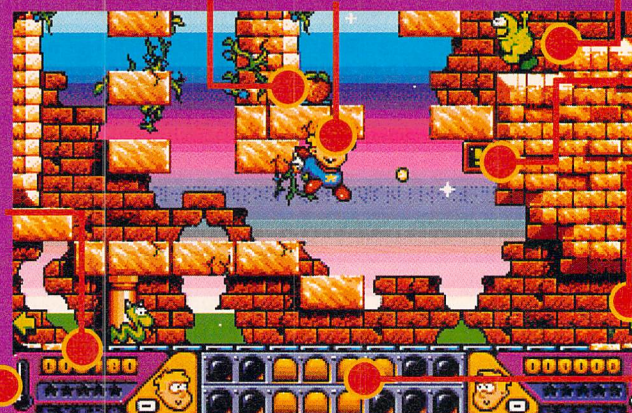
Hewlett has plenty to deal with on this level – there are magic conveyor belts, loopy creatures and bonuses to collect

Bonus fruit: collect these for extra points.

Hewlett: the Magic Boy himself.

Score: er, your score so far.

Energy: keep an eye on your energy level.



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 16 and you can't go wrong. Now there's no need to risk damaging or losing your disk again!

Some programs are compressed to fit on the Disk and cannot be run

directly from it. Follow the instructions here and all is 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.

Soma

BY: MARK J GALLAGHER
RESOLUTION: LOW
RESOLUTION ONLY
MACHINE: ALL STS AND STES,
FALCON030 IN ST LOW
RESOLUTION MODE
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FOLDER: SOMA
FILES: SOMA.DOC, SOMA.PRG,
SOMA.SPR
READ: SOMA.DOC
GET STARTED WITH:
SOMA.DOC, SEE BELOW

Soma is a brain-teaser based on the ancient Soma Cube puzzle, where a cube is split up into differ-



■ Slotting the last piece into the last gap gives you a great sense of satisfaction. *Soma* then smugly informs you that there are 130 other solutions to find. Sob.

ent shapes which you have to assemble into the complete cube.

There are over 130 different ways to assemble the cube from the seven pieces and none of them is particularly easy – in fact, you can spend hours desperately trying to get the pieces to fit together. The

puzzle is completely mouse-controlled and it's dead easy to get the hang of it. Select one of the seven shapes at the top of the screen and click on the down arrow, the shape is transferred to the hexagon on the left. The piece is rotated in three dimensions by clicking on the small cube at the top left of the screen, you see the cube in the middle of the screen. To position the piece exactly where you want

it, click on the direction arrows with the left or right buttons. When you are satisfied with the position of the piece, the arrow at the bottom of the screen transfers the shape to the right hexagon where the cube is assembled. Used pieces are indicated by a blue border.

If everything goes dreadfully wrong you can remove pieces from the cube by selecting the shape at the top of the screen and clicking on the up arrow, and if you get too frustrated you can quit the program by clicking on the "Q" with both mouse buttons.

Have a go, you can play for ages and are probably cursing for most of the time.

Squidgey 2

BY: TOBY LIDDISCOAT
RESOLUTION: LOW RESOLUTION
ONLY
MACHINE: ALL STS AND STES
MINIMUM MEMORY: 512K
JOYSTICK REQUIRED
FOLDERS: SQUIDGY2,
LEVELS.FSE
FILES: READMEQ.ICK,
REGISTER.FSE, SQUIDGE2.PRG,
SQUID1.LEV, SQUID2.LEV,
SQUID3.LEV, SQUID4.LEV,

SQUID5.LEV
SIZE: 56K
READ: READMEQ.ICK
GET STARTED WITH: SEE BELOW

Squidgey is a cute platform game where you have to help the little *Squidgey* fellow get from the start of the screen to the exit. Astounding stuff. Actually it's not quite as easy as it sounds because some of the platforms contain coloured diamonds embedded within them – walk over them and your energy level plummets to zero in seconds.

The trick is to collect the coloured buttons scattered around on the walls above the platforms, stand in front of a coloured button and pull down on the joystick to

pick the button up. You can now walk on any platform with diamonds of the same colour and destroy them. Be careful though, you must collect the buttons in the correct order to clear the level and you have to sacrifice some energy to be able to do this. There are five levels to get through and it's not an easy task.

To play you must copy the contents of the SQUIDGY2 folder to the root directory of a blank formatted disk – that is, not in any folders. This is because the program looks for the LEVELS.FSE folder in the root directory of Drive A and gets confused if it can't find it there. Make sure you make a backup copy of the *Squidgey 2* disk and get collecting those buttons.

■ **Squidgey 2 is Shareware.** If you want the full version with extra levels and a special level editor to customise the game send £5 to Toby Liddiscoat, 10 Montgomery Avenue, Lowestoft, Suffolk NR32 4DZ.



■ Be very, very careful where you direct *Squidgey*, standing on the platforms with diamonds in them can lead to a swift and untimely demise. Wander around and collect the buttons on the wall so you can zap the diamonds

Naughty creature: recapture them all. Touch one and you lose a life.

Bonus: shoot these to release fruit and power-ups.

Exit arrow: leave the screen here and you loop around to the other side.

Cages: drop the creatures you capture and they end up here.

DMA Sound

BY: MOUNTAIN SOFTWARE
RESOLUTION: MEDIUM AND
HIGH RESOLUTION
MACHINE: STE, MEGA STE, TT
AND FALCON
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FOLDER: DMASOUND
FILES: DMASND.TOS
UNCOMPRESSED SIZE: 68K
READ: DMASOUND.DOC
GET STARTED WITH: SEE NEXT
COLUMN

DMA Sound is a small utility enabling you to play stereo DMA sound samples directly from the Desktop of your STE by double-clicking on them. DMA samples cannot be played by the STF as it doesn't have the correct hardware.

The program has been compressed to fit it onto the Cover Disk. Get a formatted blank disk and copy DMASND.TOS to it, now run DMASND.TOS to decompact the files within. When fully decompressed you can delete DMASND.TOS from your blank disk. Only DMA samples can be played using *DMA Sound*, if you

run the program from the Desktop you can choose the file to play by using the file selector, the files must have the correct file extensions for *DMA Sound* to play them. DMA samples can be recorded at four set frequencies, 6KHz, 12KHz, 25KHz and 50KHz. If a file you wish to play is a 12KHz sample then you must change the file extension to .12, and if it's a 12KHz stereo sample then the file extender must be .12S. The same rules apply for 6KHz, 25KHz and 50KHz samples. Full instructions are included in the DMASOUND.DOC for setting up your STE to play the samples.

GETTING IN CONTROL

When you halt an animation the control panel appears, along with screen one and the first frame of sprite number one. Here's a quick rundown of the control panel functions

1 Current screen: the screen being worked on is displayed.

2 Current sprite: the sprite being worked on is displayed.

3 Colour scroll bar: select the colours to be scrolled.

4 Screen: select the screen that you want to work on.

5 Sprite: select the sprite that you want to work on.

6 Frame: selects current frame of sprite animation.

7 Colour scroll: toggles colour scrolling on and off.

8 Delay: controls the speed of the animation, set to zero for full speed.

9 Sounds: selects sounds from the sound sample library.

10 Trail: one sprite can be assigned a trail to move across the screen.

11 Edit: start creating an animation script.

12 Zero: resets the script timer to zero.

13 Run: runs the current script in memory.

14 Step: plots sprite positions one timer count at a time.

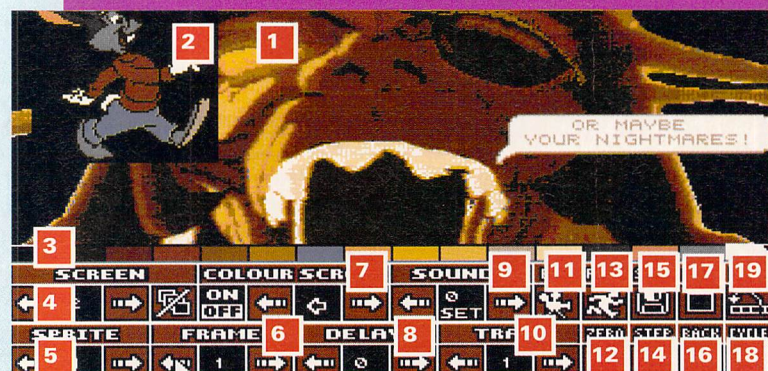
15 Save: saves a script file to disk.

16 Back: run the timer backwards for exact sprite positioning. This makes sure the sprites start in the right place.

17 Auto: scripts saved with the Auto function enabled run automatically when they are loaded.

18 Cycle: toggles sprite cycling on and off.

19 Loop: this sets the animation to continuously loop.



Movie Master

BY: ALLAN KNOPP, SOFT BITS
RESOLUTION: LOW
RESOLUTION ONLY
MACHINE: ALL STS AND STES
MINIMUM MEMORY: 512K,
1MBYTE RECOMMENDED
FOLDER: MOVIE
FILES: MOVIE1.TOS,
MOVIE2.TOS
UNCOMPRESSED SIZE: 509K
READ: WHATS_UP.DOC
GET STARTED WITH: SEE BELOW

Now you can create stunning animations using sprites and sampled sounds without any previous programming knowledge. *Movie Master* is a great animation program enabling you to move sprites over background screens even on a

512K ST. *Movie Master* is enormous – in fact, it's so big we've had to compress it into two separate self-extracting archives. To unpack *Movie Master* follow these simple steps. Copy MOVIE1.TOS to a blank formatted working disk and then run it, soon all the files decompress. You can now delete MOVIE1.TOS from your working disk. Now copy MOVIE2.TOS to the blank disk and run it – after a bit of waiting all the files decompress. When everything has unpacked you can delete MOVIE2.TOS from the working disk.

The first thing to do is make a copy of your *Movie Master* disk using the Cover Disk *Back-Up* program, once you've done this put your backup copy away and read or print the WHATS_UP.DOC file. This file contains the full instructions for using the program, it's

worth taking the time to read it so you understand exactly how the program works.

Run the program by double-clicking on the MMASTER.PRG file, you're greeted by the title screen and a couple of options. You can either load the script of demo animation supplied or start creating your own script from scratch. Select the load option and load the 512KDEMO.MMS using the file selector. The demo loads and runs, clicking the right mouse button or the Spacebar halts the demo and the control panel appears.

You can use the sprites contained in the 512KDEMO to practice making your own animations, but you are just not restricted to the sprites included with *Movie Master*. You can use blocks cut from *Degas* or *Neochrome* screens and use them as sprites, although

Movie Master is really designed to use sprites created with *Sprite Master GOLD* or the original *Animatic Sprite Master*. You can get a copy of this if you register the program with the author – see below for more details on how to do so.

Get into the program and have a good play around with it, it's straightforward and easy to get to grips with and enables you to create some very complex animations in a short time with the minimum of fuss.

Shareware

Movie Master is a Shareware program, that means if you like it and use it on a regular basis you must send a registration fee to the author of the program. This covers the time and effort spent in writing and improving the software. If you register *Movie Master* for £5 you get a full copy of *Sprite Master GOLD*.

Buttonz Basic

BY: MAJICSOFT
RESOLUTION: MEDIUM AND
HIGH RESOLUTIONS
MACHINE: ALL STS AND STES,
NOT TOS 1.2
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FOLDER: B_BASIC
FILES: BUTTONZ.TOS
UNCOMPRESSED SIZE: 231K
READ: SHELL.DOC
GET STARTED WITH: SEE BELOW

Programming in *GFA Basic* has never been so simple, thanks to *Buttonz Basic*. *Buttonz Basic* is a

shell program for *GFA Basic* designed to make programming in *GFA* easier for you. It's a utility which enables you to access all of your *GFA* utility programs from one menu – you can get to your main *GFA* editor, compiler, a text editor, disk utility programs, resource editor, Desk Accessories and system parameters. In fact, you can do all your *GFA* programming from within the *Buttonz Basic* shell by clicking on buttons.

The program works by enabling you to define paths for your *GFA* programs from the setup screen, click on the utility or path you wish to define and the file selector appears. Select file paths and program names as normal and

then click on the OK button, *Buttonz Basic* remembers the details and whisks you straight to the program or directory at the click of a button. This is a demo version of the program, so you can't save the configuration for next time.

Buttonz Basic has been compressed into a self-extracting archive to enable us to shoe-horn it onto the disk with all the other goodies. Copy BUTTONZ.TOS to a blank formatted disk and run the program, *Buttonz Basic* decompresses itself and writes all its files onto your blank disk in a few minutes. Once everything has decompressed you may then delete BUTTONZ.TOS from your blank disk. Now run the main *Buttonz*

Basic program by double-clicking on SHELL.PRG, although it's a good idea to read SHELL.DOC first for a full description of all the options available. Now get programming!

Get the full monty

This demo version of *Buttonz Basic* gives you a good idea of what a time-saver the shell program is when you are programming in *GFA Basic*. The demo is fully functional except for the Save Configuration option, so you have to set up the paths to your preferred programs every time you run this version of *Buttonz Basic*. The full version of the program is available from Bath Publications, 43 Midford Road, Bath BA2 5RW for £29.95, give them a call on ☎ 0225 480700 or fax them on 0225 480600.

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Atari ST
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Cover Disk Back-Up

BY: BRIAN TILLEY

RESOLUTION: ALL
RESOLUTIONS

MACHINE: ALL MACHINES
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE

FOLDER: BACK_UP
FILES: BACK_UP.TOS
SIZE: 13K

GET STARTED WITH:
BACK_UP.TOS, SEE BELOW

With almost 1.5MBytes of software on the main Cover Disk and *Wordflair* on the second Disk

you don't want to take any risks with your data. All it takes is a small electromagnetic pulse to wipe your *ST FORMAT* Cover Disk clean and you are left without all that wonderful software.

Luckily we always provide the cleverly programmed and ready-to-use *Back-up* program on the Disk so you never have to go through the trauma of staring at a blank directory window. Always make a backup copy of your Cover Disk – you know it makes sense.

To squeeze more programs on our Cover Disk we use a special ten sector format, unfortunately this completely baffles the Desktop disk copy routine of your ST and it

gives up in disgust when it tries to copy the disk. *Back-up* is the answer to your prayers, it makes a pristine copy of your Cover Disk with a minimum of fuss and bother. It uses your ST's memory to store data so that the Disk is backed up with the fewest possible disk swaps, if you have a 1MByte machine then only one swap is required.

Have a blank disk ready and write-protect your Cover Disk, slide the little black tab so you can see through the hole. This ensures that you can't accidentally wipe the disk. Run the BACK_UP.TOS program on your Cover Disk and when it's loaded choose option 1, this is

the copy option. Keep an eye on the screen and swap disks when you're prompted by the program. In a few short minutes you have a perfect copy of your Cover Disk ready to use.

If you get confused while swapping disks, remember that the source disk is your *ST FORMAT* Cover Disk and the destination disk is the blank disk that you are copying the data onto. If you have two disk drives then put the source disk in drive A and the destination disk in drive B.

You can back up other disks using the *Back-up* program, but you can't copy game disks because they're protected.

Monkey

BY: THE DUKE

RESOLUTION: MEDIUM AND
HIGH RESOLUTION

MACHINE: ALL STS, TT AND
FALCON

MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FOLDER: MONKEY

FILES: MONKEY.ACC,
MONKEY.RSC, README
SIZE: 13K

READ: README

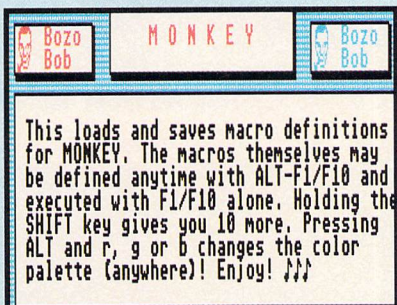
GET STARTED WITH: SEE BELOW

Monkey is a macro editor enabling up to 20 text macros to be defined at once and stored in memory and accessed at any time – this is perfect if you are entering line after line of near identical data in a word processor or a database. The macros are assigned to the function keys and can be up to 127 characters long.

Because *Monkey* is a Desk Accessory you must copy it to the root directory of your boot disk, not in a folder. The files you need to copy are MONKEY.ACC and MONKEY.RSC, when they have been copied reset your ST and *Monkey* is loaded into

memory. To define a macro all that you have to do is press <Alternate> and the function key you wish to store the macro on, <Alternate> <F1> to <F10> gives you your first ten macros and <Shift> <Alternate> <F1> to <F10> gives you macros 11 to 20. Press <Alternate> and the function key to finish defining a macro.

Macro sets can be saved to disk from the *Monkey* Desk Accessory, if you include a macro file called MONKYM.ACC in the root directory it is loaded automatically when you boot your ST. Pressing any function key, or <Shift> and any function key triggers the macro.



■ Monkey magic indeed, you can store an infinite number of macros sets on an infinite number of monkeys. 'Nuff said.

525

BY: H SCHÖNFELD & B

SPELLENBERG

RESOLUTION: MEDIUM AND
HIGH RESOLUTION ONLY

MACHINE: ALL STS, TT AND
FALCON

MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FOLDER: 525

FILES: 525E.PRG, README,
SOUND1.WAV, SOUND2.WAV
SIZE: 110K

READ: README

GET STARTED WITH: SEE BELOW

Now you can use high quality sound samples from almost any source on your ST, it doesn't matter if the sample was originally created on a PC, a Macintosh, a NeXT or a Sun Workstation, this handy program can convert it to the Atari AVR format for you.

To use the program, copy the 525 folder to a blank disk or to your hard drive. Once you have copied the folder read the README file included for detailed instructions on converting and using sound samples between the various formats. To get started, run 525E.PRG and select Convert from the file menu. A window opens with a few

convert sample

Import sample: SOUND1

Data reduction:
☒ 16 Bit Stereo
☐ 16 Bit Stereo deltapack
☐ 8 Bit Stereo
☐ 16 Bit Mono
☐ 16 Bit Mono deltapack
☐ 8 Bit Mono

File format: DVS SMD AVR WAV

Save options: ☐ Maximize volume ☐ Fade in/out

■ It all looks simple but 525 is the most versatile sound sample conversion program available for any computer. Probably.

simple options displayed. Click on the Import Sample box and select one of the two sample WAV format files we have included on the disk. To save the sample as an ST format AVR file, click on the AVR button in the File format box and then click the Export button. The file is now saved with the original name and the AVR file extension.

Files can be converted in either direction, so you can convert ST samples to NeXT and Mac format or even convert Mac samples to PC formats.

Now your sound sample library can expand limitlessly.

Video Tape Catalogue

BY: PETER CLARKE

RESOLUTION: HIGH
RESOLUTION ONLY

MACHINE: ALL STS AND STES
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE

FOLDER: VIDEO
FILES: VIDEO.PRG, VIDEO.DOC,
README.DOC, UPDATE.DOC
SIZE: 47K

READ: README.DOC,
UPDATE.DOC

GET STARTED WITH: SEE RIGHT

Keeping track of programs and films you've video-taped can be a bit daunting if you have more than 20 or 30 tapes in your collection. Everyone means to sit down and sort them out but it's one of those jobs that you put off, again and again. The *Video Tape Catalogue* is a quick and painless way for you to finally do it.

Copy the VIDEO folder to a blank disk or a hard drive directory and then click on VIDEO.PRG to run the program. The main database screen pops up with a row of buttons along the bottom, arrows to scroll back and forth through your

database and a menu button. Clicking on the menu button calls the main menu which enables you to access the rest of the program. The options available are file menu, record menu, statistics, information, exit and quit.

Selecting the file menu enables you to load and save your database files to disk, one file is included for you to study. Database files can also be printed out singly or as a complete record from the file menu. The record menu enables you to add, delete and edit records, you can enter up to eight programs on each video-tape

record including details of the index time of each one. All actions can be aborted by selecting the Cancel button at any time.

Video Tape Catalogue is a useful utility that demonstrates what can be achieved with *GFA Basic* and a little thought. You're not just restricted to using video-tape information, you can enter any type of data providing you with a quick and easy to use database for any subject. If you want to copy the source code so you can see how it's written, send a disk with return postage and a donation to the address in the Readme file.

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.

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

**ST FORMAT November Disk Returns,
PO Box 21, Daventry, NN1 5BU**

Enclose a sturdy self-addressed envelope (unstamped – we'll pay for the postage) and a brief letter explaining the problem. If you're worried about trusting your precious Disk to the mails, the Royal Mail's Recorded Delivery service costs only 55p on top of the normal postage.

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

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

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

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: Clive Parker, *ST FORMAT* Cover Disk Editor, 30 Monmouth Street, Bath, Avon BA1 2BW. Please be patient: we get absolutely loads of submissions, and we try to give them all a fair testing!

Name _____

Address _____

Daytime phone _____ Program title _____

_____ Total size in K _____

On a separate sheet, 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.

Signed _____

100

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for just **£14.95**
– that means a mere
14p per program!



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Address _____

Postcode _____ Telephone _____

Yes! Please rush me ☐ sets of 100 programs at the incredible price of just £14.95

TOTAL ORDER

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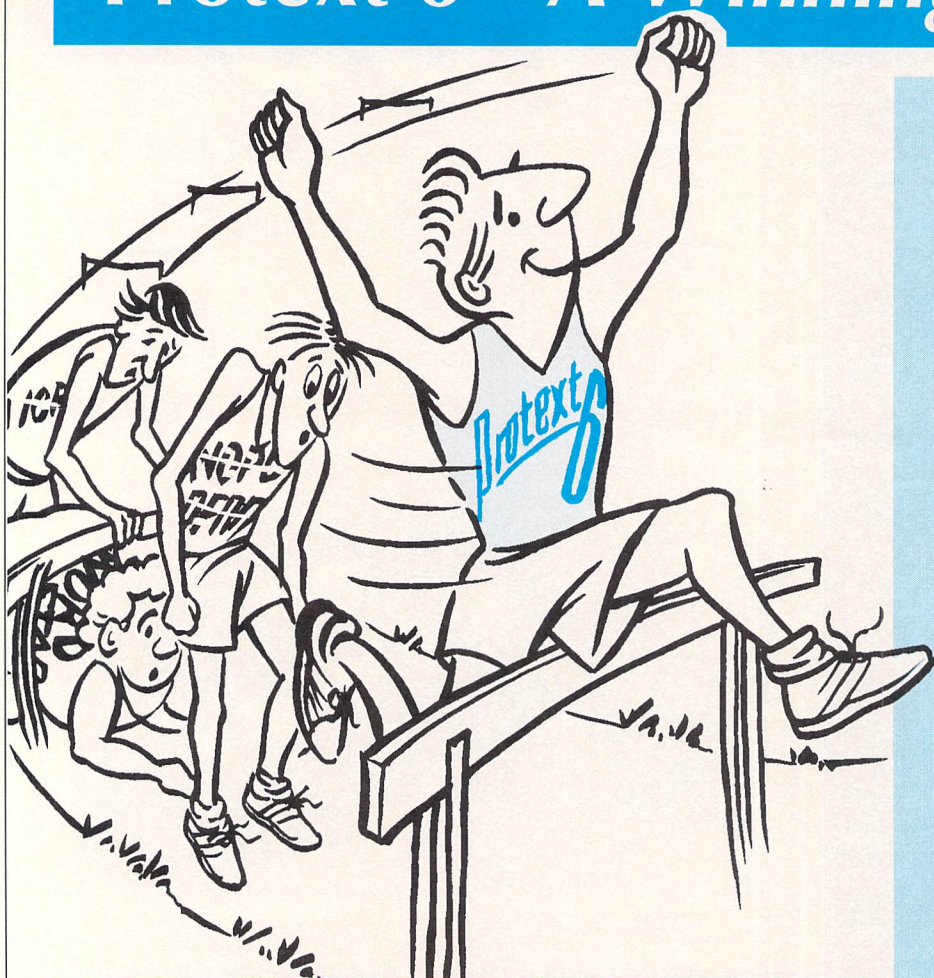
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Protext 6 - A Winning Performance



Some highlights of Protext 6

Styles

Styles let you make flexible use of printer fonts and effects. You can change a font throughout a document with a single operation.

Document Layout

An easy to use dialogue lets you lay out your page precisely as you want using inches or cm for the page length, margins and tabs.

Graphics

Graphic images may be imported into a Protext document. Supports IMG, PCX, GIF and IFF. You can select any resolution and scale the image. Dot matrix, inkjet and laser printers.

Printers

Protext's unrivalled understanding of printers gives you the highest quality printing at the highest possible speed. Using a printer's built in fonts enables Protext to print pages in seconds rather than the minutes taken by some programs.

Protext is still the fastest

- Fastest at editing.
- Fastest at spell checking.
- Fastest at printing.

Protext still has the best printer support

- Hundreds of printers supported
- PostScript driver included **NEW**
- Scalable font support **NEW**
- Colour printing **NEW**
- Automatic line spacing **NEW**

Protext still has the most advanced features including:

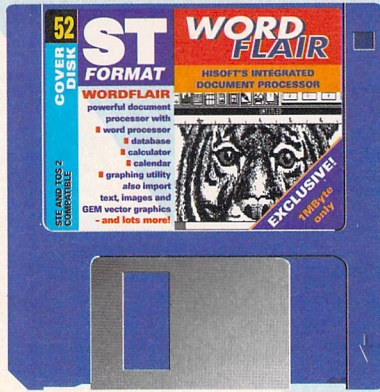
- Styles **NEW**
- Graphics import **NEW**
- Spelling checker
- Thesaurus
- Hyphenation
- Document analysis
- Glossary **NEW**
- Footnotes
- Widows and orphans
- Index and contents
- Addition of numbers
- File sorting
- Mail merge
- Programming language

Protext is now easier than ever to use

- Menus and dialogue boxes
- Interactive Help **NEW**
- Macro editor **NEW**
- Dictionary editor **NEW**

The list price of Protext 6 is £152.75 but you can order direct today for just **£99** inclusive. For the Atari ST and TT. Phone us today and we will send you a usable demo version and a full specification, absolutely free. Upgrade offers available - please call us for the current price.





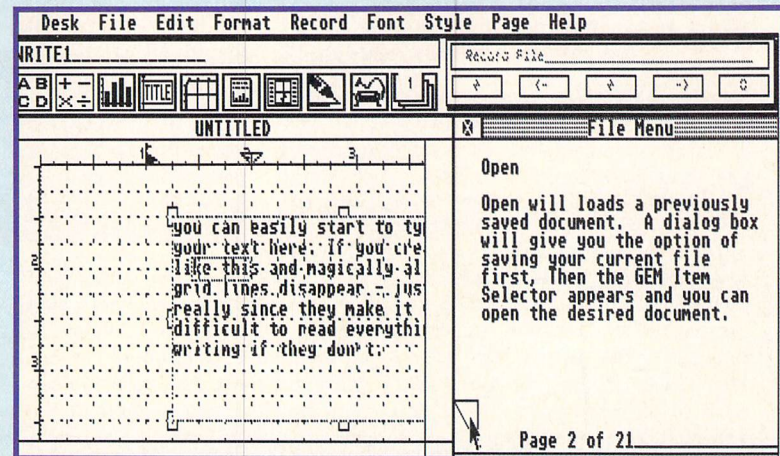
COVER DISK 52

This month we're being ever so generous and giving you a whole program - worth over £50. It's a brilliant integrated document processor called *Wordflair*, from Hisoft. Paula Richards shows you how to get started

This is one helluva program – you can do almost everything you've ever wanted to do from within it. *Wordflair* enables you to combine text, graphics, calculations and data from the same place. It's much more complex than a word processor, it has features above and beyond that of a desktop publishing program and it means that you

can create eye-catching documents without having to fiddle around with lots of different programs. With *Wordflair* you can do everything simply and without fuss.

First off you need at least 1MByte of RAM, a double floppy drive system or one floppy drive with a hard drive and a monitor – preferably a mono monitor, although the program works per-



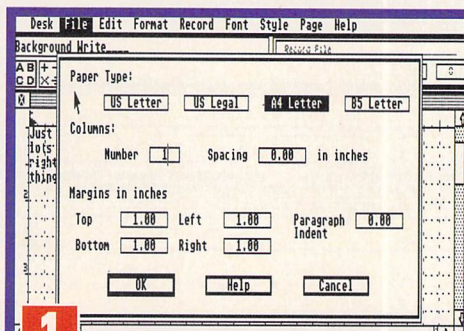
If you're confused about any of Wordflair's many options just click on the Help option and a drop-down menu appears enabling you to discover more information about any of the choices in the program. Here the Open option is examined in more detail.

fectly happily in medium resolution, and GDOS or G+Plus. Before you start anything, read, inwardly absorb and act upon the instructions in the Installing GDOS boxout on page 21. As always, be sure to make a backup copy of your disk

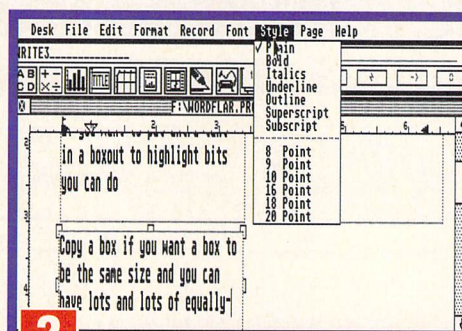
which you should work from – put the original away in a safe place.

Turn on your ST, insert the disk and click on the WF.PRQ icon and the *Wordflair* screen appears – so now you can start typing straight away.

First steps to get going creating documents in Wordflair

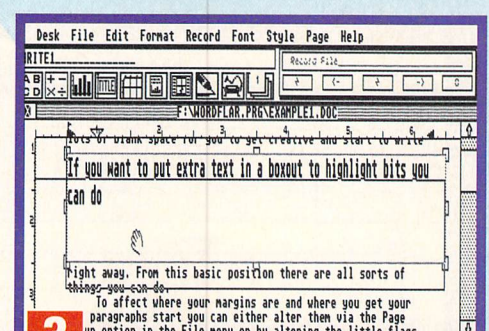


1 Once you've started writing on the Background Writing Area you might decide that you'd prefer to make the page look different with a two or three column structure and narrower paragraph indents, for example. You can either change everything from this dialog box or use the arrows at the top of the text writing box. Just left click on the markers and move them to the place that you prefer. Creating documents with more than one column gives a professional "news-paper" sort of look to a page and the margins you choose also affect the overall "feel."



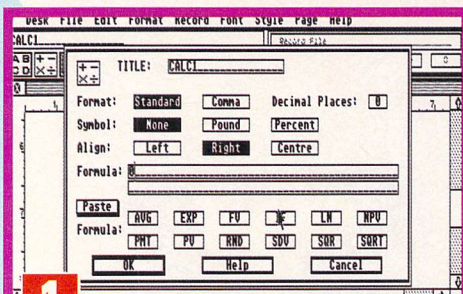
2 You can copy boxes, if you want more than one of the same size, just by holding down the Shift key and the right mouse button and dragging the box onto a different section of the page. This is very useful for creating databases. Doing this only duplicates the writing area, however, not anything that's in the box. Make sure you don't attempt to overlap boxes – *Wordflair*'s not very happy about you doing that.

You can alter attributes of the fonts – whether they're italicised, underlined or whatever and their size – from the Style menu.

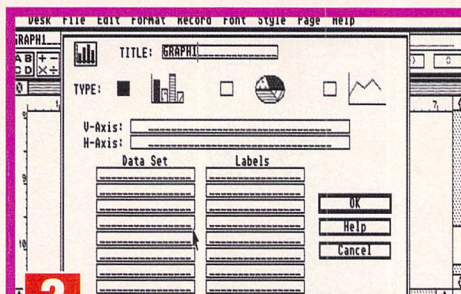


3 Click on the Write Icon and you can create a box into which you can either import text or type some words that you especially want to stand out from the rest of the page. If you decide you want to change the look of the page you can move the box about by right-clicking with the mouse button until the hand icon appears and then move the box. If you need to make the box bigger, hold down the right button and make it hover near one of the box's "handles" until it becomes a pointing finger. You can then alter the size of the box from there as you want it.

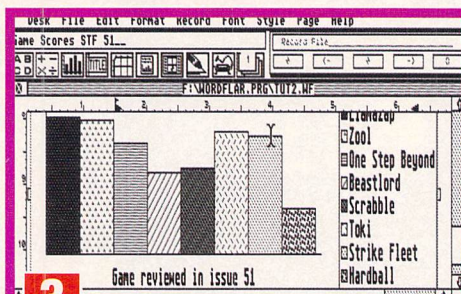
Getting just a tad more complicated...



1 Create a box with the Calc icon and double-click in it to get this dialog box. It gives you the chance to perform calculations and have the answers included in the main document. The formula could be just the sum you want to work out, you choose whether you want the answer to actually relate to anything - for example either money (click on Pound) or as a percentage (click on Percent) and where you want the answer displayed - for example click in Left for it to be positioned on the left side of the box.



2 To create graphs - either bar charts, line graphs or pie charts - create a box with the Graph icon. It's likely to take up quite a lot of space so make sure you position the box in a place on the page where it can be expanded. Here you just click on the icon relating to the sort of graph you want to create, label the vertical and horizontal axes under V-Axis and H-Axis. Data Set is for the numerical entries you want to include and the labels relate to the key which ends up positioned to the side of the graph.



3 Here you can see the finished graph - taking up much more room than initially anticipated! The key is on the side - you can see what game relates to which block and the axis is clearly labelled as indicated in the initial dialog box. If you would rather show the same data in a different format just go back to the initial dialog box and click on the relevant icon and it magically alters. Once you've mastered all these arts, you can go on to merging files from the different aspects of the program.

Command at your touch

Just hit the keys as you would do normally to start creating your documents - the words just wrap themselves around so you don't have to hit <Return> - if you do you start a new paragraph. If you want to erase mistakes you can hit <Backspace> which gets rid of the

letter just left of the cursor and move around the document using the cursor keys. Hit <Delete> to erase letters to the right of the cursor. If you make a mistake you can normally just go to Undo in the Edit menu to put it all back together again, although this doesn't work for deleted text. Once

you get further into the depths of the program you discover how much it all relates together - and while it's quite intuitive generally there are some areas where you could do with a little bit of hand-holding. This is where a manual comes in handy. As with all of Hisoft's manuals, a lot of work has

gone into the one for *Wordflair* - all the instructions are easy to follow and detailed ensuring you don't miss a trick. Just fill out the coupon on page 21, checking out the other special offers as well, and you'll be well on your way to business-like pages and an organised life if you use all its features. **stf**

WORDFLAIR'S WILDLY WONDERFUL, ER FEATURES

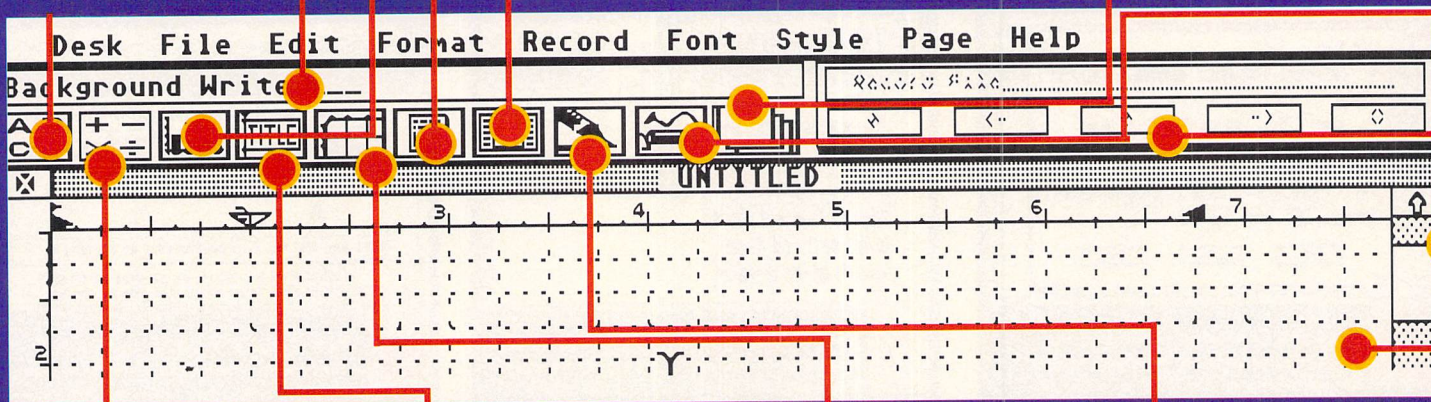
REFERENCE BAR - tells you the title of the active region.

WRITE REGION - enables you to create "Fixed Write Regions" you can either write straight into or import text into. You can use word processor functions within it and it always stays in the same place in the document.

GRAPH REGIONS - create graphs containing pie, line or bar graphs or with metafiles and image files. You can supply the data you want to include or take the data from Calc regions.

PAGE VIEW ICON - toggles between normal and reduced view. Reduced view enables you to see how all the elements look together on a page - you can also move the elements around from here if you need to.

HELP VIEW ICON - toggles between a single window displaying the active document and two windows displaying the active document in one window and help info in another.



CALC REGIONS - enables you to create "Fixed Calc Regions" that work out and show the results of ready-made formulae and formulae you create. You can also link the answers into graphs in *Wordflair*.

TITLE ICON - toggles between displaying the names of regions in a document and the content of the regions. You can give any *Wordflair* region a title of up to 20 characters.

GRID ICON - this toggles between displaying the Background Write Regions with or without the grid. The grid enables you to align regions on the Background Write Region, enabling you to create templates for page design. It disappears when you begin to type.

DRAWING ICON - activates the drawing pen so you can use to draw lines and arrows at various widths and different directions of arrowheads on.

INSTALLING GDOS

To get the most out of *Wordflair* – including being able to print your documents and being able to view other fonts than the system ones, you need GDOS, Atari's system for installing on-screen and printer fonts for different styles of text.

If you have bought virtually any commercial "serious" software then you probably have got GDOS – you can use it with any other software that requires it. If you don't have it get it from the ST Club who can supply it for around £4.95. To install GDOS, do the following:

1 Create a folder called Auto on your boot disk. If you're using a double floppy disk system make sure you use a newly formatted disk.

2 Copy either GDOS.PRQ or G+FLAIR.PRQ into the Auto folder. If you're using G+FLAIR.PRQ, rename G+FLAIR.PRQ.

3 Copy the ASSIGN.SYS file for your printer to the root directory of your boot disk and rename it as below either –

ASSIGNEP.SYS for 9-pin Epson FX80 compatible printers.

ASSIGNLO.SYS for 24-pin Epson LQ compatible printers.

ASSIGNLB.SYS for Atari's 9-pin printers.

ASSIGNLS.SYS for the Atari laser printer.

4 Load *Wordflair*.

5 Go to the File menu and select Import File.

6 Import your ASSIGN.SYS file into *Wordflair*.

7 The first line of the ASSIGN.SYS file tells GDOS where to look for the GDOS fonts and drivers. It looks like PATH = A:\GDOS.SYS]

so when you run *Wordflair* there should be a disk in drive A with a folder named GDOS.SYS that contains all the fonts and printer drivers you need for your system. Change the line to show where you keep your fonts and drivers when you start up the program. This folder is often kept in partition C if you have a hard drive – or alternatively keep the fonts and drivers on drive B if you have a double floppy system.

8 Save your ASSIGN.SYS file back out to disk by going to the File menu and select Export ASCII. Type in the whole name, ASSIGN.SYS. At the prompt "Separate lines with carriage returns" select yes.

9 Exit *Wordflair*.

10 Create the folder (GDOS.SYS?) on the disk or partition you indicated in the first line of the ASSIGN.SYS file, formatting a new floppy if you need to.

11 Copy only the appropriate files for your system into the folder as you can see below:

Mono and large screen displays
GDOS Disk One – contents of the HILO_RES folder.

Medium res screen
GDOS Disk One – contents of the MED_RES folder.

Atari SMM884 printer
GDOS Disk One – contents of the PRINTER folder.

9-pin Epson FX80 compatible printer
GDOS Disk Two – contents of the PRINTER folder inside the FX80 folder.

24-pin Epson LQ compatible printer
GDOS Disk Two, contents of the PRINTER folder that's lurking inside the NB15 folder.

Atari laser printer
The GDOS fonts and driver for this printer came on a disk with it. Look at the ASSIGN.SYS file for the specific names of the driver and fonts.

12 Now turn off your ST and with the boot disk in the drive, boot the system – you should see a message that GDOS or G+Flair is in the system.

13 Unless your fonts and drivers are on your boot disk, you can now remove it.

14 Insert the disk with *Wordflair* and make sure the disk with the fonts and drivers is in the proper drive – you can see this in the first line of the ASSIGN.SYS file.

15 Run *Wordflair*. Once it is up and running you can remove the *Wordflair* disk and the disk with the fonts and drivers.

For more details, consult the READ_ME file on the disk.

PAGE ICON – this displays the current page number.

VACUUM ICON – enables you to remove unwanted items from the background write region – just like being able to delete, really.

RECORD ICONS – these enable you to go forwards and backwards through records in a database.

SCROLL BARS – click on the tab and you can move through-out the document.

BACKGROUND WRITE – start typing here if you want to get going immediately.

MAKE EVEN MORE OF WORDFLAIR

ST FORMAT have teamed up with Hisoft to help you make the most of this excellent package – we're not going to leave you stranded with nowhere to turn, not us. So take your pick of what you want to do.

You pays your money

First off we're giving you the chance to upgrade to the full and complete version of the program, complete with *GFlair* (Hisoft's version of GDOS) bundled with the program disk in a neat Hisoft wallet. You also get the superb easy to follow manual which includes tutorials and detailed instructions on how to get the most out of the program. All this for £24.95.

SpeedoGDOS compatible

If you want to run SpeedoGDOS making the most of over 1,000 Bit-stream Outline fonts, you need the upgraded version – *Wordflair 2*. SpeedoGDOS gives you true font scaling for all compatible software, and a huge selection of printer drivers so you can print documents out so they are more likely to print out as they appear on-screen. The screen update system is much faster and there is also none of that really fiddly installation process that you get with GDOS. For more details on the *FORMAT* Gold rated SpeedoGDOS turn to the review in issue 50 – if you don't have a copy, turn to page 47 to order it.

With this special offer you can purchase *Wordflair 2* for £34.95 or *Wordflair 2* with SpeedoGDOS for £59.95. Both of these represent massive savings – so fill out the coupon below and send it to *Wordflair* Special Offers, Hisoft/AVR, The Old School, Greenfield, Bedford MK45 5DE with the relevant payment.

Wordflair upgrades from ST FORMAT and Hisoft

Name _____

Address _____

Postcode _____

Daytime telephone number _____

Description	Quantity	Price
<i>Wordflair</i> complete version		£24.95
<i>Wordflair 2</i>		£34.95
<i>Wordflair 2</i> and SpeedoGDOS		£59.95

Method of payment – please tick appropriate box

Access ☐ Visa ☐ Switch ☐ Connect ☐ Cheque ☐ Postal Order ☐

Card number:

Expiry date:

Please tick here if you do not wish to receive direct mail from other companies ☐

To order by telephone call ☎ 0525 718181 or you can fax 0525 713716

Please make all cheques payable to Hisoft/AVR

Send this form to Hisoft/AVR, The Old School, Greenfield, Bedford MK45 5DE

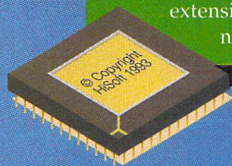
New **Some Good News for Atari Programmers**

There is plenty of good tidings for the Atari programming community this month. Two new books that contain a wealth of up-to-date information and two new versions of our popular languages. Together, these developments breathe new life and hope into Atari 680x0 computers.

Modern Atari System Software

New

This invaluable book contains all the latest details of Atari's newest system software together with the bindings for Lattice C 5.60, HiSoft BASIC 2.10 and Devpac 3.10 - essential for all serious programmers who want to use these packages. Majoring on the Falcon030, *Modern Atari System Software* contains extensive discussion on programming this exciting new machine ... 256 pages, price £19.95.



The Atari Compendium

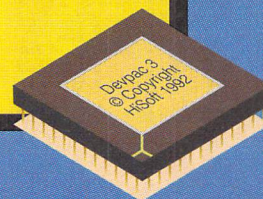
Finally! This book, from Scott Sanders, provides the most comprehensive collection of information designed for every level of Atari programmer. It covers all Atari 680x0 computers from the 520ST up to the Falcon030 and includes a detailed reference for every function present in TOS 1.0 up to TOS 4, and beyond. This is the book we've all been waiting for ... 840 pages, price £39.95.



Devpac 3.10

We are pleased to announce the immediate availability of Devpac 3.10, our latest release of the acclaimed assembler/debugger package. Version 3.10 contains many improvements and enhancements as well as detailed support for the new Falcon030. Upgrades start from only £3 for our Gold Support customers, RRP remains at £79.95.

- ✓ Extra include files for SpeedoGDOS™, MultiTOS™ and MiNT™
- ✓ Improved debugging and editor facilities including support for all Falcon resolutions
- ✓ Editor now works in low-res on all versions of TOS!
- ✓ Falcon030 AES and XBIOS support (full details given in *Modern Atari System Software*)
- ✓ Falcon030-specific libraries for the DSP/Video/Audio hardware
- ✓ Supplied with handy reference card giving editor and debugger keyboard shortcuts



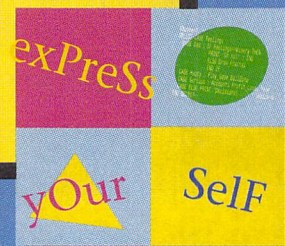
New

BASIC 2.10

Ideal for both the beginner and the seasoned programmer, HiSoft BASIC 2 combines ease-of-use with exceptional power and flexibility - the only BASIC that is still developed and supported in the UK. 2.10 contains many new features detailed in an extra 32-page manual - upgrades start from £19.95, RRP is £99.95.

- ✓ Extra include files for SpeedoGDOS™, MultiTOS™ and MiNT™
- ✓ Improved debugging and editor facilities including support for all Falcon resolutions
- ✓ Major GEM Toolbox improvements incl dialogs with keyboard shortcuts and pop-ups
- ✓ Named compiler options for simplicity
- ✓ MultiTOS™ friendly dynamic heap option
- ✓ Falcon030 AES and DSP/Audio/Video support (full details given in *Modern Atari System Software*)

New



HiSoft
High Quality Software

For more information on any of our products which include the AVR music/video titles (e.g. Replay16, VideoMaster) and Microdeal software, please call HiSoft on +44 (0) 525 718181, or fax us on +44 (0) 525 713716 or write to us at: The Old School, Greenfield, Bedford MK45 5DE UK.



All HiSoft products should be available from your local Atari computer shop. In case of difficulty, you can order directly from HiSoft using your credit/debit card over the phone or by sending us a cheque/postal order. Overseas customers please call, write or fax for information.

BIGGER, BETTER, FASTER

Your ST is infinitely expandable, there's no upper limit to the hardware you can add to increase its potential. Clive Parker takes you to the outer limits of DIY upgrading



Your ST can run PC software, process information up to eight times faster, display graphics in 256 colours, 32,000 colours and true colour, store hundreds of MBytes of software and look like a professional office based tower system.

How is this all possible on your ST? By upgrading it using one of the many DIY kits and add-ons available from the range of companies who support the ST. Upgrades range from PC and Macintosh emulators to complete Tower cases with internal hard drives and colour graphics cards, and you can fit most of them yourself.

Why should you DIY?

Installing an upgrade yourself can save you money, most companies charge an installation fee that can range anywhere between £25 and £100 depending on how complex the upgrade is and how long it takes to install. Besides, installing a new piece of kit in your ST yourself gives you an enormous sense of accomplishment and satisfaction when you know that you've done the job yourself.

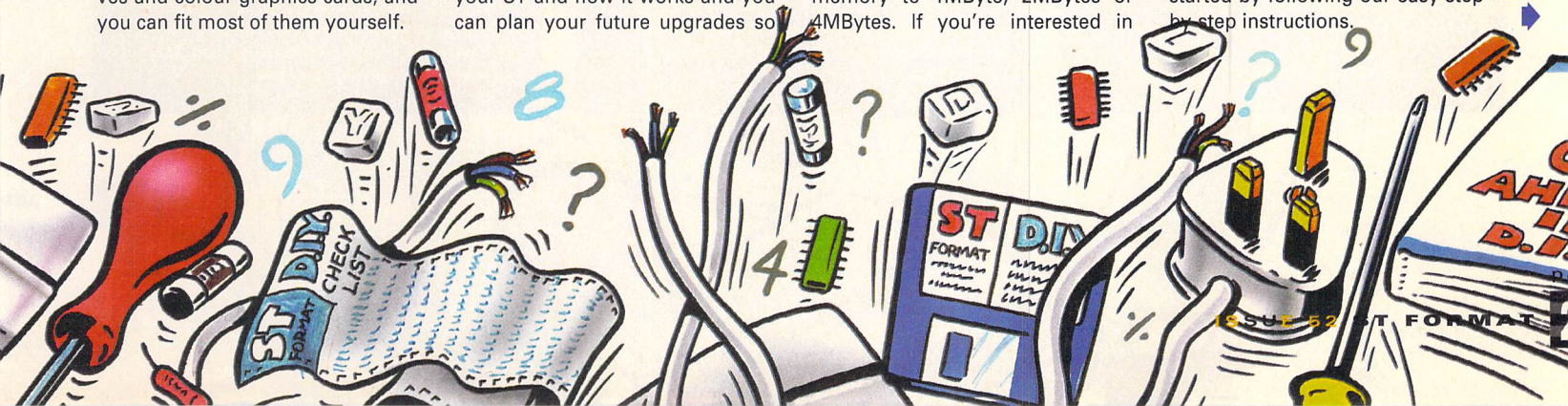
Another good reason for upgrading your ST yourself is that it's fun to do, you learn a lot about your ST and how it works and you can plan your future upgrades so

that they are specifically what you want. You know exactly what upgrades are in your ST, so you know which new add-ons you need to complement them and expand your system even further. Most ST upgrades are easy to install and you can perform most of them without having to use a soldering iron – the most complex tool needed for many upgrades is a hand drill.

You can benefit from the different types of upgrade depending on what you want to do, the most common upgrade is an increase in memory to 1MByte, 2MBytes or 4MBytes. If you're interested in

colour vector graphics and you want to use powerful software like DA's *Vector* then you need a colour graphics card, hardware accelerator and extra memory. For mono desktop publishing work a graphics card, memory, hardware accelerator and large screen monitor are required. Almost all "serious" work on any computer system requires a hard drive to be used, and the ST is no exception. You can now build an inexpensive hard drive yourself using a kit and second-hand drive mechanism.

So turn the page and get started by following our easy step-by-step instructions.



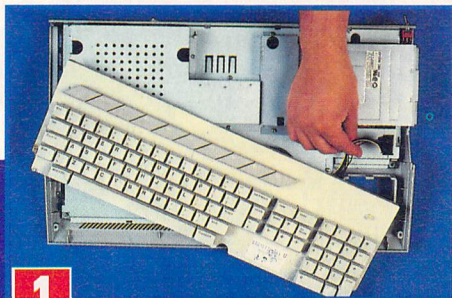
YOU BREAK ME UP

Before you can start on any DIY project you've got to strip your ST down. This can be quite a daunting job so follow these instructions carefully. Remember to keep all the

bits and pieces you remove in a safe place and don't get the different screws mixed up, they have to go back into the correct holes

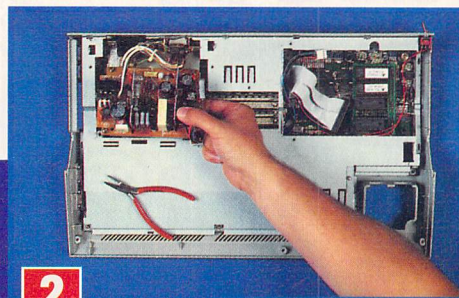
WARNING!

If your ST is less than a year old opening it up voids the guarantee.



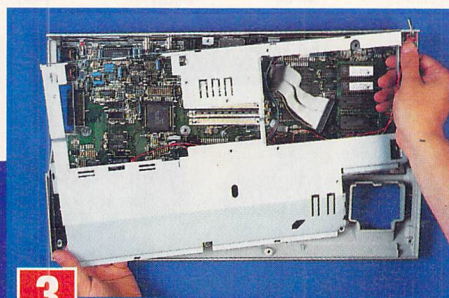
1

Make sure everything is unplugged from your ST, then turn it over and remove the screws from the underside. There are seven screws in square holes which secure the lid, and three screws in round holes that hold the disk drive in place. Carefully turn the ST the right way up and remove the top half of the case by lifting it and sliding it to the right to disengage the disk drive eject button. Carefully lift the keyboard out of the case and unplug it from the motherboard.



2

Undo the screws holding the shielding over the power supply and the disk drive, then remove the shielding. Lift up the disk drive and carefully disconnect the large ribbon cable and the power cable, making a note of which way around they fit. Undo the two screws holding the power supply unit to the motherboard at the front, and unplug the cable connecting the power supply to the motherboard. Power supplies can retain a charge so be careful not to touch the components.



3

Lift out the power supply and put to one side. Undo all the screws holding the metal shielding to the base of your ST and untwist all of the metal tabs so that they pass through the holes in the upper shielding when it is lifted clear, if you miss just one screw or tab you won't be able to remove the shield. Removing the shielding can be a bit fiddly at the best of times, it must be eased gently out of the casing. Once the shield is removed your ST is ready for the upgrade to be fitted.

LET'S GET HARD AND FAST

Comparing the speed of a hard drive to a floppy disk drive is akin to comparing the top speeds of a Porsche 911 with a sad old Yugo – without an engine! Hard drives are so much faster that you're likely to wonder how you ever managed to cope without one.

The problem is that ST hard drives have always been expensive, this is because the ST uses a non-standard hard drive protocol called ACS (Atari Small Computer Interface) while the most common standard protocol used by hard

drive mechanisms is SCSI (Small Computer Systems Interface). To connect a SCSI drive to the ACS connection of the ST needs an expensive interface.

The price of SCSI hard drive mechanisms has dropped dramatically in the last year, with most drives now costing half the price they were 12 months ago. This means that ST drives are much more affordable to buy ready built, an even more affordable option is to build a hard drive yourself using a kit. Hard drive kits usually contain

everything you need to build a hard drive except for the SCSI drive mechanism itself, you have to get this yourself, and they are very easy to build. Generally you just have to get your SCSI drive, mount it in the case and connect it up. Formatting, partitioning and booting software is supplied with the hard drive kit as standard, enabling you to get your drive up and running.

Remember, a SCSI hard drive mechanism is not included as part of either of a hard drive kit – you have to buy it separately.

Where to buy all

You can get hard drive kits from Gasteiner Technologies and the First Computer Centre. The Gasteiner kit costs £149 complete and ready assembled or you can buy the individual components separately as you need them, we recommend that you get a complete kit then all you have to do is find a SCSI hard drive mechanism. The First Computer hard drive kit uses the ICD host adaptor and is ready assembled apart from a few small components

GASTEINER TECHNOLOGIES' HARD DRIVE KIT



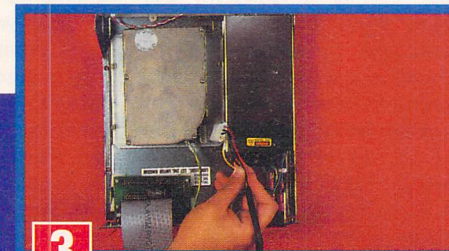
1

The Gasteiner Technologies' kit is supplied with all the cables you need to connect the drive to your ST, formatting software and internal connection cables for the SCSI drive. The SCSI drive we used here is an old 20MByte Quantum drive from a scrapped Apple Macintosh.



2

Place the hard drive mechanism in the case and position it so you have plenty of room in the drive case to connect the data and power cables. Once you have found the best position in the case for the drive, fix it firmly in position from beneath using the fixing screws.



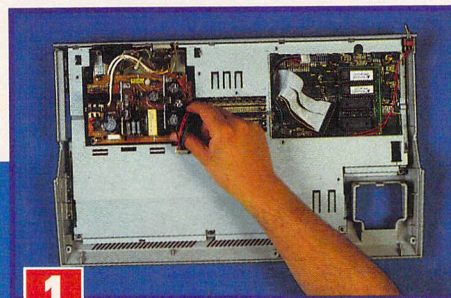
3

Connect the power supply cable to the socket on the back of the drive mechanism, it only fits in one way so it's impossible to connect it incorrectly. The ribbon cable at the bottom of the picture connects directly from the SCSI drive to a SCSI socket on the back of the case.

LET'S GET TOGETHER AGAIN

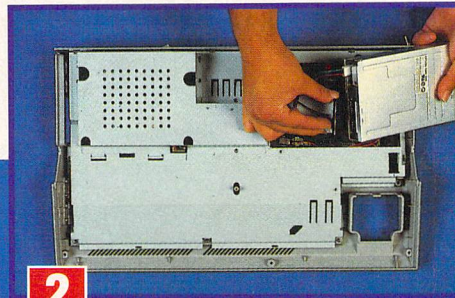
Well, now you've installed the upgrade you've got to get your ST back together again, this can be almost as bad as taking it apart in the first place, if not worse! In some

cases you may have to cut a hole in the metal shielding before you replace it because the upgrade may be too big to fit underneath



1

Re-assembling your ST is exactly the reverse process to dismantling it. Check that the shielding fits over the upgrade, if it does then replace the shielding and re-twist the tabs to hold it down, then replace the retaining screws. Ease the power supply unit back into position and screw it to the motherboard. Now plug the connecting cable back into the socket on the motherboard, it only fits in one way around so don't worry about plugging it in the wrong way.



2

Replace the power supply shielding and fix it into position using the tabs and screws. Now get your disk drive and reconnect the ribbon cable and the power cable, making sure that they are the same way around as they were originally. Replacing the power and data cables the wrong way around can damage both your ST and your disk drive. It pays to replace the disk drive fixing screws at this point because it can be awkward lining the fixing holes up when the lid has been replaced.



3

Fix the small piece of shield over the disk drive. Plug the keyboard cable into the connector on the motherboard and then replace the keyboard carefully making sure that it is mounted correctly on the supports. Replace the lid but don't replace the fixing screws yet, it's a good idea to test your upgrade before you've fixed everything back together otherwise you have to strip your ST down again. If everything works correctly then replace the fixing screws underneath.

your bits...

such as the SCSI ID switch, the kit costs £199.

There are several sources of SCSI drive mechanisms, both new and second-hand. If you want to buy a second-hand drive then there are a couple of options open to you. You can go to a computer auction and buy a SCSI drive "as seen" and hope that it's in good working order, or you can buy one of the weekly computer trading mart magazines that feature classified ads. In both cases you are

relying on the honesty of the person you are dealing with, in 99 per cent of cases people placing private ads in the magazines are reliable.

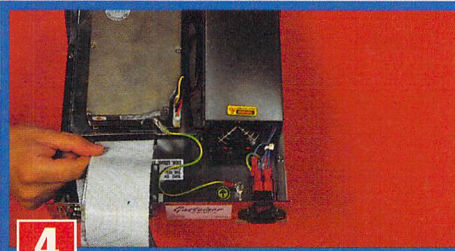
The other route is to buy a new SCSI drive, both Gasteiner and First Computer Centre sell bare SCSI drives or you can browse through any PC oriented magazine for companies selling components. Remember, the prices of components advertised in PC magazines usually do not include VAT.

What you need

Before you start on any DIY project you need the correct tools, a large clear working area, a basic knowledge of DIY electronics, the confidence to do the job, a good deal of common sense, a free afternoon and a bit of patience. You should never try any DIY upgrade if you're not sure that you can do the job, if you have any doubts then ask a more experienced friend to help.

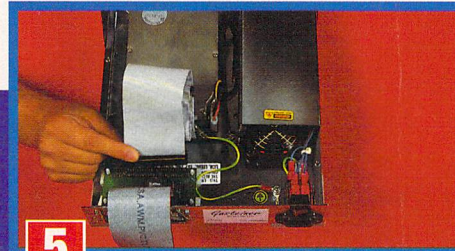
Basic tools required: Small flat blade screwdriver, small Philips (cross-head) screwdriver, snips, long-nosed pliers, pliers, a small hand drill, soldering iron and an earth strap. You may need a junior hacksaw and a file to get rid of rough edges if you have to cut the shielding.

STF warning: never handle any electronic components without earthing yourself first to dissipate any static charge. Static electricity can destroy computer chips. If you don't have an earth strap then earth yourself regularly by touching a central heating water pipe or any other exposed metal surface.



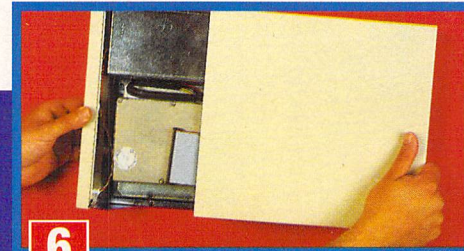
4

Now connect one end of the 50-way ribbon cable to the 50-way IDC socket on the rear of the SCSI drive. There is a notch on one side of the socket that corresponds to a lug on the plug, this ensures the cable is the correct way up.



5

The other end of the 50-way ribbon cable is connected to the socket on the GE-Soft Host Adaptor. Again, the notch in the 50-way socket ensures that the plug is inserted in the correct way up. All you need to do now is tidy up the cables.



6

The final stage of the assembly is putting the lid on the drive. Make sure that all cables are tucked away and cannot be snagged, then slide the lid on and screw it down firmly. All you have to do now is connect to your ST, boot up, and run the formatting and installation software.



SPEED FREAKS

Your ST runs quite happily at a clock speed of 8MHz, and in operation looks as fast as PCs running at speeds of 25MHz. This is because the 80x86 range of processors used in PCs actually take longer to perform the same kind of calculations than the 68000 series of processors

used in STs, the architecture of the 80x86 makes it an inherently slower processor.

PC makers get around this problem by using the brute force method of using processors running at 33MHz, 50MHz and even at 66MHz. This method can also work

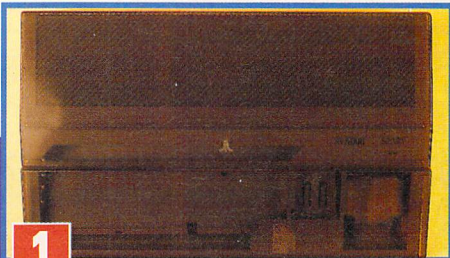
for your ST. Running your ST at 8MHz is wasting the potential of your machine, installing a faster processor running at a clock speed of 16MHz or 25MHz can make a vast improvement in the speed of operations. This is important if you are using your ST for processor

intensive operations like raytracing desktop publishing or other graphics programs, installing a faster processor makes your machine zip along like a thing possessed, performing tasks in half or even a third of the time it used to take before – and that can't be a bad thing.

GETTING UP TO SPEED

ST accelerator boards are usually designed and manufactured in the USA or Europe, System Solutions are the main importers of these accelerators in the UK. They have a range of boards that can increase the speed of your ST

to 16MHz, 25MHz, 50MHz or even a fantastic 66MHz. The accelerator board we've chosen is the Turbo 25, it costs £299 and increases the speed of your ST by a factor of three when installed.



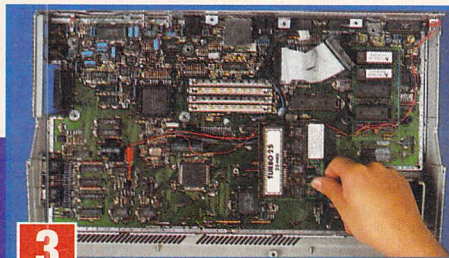
1

Strip down your ST as detailed on page 24 until you reach the main circuit board. The accelerator board must be mounted on top of the 68000 processor, the STFM version fits into a socket you must solder onto the 68000 while the STE version is already mounted on an adaptor for the square version of the chip.



2

In the STE the 68000 processor is the large square chip near the front right of the motherboard, near the hole for the mouse and joystick sockets. You must make sure that the accelerator board is aligned correctly with the 68000 processor – all the pins are numbered so it's easy enough for you to match them accurately.



3

When you have lined up the Tiny Turbo accelerator correctly over the 68000 socket you must press it firmly into place, ensuring that the pins are in the outer holes of the socket and not between the legs of the 68000 and the socket connections. Once the accelerator board is in place you can assemble your ST and test it.

KEY TO THE PROBLEM

One of the most common complaints about the one piece ST is the lack of a separate keyboard. This may not seem to be that big a problem, but being able to move the keyboard to a more comfortable position for typing can really improve the speed and accuracy of

any work being done. Atari did produce the Mega ST, Mega STE and TT with separate keyboards and processor units, and the rumoured new version of the Falcon is likely to be a two part machine when it finally arrives. With the Mega STs discontinued by Atari, and second-

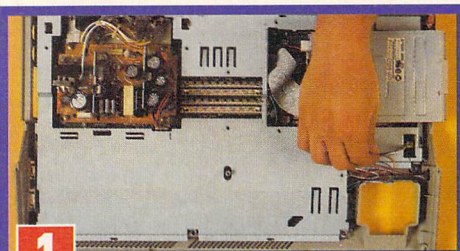
hand machines getting more and more difficult to get hold of, it's very difficult to get an ST with an external keyboard.

Luckily, System Solutions have the answer to this problem. They've come up with a special kit that enables you to remove the ST keyboard from the main case and house it in the same external key-

board casing they use in their Lighthouse Tower kits. It's quite easy and straightforward to transfer the keyboard to the new case, the most difficult part is drilling a hole in the side of your ST for the keyboard connector socket.

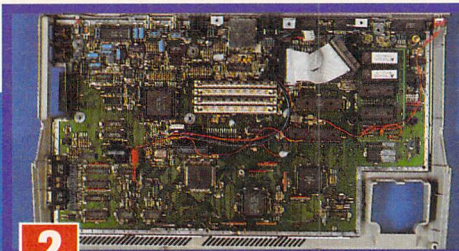
The keyboard kit and cover costs £59.95 if you buy them together from System Solutions.

SPLIT YOUR ST IN TWO



1

Strip down your ST as detailed on page 24 but don't remove the disk drive. Next find a position to drill a hole for the keyboard cable socket. The best place is above the hole for the joystick and mouse port. The socket can be inserted and fixed into place using nuts and bolts. Now plug the cable from the socket into the old keyboard connection on the motherboard.



2

Now you can replace the lid on your ST as no more work needs to be done on it. The next part of the kit is a large smoked-glass effect perspex cover that fits neatly over the top of your ST, effectively sealing off the innards from dust and other contaminants that may be lurking around your home. Full access is available to all expansion ports and the disk drive.



3

Get the base of the keyboard. Stick the rubber pads to the keyboard rest along the back to stop it from pressing on the metal and prevent the possibility of any shorts occurring. Rubber sleeving is placed around the edges of the mouse port hole and along the back edge. Two screws with spacers go at the back of the base above the mouse port for fixing the keyboard interface socket.

EMULATION, THAT'S WHAT YOU NEED

Strangely enough, you might like the software you use on your PC at the office and would like to use it at home on your ST. Of course, PC software isn't directly compatible with the ST. The answer is to install a PC emulator, a small, relatively

inexpensive hardware upgrade that enables your ST to run PC software, but it doesn't enable you to play PC games.

Another excellent reason for installing a PC upgrade in your ST is the volume of PC software avail-

able, as well as commercial software there are hundreds of thousands of PD and Shareware programs around that you can use once you have a PC emulator. Installing a PC emulator is an easy operation in an STE, the STFM

installation is more complicated requiring a socket to be soldered onto the main processor. The emulator then plugs into the socket.

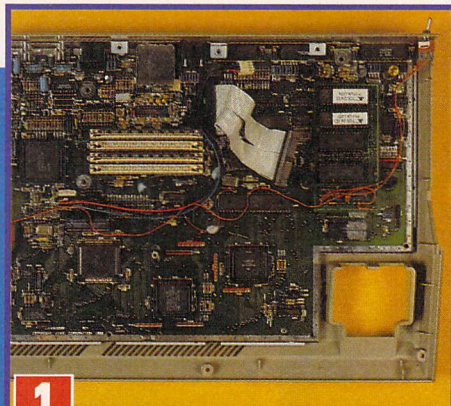
It's definitely worth considering as it opens up a new range of software otherwise unavailable.

GETTING THE PC BOARD

The most popular and easy to fit PC emulators for the ST are supplied by Compo Software, they have a range of boards suitable for the STE, STFM and Mega ST. The AT-Speed C-16 we've used costs £199 and emulates an AT 80286 PC, the STE adaptor board costs £25.

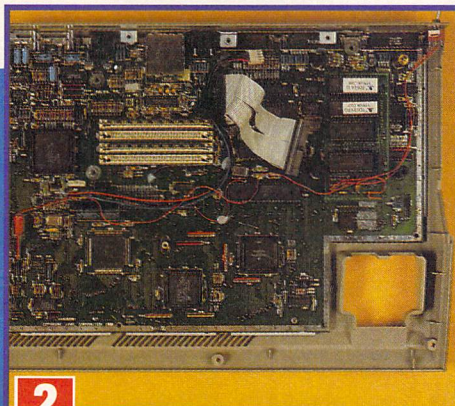
Remember that you need to get a version of MS-DOS to run PC software, PC programs cannot run without

it installed. MS-DOS can be obtained from almost any computer shop. Make sure that you get a version on 720K 3.5inch disks, if you get MS-DOS on 5.25inch disks or on high density disks you can't install it on your ST/emulator combination. It's even possible to install Windows using an emulator, provided you have the required memory. You need at least 4MBytes of RAM.



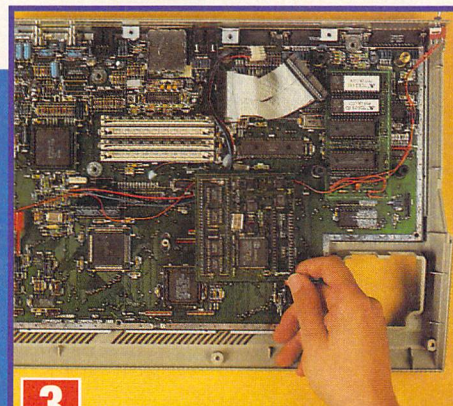
1

To install the AT-Speed emulator in the STE, strip down your machine as described on page 24 until you are looking at the bare motherboard. The AT-Speed board is designed to fit into a socket soldered on top of the Motorola 68000 processor in the STFM. The 68000 in the STE is the large square chip at the bottom right of the motherboard near the hole for the mouse port.



2

Because the STE uses a square 68000 chip an adaptor board is used so the emulator can be fitted. The board must be lined up so that it fits over the square 68000. The pins are numbered on both the adaptor and the ST motherboard. The pins on the underside of the adaptor fit in the outer holes of the 68000 socket, not between the pins of the 68000 chip and the socket.



3

Quite a lot of pressure is needed to get the adaptor into the socket on top of the 68000. After the adaptor board is in place the AT-Speed board can then be inserted into the socket on the adaptor, you must firmly press the emulator into the socket so that the pins are completely inserted. You may find it easier to fit the PC emulator and the adaptor together first. You can now assemble your ST.



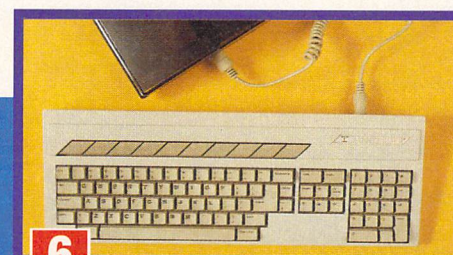
4

Place the keyboard interface board on the two screws and fix firmly using the nuts provided. Next, get your keyboard and fit it onto the base, you may need to adjust the position of the rubber feet to ensure good positioning. Once everything is lined up, plug the keyboard connector into the interface and position the keyboard on the rests. Make sure that you haven't trapped the keyboard wires.



5

Place the keyboard case over the keyboard, making sure that you don't trap any stray wires. You should be able to push down the top half of the case easily, if it doesn't fit very well then check the keyboard is seated correctly on the base unit. When everything is in place fix the lid to the base unit, four tiny self-tapping screws are supplied to fix the two halves of the case together.



6

All you have to do now is connect the two together. An expanding curly keyboard lead is supplied which enables you to position your keyboard comfortably up to a metre from your ST, any more than this and you won't be able to reach the disk drive. If there are any problems with the keyboard then check that the connection inside the ST is on the correct pins.

GET AHEAD IN D.I.Y.

ISSUE 52 ST FORMAT

THE PROFESSIONAL TOUCH

This is the monster ST upgrade to top all the rest, the Lighthouse Tower case from System Solutions. The Tower has been designed to enable you to mount all of your add-ons and upgrades inside a single case with an external keyboard.

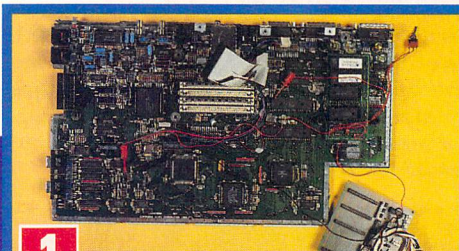
This means you can put the Tower on the floor under your desk with just the keyboard and monitor in top, avoiding a tangle of wires and cables. The complete Tower kit costs £219.90. The project looks daunting, but it really is relatively

easy to install your STFM, STE, Mega ST, Mega STE, TT or Falcon in one of these smart cases.

Strip down your ST following the stages described on page 24, then carefully remove the motherboard from the shielding in the bot-

tom half of your ST case. Before you start work on the chassis of the Tower system, insert all the cage nuts into the holes in the top and bottom halves of the chassis. You use these to fix the outer casing to the main chassis.

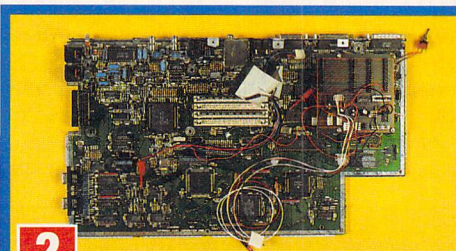
A TOWER OF STRENGTH



1

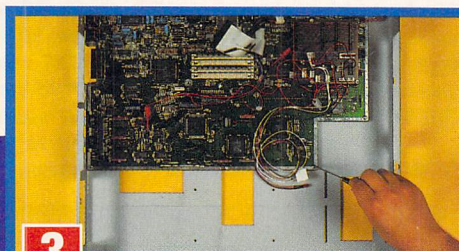
The layer of insulating card between the motherboard and the bottom shielding is needed in the Tower case.

Find the multiboard - a square circuit board that controls disk drives and resets. The board has two spring clips on wires, the red one connects to the Yamaha sound chip and the black one (on our model) is connected near the analog joystick ports on the STE.



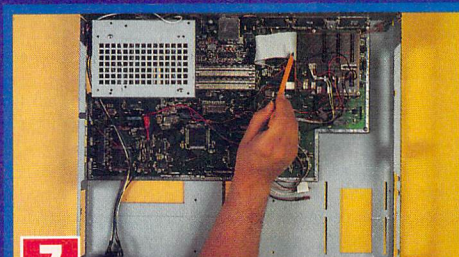
2

The multiboard fits in the old disk drive position, you mount it on the four spacers that supported the drive in the original case using the nuts and bolts supplied. If you have a TOS switcher you may find that there is not much room between the TOS ROMs and the underside of the multiboard, you may need to place an insulating layer between the two boards.



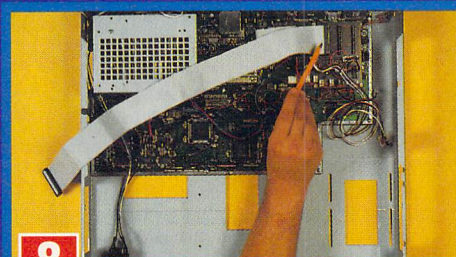
3

Next, fix the motherboard to the bottom half of the inner chassis. Fix the 5mm spacers in the positions on the chassis that correspond to the original fixing points, now put the insulating card on the chassis and place the motherboard on top. Fix down the motherboard using short screws in all the original holes with the exception of the power supply fixings.



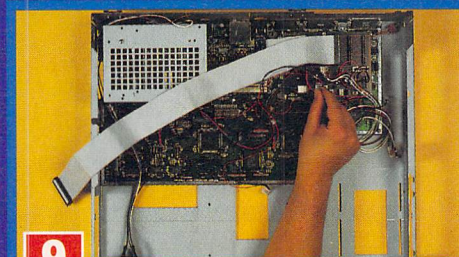
7

Go back to the multiboard and find the original floppy disk drive ribbon cable, and plug it into the first floppy disk connector on the left edge of the multiboard. The ribbon cable must be straight. If you plug the disk drive ribbon cable in the wrong way your disk drive won't work. The other ribbon cable connections on the multiboard enable up to three disk drives to be connected at once.



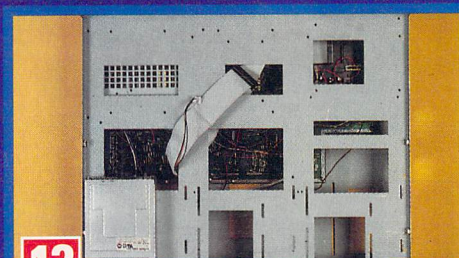
8

Now connect the new ribbon cable for your floppy disk drive to the multiboard. The cable plugs into the first free floppy disk ribbon cable connector on the board, the one nearest the original floppy disk cable. The cable is quite long so you can position it where it suits you best. Though it's best to place it in the far left drive bay so it's at the top of the Tower when it's finished.



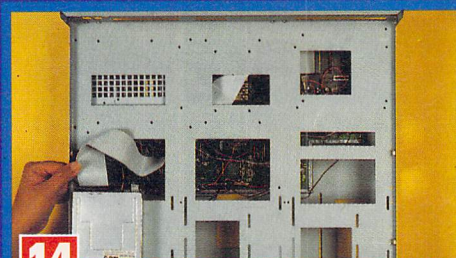
9

The floppy disk drive power cable is next. You can plug it in any of the power sockets on the multiboard. To keep things tidy, plug the floppy disk drive power cable in the first free socket on the left side of the board. The wires are colour coded so that you plug it in the right way around. The manual shows you the correct way to connect the other end of the cable to your disk drive.



13

Get the top half of the chassis and fix your original floppy disk drive in the front left bay. Feed the floppy disk drive power and ribbon cables through one of the holes. Now fit the two halves of the chassis together using the hinges at the rear. There is plenty of room for expansion within the Tower case, with a total of nine bays available to mount hard drives and other devices.



14

Plug in the floppy disk drive power and ribbon cables, making sure they are the right way around. The manual describes how to connect the power cable, the ribbon cable should be plugged in the same way around as the original floppy drive cable. It's best to make a note of the orientation of the disk drive ribbon cable when you dismantle your ST, line one is always marked red.



15

Place the bottom half of the case down and carefully lower the chassis into it. Remember, if you have an STE you have to remove some knockouts for the analog joystick ports. Screw the lower case to the chassis and fit the caps over the screws to hide them. Now lower the top half of the case onto the chassis and screw it into place in the same way.

4

Now get your original power supply unit (PSU), being careful not to touch the components, and mount the four 35mm spacers on the top. These fit in the four threads in the corners of the PSU circuit board. Now remove the old ST mains switch from the PSU and cut the four wires running to it, you now connect them into a 4-pole connector block - follow the diagram in manual.

5

Insert the power switch in the front of the chassis, feeding the wires through the hole first. Now connect these four wires into the connector block, following the colour codes in the manual. Put the PSU onto the motherboard and screw it down, and plug the power connector back into the socket. Place the new PSU shielding on top and screw it to the 35mm spacers you fixed earlier.

6

Go back to the multiboard you installed. Find the original internal disk drive power connector, a small plug with four wires, two black, a red and a blue. It connects to the socket at the front left edge of the multiboard with the red wire nearest the front of the board. The power sockets on top of the board provide power for up to three floppy drives or a single floppy drive and a hard drive.

10

Now install the keyboard connector socket. It's situated at the far left of the chassis in front of the cartridge port. Push the socket through the hole from the inside and screw in place, the other end of the cables connect to the original keyboard connector. The location prevents you using some L-shaped cartridges, but you can drill a new hole at the back of the chassis for the socket.

11

The multiboard is equipped with a thermosensor and indicator light to tell you when the Tower is getting too hot. The manual recommends that you position the sensor near the PSU, obviously this is going to be the hottest place anyway. You fit the LED indicator light in the front of the chassis near the power switch, push the outer sleeve into place and then slide the LED into the sleeve.

12

An alternative reset button pushes into place in the front panel near the power switch, there are two wires connected to the reset switch. You screw one of the wires to the motherboard using one of the fixing screws along the front edge, the other wire connects to a wire from the multiboard using a single pole connector block. Once connected the Tower can be reset from the front panel.

16

Now fit the plastic front panel over the front of the Tower, it has large holes in the front which can be covered by disk drive frames. Cut out the relevant pieces from the frame to make a slot to fit your disk drive. Another frame covers the power switch and reset buttons to make the whole thing look professional. Press four plastic rivets through the holes in the front panel to hold it in place.

17

Pop the other frames over the drive bays, and one over the cartridge port and it's finished. You now have an ST in a large, expandable case, with enough room for any ST upgrade. The Lighthouse Tower is available for all models of ST, including the MegaST, MegaSTE and TT, and there is also a Falcon Tower available. Oh yes, don't forget to stick on the feet.

18

Finally, here's the Tower keyboard. The steps for building the Tower keyboard are the same as the external keyboard kit for the ST on page 26. The only small criticism of the external keyboard is that the mouse and joystick ports are still in exactly the same place, underneath at the front. It wouldn't take too much effort to relocate them yourself using 9-pin D plugs and sockets.

4

ST D.I.Y.
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POWER

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Truepaint.....	£33.99
Cubase Audio.....	P.O.A
Notator Logic.....	P.O.A
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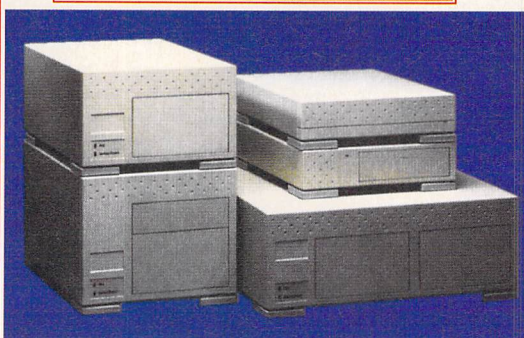
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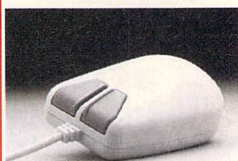
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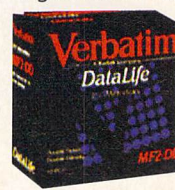
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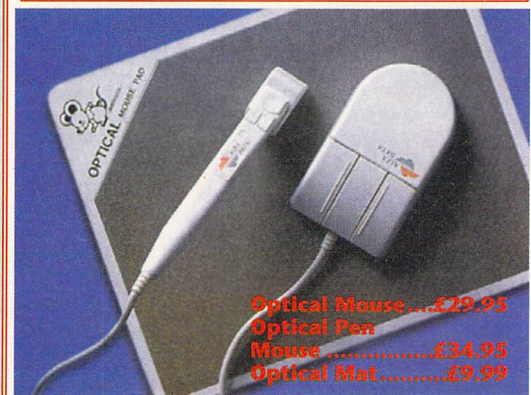
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BACK TO THE

Do you really like tacky artwork and grim noises on your ST? Try bringing a touch of realism into your creative efforts. Andy Nuttall tried it - and liked it too!



■ Above: An example of true colour mode running in high resolution on the Falcon. This scene was grabbed using Falcon Videomaster.

■ Right: Even in low resolution, true colour mode can produce some spectacular results, like this shot from cult hit Akira.



Much emphasis is put on creating things that *resemble* the real world with your ST. Using techniques like raytracing, 3D modelling and virtual reality, you can create realistic objects and worlds which exist only in your ST.

On the other hand, a much more practical way of creating a graphical representation of the real world in your ST is to actually use the real world to do it. Wow, new concept! Imagine, you can grab a picture of, say, your mum, then play around with it using an art package - give her two heads, or three eyes or something. Or, if you're a bit more ambitious, you could grab a picture of your mum and dad, and then combine the two

using morphing, recently used in Michael Jackson's video *Black and White* to change between the faces of people.

It doesn't stop at graphics, though. Using a technique called sampling you can record sounds into your ST, then play around with them: looping, reversing, filtering; then use a sequencing program to make tunes using those sounds.

The possibilities are endless, and over the next few pages we are going to explain just what you can do to get the real world into your ST. This includes the techniques used, the best packages to buy and how much they cost, and how best to use the packages once you have them. So don't just read about it, get on and do it!

DIGITISING

Scanning is the process of lifting a single image from paper into your ST. Digitising is similar to that, but in this case the subject is a signal from a video camera or recorder.

Most digitisers are monochrome, which means that they convert a colour signal into grey scales, how many depends on the digitiser. Once you have digitised a picture, it can be saved as an image file, so it can be used in art packages or DTP packages in a similar way to scanned images.

Videomaster from Hisoft/AVR is a digitiser and sampler built into

GLORIOUS COLOUR...

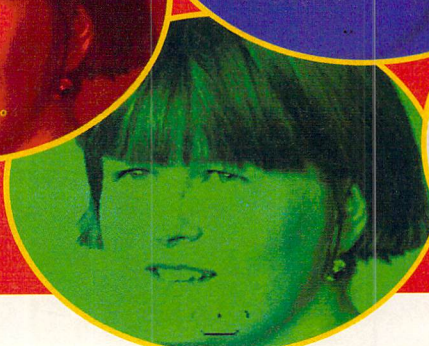
With all of the digitisers mentioned up in that top right-hand box, the software is very good so it's difficult to go wrong. For monochrome digitising, all you have to do is plug in your video source, adjust the contrast and brightness settings on the cartridge as you would with your TV, and then grab your image.

Colour digitising, however, is slightly more complicated. Monochrome digitisers such as Videomaster can be set up to grab three separate images, corresponding to the red, green and blue components of a colour picture. So, what you need to do is feed in three separate red, green and blue images to the digitiser, and let the software merge them

into a colour picture. Sound simple? Here's how it's done...



■ For colour digitising, separate grabs of the image's red, green and blue components are taken. These are stored in memory...



■ ...and then merged together automatically, producing results like the pic below. This was taken using Videomaster and an RGB splitter. Model: Helen.



REAL WORLD

Buying decisions

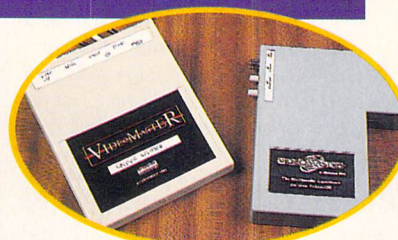
Company	Digitisers	Price	Reviewed	STF Rating	Description
Hisoft AVR ☎ 0525 718181	VideoMaster (ST)	£69.95	STF 42	92%	Good solid ST digitiser. Lots of features at a good price.
Hisoft AVR ☎ 0525 718181	VideoMaster (Falcon)	£99.95	Soon		Superb digitiser for the new Atari baby. Results speak for themselves.
Titan Designs ☎ 021 414 1630	Exposé (Falcon)	£TBA	Soon		A Falcon digitiser which we've yet to see, but its specification looks impressive.
Rombo ☎ 0506 414631	VIDI	£99.95	Not reviewed		Old, but good colour digitiser. Available in limited quantities directly from Rombo.
Rombo ☎ 0506 414631	VIDI-12 (Falcon)	£TBA	Soon		Falcon colour digitiser. Not available at time of writing, but like Exposé has impressive specs.



■ More Falcon piccies. Sorry about this, but we're just soooo excited about it. Model: Clive... (joke)

one unit. It enables you to digitise bits of moving video – how much depends on the amount of memory you have – then add in sound effects and music. There are two

versions available: ST, and Falcon-enhanced. Using the ST version you can digitise in up to 16 grey scales, and either 16 or 512 colours.

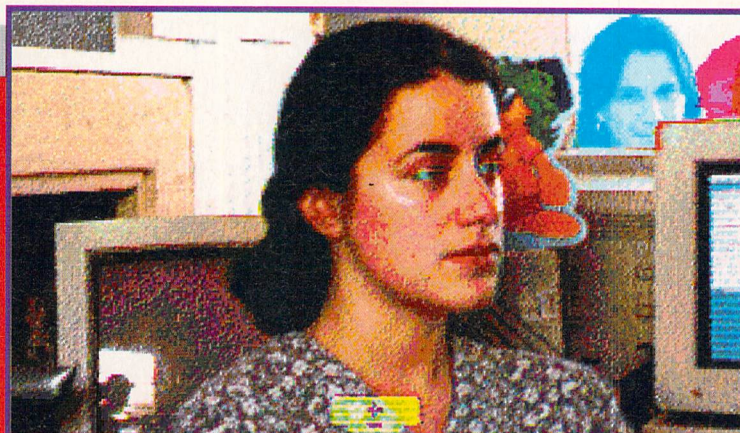


■ Exclusive! Nowhere else can you see the Hisoft/AVR RGB colour splitter, and the Falcon Videomaster. Both prototypes, both coming soon...

The Falcon-enhanced version of Videomaster digitises in resolutions up to 640x400 pixels, and operates with 64 grey scales, or 65,535 colours (true colour). The pre-production version of the Falcon Videomaster looks pretty special. Watch out for a full review in next month's *ST FORMAT*.

With Videomaster, three small pieces of red, green and blue film are provided. You use these with a colour video camera. Set the grabbing software to Colour, and click on the Red button. Position the piece of red film in front of the camera lens, which blocks out all light apart from the red components, and click on Grab. Repeat this for the green and blue components, and then click on Merge. A colour grab is then displayed.

For a still-life subject, this works pretty well. Complications arise with live images such as people, because they tend to move – inconvenient, that! This is when an RGB colour splitter comes in handy. This is a device



which electronically splits a colour signal into its red, green and blue components, so the results are slightly better and you don't have to faff about with bits of film.

■ ST Videomaster can also produce good colour results, like this 256-colour image. The colour was split into RGB using the small pieces of film provided with the package. Model: Deborah.

SCANNING



■ **Scanners** can grab any picture into your ST. The simpler pictures give better results, as you can see here.

Scanning is the process of getting photographs or pictures into your ST.

A scanner is a device which passes light across the surface of your subject, then digitises the reflection. The image is then stored in memory, and a software program is used to display it on your screen. Once it's there, you can alter it or get a hard copy using a

■ **Touch-Up** software is provided with some hand scanners. It's generally considered to be the best around.

printer. The main reason for using a scanner is for creating a document, such as a newsletter or a magazine. Before the days of desktop publishing (DTP), to include a photograph in your document you would have to cut it out, and literally paste it in. Using DTP, you can scan the photograph into your ST, then import it directly into your DTP package. Include a bit of writing, and you have your newsletter! OK, it's a bit more complicated than that, but you get the gist.

When choosing an image to scan, the most important factor is the clarity of the original picture. If you start out with a blurred picture, your scans are invariably going to be blurred, and it takes a lot of work to make them clearer. It's best

to start off with a clear image. The contrast of the image is less important, because this can be altered using the scanner and software.

If you have a monochrome scanner, you need to be careful when scanning full-colour images because often different colours, such as blue and green, translate as the same grey shade. You should also take care when scanning monochrome images, since while some hand scanners actually reproduce grey shades, most replace them with patterns of dots.

There are two main types of scanner: hand, and flat-bed. With a hand scanner you need to keep a steady hand and move at a constant speed to achieve good results. A flat-bed scanner is a bit like a photocopier; you lay your subject face down on the glass plate of the scanner, close the lid, and then set your software to scan. The rest is automatic. Unless you're seriously into publishing or you need a colour scanner, then a hand scanner should be adequate.

Most hand scanners come with software so you can change the scanned image. One such program is *Touch-Up* – basically a scanner driver and a paint package combined. Because most scanned images are made up of dots, it's tricky to alter them with a paint package – but hey! the facility is there, so who's complaining?

SUCCESSFUL STEADY SCANNING

For the best possible scans follow these tips

1 Make sure that you're using a clear subject. If your picture is blurred, then your scan is going to be blurred and difficult to correct.

2 If your image is too dark or light, move the "Light/Dark" knob on the side of the scanner, and try again.

3 Position your hand scanner slightly above the picture

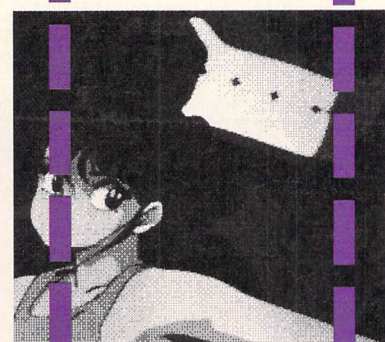
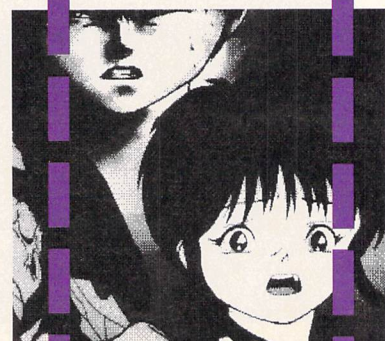
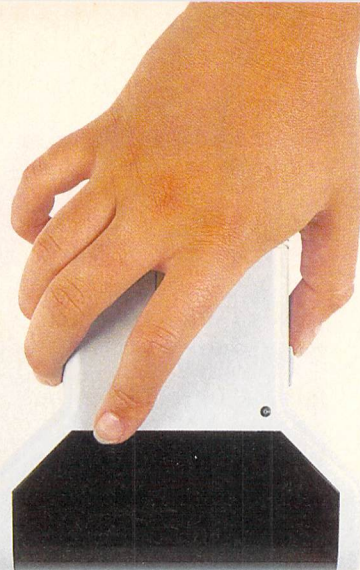
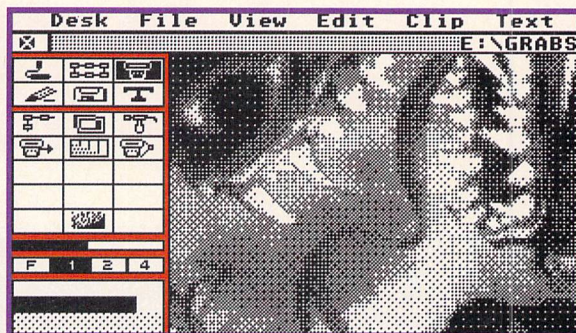
to be scanned, so that you get all of the image you require.

4 As you move the scanner down the image, keep your hand steady, and move at a constant speed. Changes in speed cause glitches in your image.

5 Move the scanner in a straight line using a rule or a straight edge to help you. This is especially important when scanning a wide image, and you need to scan it in two parts.

Scanning the shelves for the best scanners

Hand scanners		Price	Reviewed	STF Rating	Description
Naksha ☎ 0925 56398	Naksha scanner and <i>Touch-Up</i>	£116.33	STF 44	91%	Superb scanning head; top of the scanning heap.
Gasteiner ☎ 0532 319444	Alfadata Scanner and <i>Touch-Up/Merge-It</i>	£119.95	STF 47	90%	Excellent package.
Power Computing ☎ 0234 843388	Power Scanner and driver software	£99	STF 44	90%	Only model which scans in grey scales.
Ladbroke Computing ☎ 0772 203166	Golden Image Scanner, <i>Touch-Up</i> and <i>Deluxe Paint</i>	£119.99	STF 44	90%	Great kit, good price.
Pandaal ☎ 0234 327422	Daatascan Professional and Daatascan software	£89.95	STF 44	83%	Includes software for converting dithered images into grey scales.
Evesham Micros ☎ 0386 765500	Zydec Handy Scanner and Daatascan software	£99.99	STF 44	79%	
Flat bed scanners					
CGS Computerbild ☎ 081 679 7307	Epson GT-6500	£938.83	Not reviewed		24-bit colour A4 scanner, in parallel or SCSI versions.



Thanks to Manga for use of their pictures



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A full range of software for the Atari Falcon computer is now available on HD disks, including:

POV RAYTRACER: The best raytrace program around. Unzips to 3xHD disks (£1.75)
BIRDY 2 ANIMATION (4Mb): Smooth animation of a walking 'bird' (£1.75)
JPEG COLOUR PICTURES: True colour picture (£1.75)
JAPAN: Photo-quality slideshow of XGA pictures (2 disks/£3.50)

All disks below are £1.50 unless otherwise stated.

GAMES

- G.316 H-MEC 2: Sequel to the tremendously popular H-MEC. (1Mb STE or Falcon)
- G.314 IT'S A MUG'S GAME: Fun one or two player bowling game.
- G.315 SKULLS: Addictive up-to-date reworking of Landmines/Minefield (1Mb STE)
- G.299 TERRAMOON: Shareware demo version of a detailed 'STAR TREK' type game.
- G.303 GRANDAD AND THE SEARCH FOR THE SANDWICHES: Sequel to 'Quest for the Vest'. (1Mb 2 Disks £3.00)
- G.306 LOGIC PROBLEMS II: Three more logic problems from Ben Weston.
- G.302 REBOUND: A bat & ball game requiring determination, stamina and patience!
- G.310 DOMINOES: Playable demo version of a domino playing program.
- G.311 JIGSAW: A computerised jigsaw puzzle. (1Mb)
- G.293 H-MEC: The ultimate Pac-Man? (1Mb, STE only)
- G.292 CASTLE CAPERS: Superb platform arcade action across 10 screens. (1Mb)
- G.294 ROLL-IT: Challenging German rolling-ball puzzle game. (1Mb)
- G.290 SOFTWARE PROJECTS: Manage a software house in this business sim.
- G.288 DARKLYTE: 'Space Crusade' type droids wargame.
- G.287 THE COARSE ANGLER: Angling simulation game. (1Mb)
- G.285 KUBES: Falling block game with a novel twist.
- G.286 ROCKFALL-SPECIAL EDITION: Tunnelling/diamond collecting puzzle game.
- G.284 BIO-HAZARD: Two levels of brilliant Sci-fi 'Dungeonmaster/Captive' game. SW
- G.281 PSYCHO PIG: Platform shoot'em up with Rambo-esque pig. (2 disks £3.00) SW
- G.280 COLOR CLASH: Adventure/Maze game with puzzles by Animalsoft. SW
- G.279 OPERATION GARFIELD: Frantic 'Operation Wolf' type shoot'em up action. (STE)
- G.262 ALIENS! Space Marines v. Aliens strategy combat game.
- G.268 MEGALINE: 1Mb 'Tron' light cycles game for 1-4 players. STE only.
- G.269 QUIZMASTER: Multi-choice answer general knowledge quiz. (STE only)
- G.258 GALACTIC FRUIT BOWL: Trivia Quiz meets the fruit machine (1Mb)
- G.250 CYBERNETICS: Good, challenging 'Defender' type arcade game. SW
- G.237 CHAOS: Madcap game of battling wizards by Martin Brownlow (1Mb or .5Mb)
- G.197 DUNGEON LORD: 3 levels of 'Dungeonmaster' type adventure from the States. 1Mb.
- G.221 GRAV 2: Follow-up to highly praised 'Oids' type rotate and thrust arcade game.
- G.217 THE MAZE: 3D adventure game loosely based on 'The Crystal Maze' D/S
- G.222 GRANDAD AND THE QUEST...: 3D graphic adventure by Ian Scott. Shareware 1Mb
- G. 80 TETRIS & PILE UP: Two very good versions of the 'Tetris' arcade game.
- G.159 VIOLENCE!: Classy vertical scrolling Xenon style shoot'em up (Shareware)
- G.171 HACMAN II: 1 megabyte version of Pacman, 100 new levels! D/S
- G.173 PENGUINS: Move your penguins around the screen 'Lemmings' fashion.
- G.131 STAR TREK - THE GAME: Defeat the Klingon threat to the galaxy. (1Mb D/S)
- G.148 OZONE: Superb platform-arcade game.
- G. 10 VEGAS: Roulette, poker, blackjack and slots....without the Nevada sand!

DEMOS

- D.371 TRAOU'N INT KET BET...: Stunning demo by Adrenalin (2 disks £3.00 1Mb)
- D.373 DREAMS: Dentre by Animal Mine of Holland.
- D.372 REALITY IS A LIE: Good first demo from Psychonomix (1Mb)
- D.374 BURNING ILLUSION: Sequentially running demo by DNT.
- D.367 EXTREME RAGE: Sinecurves, Shadowbos, etc. from Anatomica of Sweden (1Mb STE)
- D.363 GROTESQUE: Psychedelic techno music demo. (1Mb STE)
- D.366 BIRDS OF PREY: Intro to the commercial game that never made it to the ST (1Mb)
- D.360 DREAMZONE: Mega-demo from the Wild Boys. (2 disks £3.00)
- D.347 COSMIC JAM: Good multi-vector demo from Imagina of Finland. D/S
- D.324 CROSSBONES: STE demo (also known as RED SECTOR DEMO)
- D.287 HARDCORE DANCEFLOOR: Sampled house music by the Wild Boys. D/S
- D.323 SLAM - HARDCORE DANCEFLOOR II - More house music from the Wild Boys. D/S.

MUSIC

- S. 95 HIGH FIDELITY DREAMS: 8 super pieces of music from Auro. D/S
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- S. 86 RIPPED CHIP MUSIC: Numerous pieces of chip music ripped from demos, etc.
- S. 85 LONE WOLF SAMPLES: Voice and instrument samples for the TCB Tracker D/S.
- S. 70 MAD MAX CHIP MUSIC: 35 pieces of sound chip music from Mad Max. D/S
- S. 83 WAVEFORMS: TWB DIGISYNTH 8: More music files from the Wild Boys. D/S.
- S. 8 NOISETRACKER: Soundtracker .mod player with eight starter tunes. D/S
- S. 3 ACCOMPANIST: 16 voice Henry Cosh sequencer (MIX instructions on disk)
- S. 19 ALCHIMIE JR: Impressive Swiss multi-window, multi-task sequencer. (1Mb)

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- U. 53 TERADESK (1Mb): Replacement desktop. For the ST/STE
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- U. 34 SAGROTAN: Super virus killer to protect your disk collection D/S
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- A. 37 PAD V2.4: Comprehensive mono art program with English documents.
- A. 75 POLYFILM by Martin Brownlow. Make films from multiple 3D polygon objects.
- A. 70 COMIC BOOK HEROES: 22 Neo pictures of your favourite superheroes.
- A. 62 ART OF DUNGEONS & DRAGONS: Superb collection of pics from Dragonlance. D/S
- A. 47 PICTURE CONCEPT: Produce weird and wonderful effects on your own pictures.
- A. 1 ANI ST: Commercial quality animation program (once cost £60 to buy!)
- A. 30 FULL SCREEN: Display your pictures in stunning fullscreen format! 1Mb. D/S
- A. 79 FRACTAO ENGINE 2: Stunning pattern creator.

PROGRAMMING

- P. 44 GFA BASIC V.2: Full version of popular language with extensive tutorial. (NB This disk is not PD - LAPD have permission to distribute it)
- L. 23 GRAY 2 SOURCE: All the code for the top rated ST game (£5.00)
- P. 37 HEAT 'N' SERVE SOZOBON: A friendlier sort of Sozobon. D/S
- P. 24 MENU-MAKER: A French program that allows you to make your own menus with music, sprite and scrolling message. Excellent. D/S
- P. 35 JC MEGA MENU: Menu maker with smart fonts, music, program selector, etc.
- P. 33 ZX SPECTRUM EMULATOR: Emulate the old Speccy on your ST/STE. (1Mb)
- P. 17 68000 PROGRAMMING COURSE: 10 'How to do it' document files. S/S
- P. 19 GFA EXPERT: Massive text file and help routines for GFA-Basic 3.0. D/S
- P. 18 STOS TUTORIAL: Helps make clear some of the STOS commands.

MISCELLANEOUS

- M.150 TIP TOP HORSE: Working demo of a horse race prediction program.
- M.148 INVOICE MASTER: Invoicing system for small businesses.
- M.153 WORLD WAR II: Home front study pack for Sec. school work. (2 disks/£3.00)
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AUTHORS

L.A.P.D. are always on the look-out for new material to be included in their comprehensive catalogue of P.D. shareware and licenceware titles for the ST and Falcon. If you have produced anything that you consider worthy of release either as P.D., shareware or licenceware then get in touch to discuss it with us. We can guarantee you worldwide exposure for your program if it makes the grade.

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RECOGNISED WORLDWIDE FOR SERVICE, SPEED AND EFFICIENCY - SIMPLY THE BEST



SAMPLING

Sampling is the process of recording a sound digitally into your ST. Using a piece of hardware called a sampler, and some complementary software, you can record any sound into memory as you would use a tape recorder.

Because sampling tends to eat up your memory very quickly, you're not going to be able to sam-

"Sample a kick drum and a snare drum and you have the basis of a piece of music"

ple an entire album (unless you have several gigabytes of RAM, of course!) Even with 1MByte of memory you're only looking at several seconds of sampling time. Where sampling comes into its own is in recording instruments.

If you sample, say, a kick drum and a snare drum, then you have the basis of a piece of music, and you've probably only used up a second or so of your sampling time. This means that you can add in some hihat, maybe a bass sample, and a keyboard riff, and so

make up the component parts of an entire song.

First you need to decide what you need a sampler for, and how much cash you have spare. If you buy a sampler, then all you can do with it is record and playback samples, or set them up to play when you switch on your ST. There's nothing wrong with that, though – sampling is great fun. However, chances are you're going to get bored with that and want to move on to greater things.

The next step in using your samples is to buy yourself a sequencer (or get *Composer Two* from *ST FORMAT* 48, available from Back Issues, page 47.) With a sequencer, you can use your samples to form a tune – but the sequencer only records the positions of the samples in the song, so it uses up very little memory. This technique is the basis for much of today's music production – albeit in a more complex form.

If you want to make music, but you can't afford both a sampler and a sequencer together, then there are always pre-produced sample disks. These are disks containing loads of good quality sam-

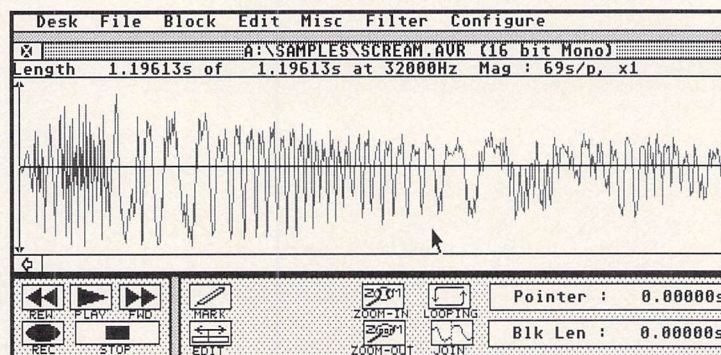
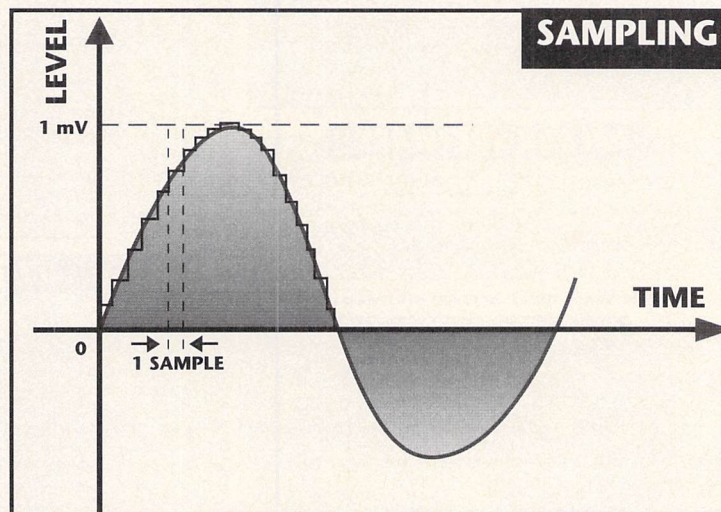
Replay 16 from Hisoft/AVR comes with excellent editing software which edits both mono and stereo samples.

ples for you to load directly into your sequencer. Sample sources tend to be on CD, although you can get a few cassettes as well. Phone around for more details, or if you require any specific styles. Good places to start are Time and Space

(☎ 0442 870681), The Music Suite (☎ 0239 711032) and Big Time Productions (☎ 0782 910611).

Technicalities

When you buy a sampler, you're going to come across terms like 8-



JARGON BUSTERS

ANALOG

Real world sounds are caused by changes in air pressure picked up by your ears. These continuous pressure changes produce a smooth waveform – known as an analog wave.

BIT

A single binary digit, either 1 or 0. Eight bits make up one byte, which represents values between 0 and 255. 16 bits represent values between 0 and 65535.

BRIGHTNESS

The level of blackness in a monochrome image. The higher the level, the darker the image.

CONTRAST

The difference in intensity between the black level and white level of a monochrome image.

DIGITAL

Any type of data stored as numbers. Analog sounds that are sampled become digital, which are simple to store in the memory of your ST.

FILTERING

The process of removing certain frequencies from a sound. A high-pass filter removes low-frequency elements, while a low-pass filter removes high-frequency elements, like noise.

KHz

In sampling terms, one Hz (Hertz) equals one sample per second. Domestic CDs are sampled at 44.1KHz (K meaning thousand), which means you get 44,100 samples per second.

LOOP

To fit in your ST's memory, your samples need to be as short as possible. Once you have a sample, it is often possible to loop small sections of it to make the sample sound longer.

RGB

Acronym for Red, Green and Blue, the three primary light colours

which together in various quantities make up all other colours.

SAMPLING RATE

The number of samples per second which are recorded. The sampling rate is usually measured in KHz.

TRUE COLOUR

Your eyes can differentiate between thousands of different colours, but most computers can only display a small fraction of these. The Falcon has a "true colour" mode, which can display up to 65,536 colours at any one time – looking more realistic to the human eye.

Hey you! Watch out, you're not supposed to do that... or beware of people's copyright

The laws regarding scanning, digitising and sampling are similar to those for home taping from TV and radio. Legally you can videotape a program and keep it for 30 days for your own personal use. Scanning pictures out of *STF*, or digitising *Star Trek* from the TV is covered under the same law. If you do it for your own use, fine. The second you put the pics in a demo and distribute it, watch out for lawsuits. It's civil law at issue here, so it's up to the per-

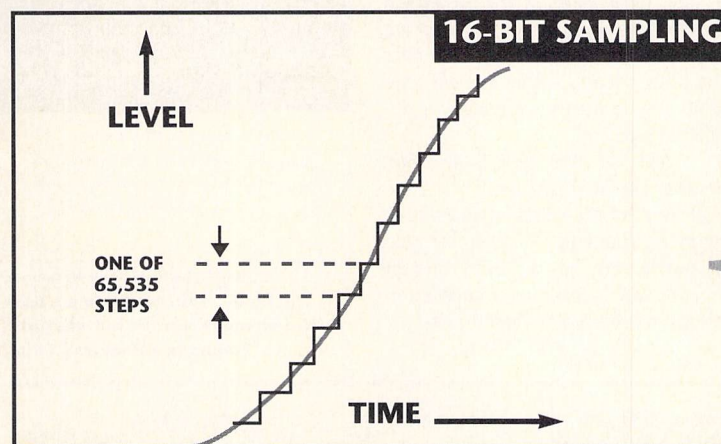
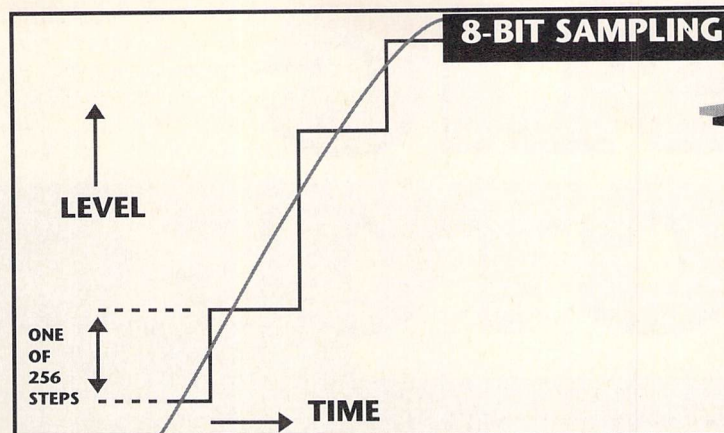
son who owns the copyright to sue. Because of this you may think you're safe using certain pictures because "no-one will recognise them." Remember, though, that larger companies who pay hefty amounts of money to publicise their product are also likely to pay lawyers hefty amounts.

Sampling is slightly different. If you sample a portion of somebody else's work – music or speech – you are infringing the law. You are

not allowed to sample a "substantial amount" of other people's work. How much depends on the work. If you sampled the beginning of Beethoven's 5th ("bom bom bom bomm-mmm"), then you are breaking copyright. If you were to sample a short loop from something more nondescript, then the chances are you get away with it. As a rule of thumb, if you sample a recognisable section of music, you're breaking the law.

bit, 16-bit, KHz, sampling rate – you what? Take a simple sound – a sine wave or an “analog waveform.” To store this in your ST, it has to be sampled. Samplers record the level of the waveform at regular intervals and stores that level in memory. It does this very fast – up to 48,000 times per second, so you are left with a series of numbers which represent the original waveform (Sampling, left, opposite). This rate-per-second is known as Hertz (Hz), so 48,000 times per second is 48KHz. The faster the sampler records the level the more accurate the representation, but this uses more memory.

An 8-bit sampler splits the level of the waveform up into 256 points (8-bit sampling, top right), so the steps between the points are large. A 16-bit sampler splits the level into 65,535 points (16-bit sampling, right, opposite), so the steps become smaller, and the sampled waveform follows the original more closely. So, the larger the sampling rate, and the larger the number of bits used, the better your sample is. A CD player samples at 44.1KHz, and uses 16 bits – this is just about the best quality your ears can determine. **stf**



Sampling samplers

Samplers	Price	STF Rating	Description
Stereo Master	£39.95	82%	Good sampler as far as 8-bit samplers go.
Replay 16	£129.95	92%	Superb 16-bit mono sampler with stereo inputs.
Clarity 16	£TBA		16-bit Falcon stereo sampler. Impressive first impressions.

All of these are available from Hisoft/AVR on ☎ 0525 717181

So you've done all that experimenting, what can you do with it now?

When you've armed yourself with a sampler, a digitiser and a scanner, and have learned how to use them, do something with your results. Try any of these...

1. MAKE AN ANIMATION

Animating using a scanner or digitiser is easy. If you're a whizz at drawing with a pencil, draw your animation frames on paper and scan them in to your ST. A paint package like *Deluxe Paint*, or an animation package like *Animation Tool* (STF 43), enables you to string your frames together in the form of an animation.

You can also animate using a digitiser. With *Videomaster*, for example, you can use a video camera to record a piece of film at up to 25 frames per second, then save the frames onto disk. A Public Domain animation player is provided so that you can make your own standalone animation, and release it in the Public Domain!

2. MAKE A SLIDESHOW

You can also use *Animation Tool* to display a series of your favourite digitised pictures or scans, setting the time limit so that each frame stays on-screen for several seconds. Just think, you could scan in your holiday snaps and create a slideshow out of them, or do the same with a digitiser if you own a video camera. You'd probably bore your

friends to death with it, but it would make an interesting novelty.

3. COMPOSE A PIECE OF MUSIC

Armed with a sampler and a sequencer, making beautiful music with your ST is simple. Create your samples, use the sequencer to knock them into shape and make a tune, then boast to your friends that you're the next Pete Waterman.

4. MAKE A PD DEMO

You know those demos you find in the Public Domain, the ones where music plays, and images flash up in time? You can create those, too. No, you really can. Using *STOS* you can make a program which plays the music you created, plays the animation you put together or flashes up the images from your slideshow. *STOS* may look tall and difficult to climb on at first look, but to produce demos is surprisingly easy.

5. CREATE AN ELECTRONIC BOOK

Using a utility called *Hype* (ST Club ☎ 0602 410241), you can create a self-contained program which acts as an electronic book. First you get your pictures, either by scanning or digitising, and then write some text to accompany them. Insert them all into *Hype*, run the program, and then turn the pages of the book using your mouse. *Hype*

can be set up to suit your particular subject. For example, if you want to create a family album, you can set it to display a picture of yourself and your close relatives. When you click on your face, the program could display, say, your personal details, or a picture of your son or daughter. Clicking on these could in turn display their children – the options are virtually endless.

These are just a few of the things you can do with your digital real world.

Grabbing pictures of people, and playing about with them is a hobby which you never tire of. And if you really get into sampling and music you might even make some money. Most of all, though, this area of your ST is not only creative, but also a whole lot of fun! We wait for your demo...

PUBLIC SECTOR

GAMES

KABOOM/KREUZEN

16/32

DISK LW007

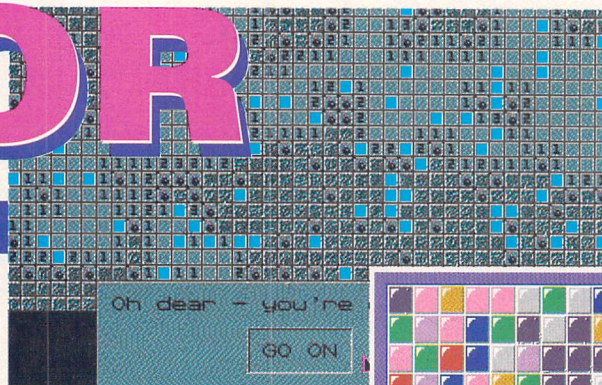
Anybody playing around with a PC running Windows more than likely comes across an "executive toy" called *Minesweeper*. That Shareware program is probably responsible for more lost business hours than any other program – it's just so maddeningly addictive.

Kaboom is a version of that game. It's fairly simple – you're given

a grid of squares, some of which cover up bombs. The idea is to locate the bombs, mark them, and uncover the other squares within a given time limit. Easy in theory – surprisingly difficult in practice.

Also on this disk is *Kreuzen*, another excellent puzzler. If you were ever into Rubik's cubes, then *Kreuzen* might be your bag – it's a similar type of puzzle, but has a 10x10 grid of squares which you must match up in colour. A superb disk – get it now.

STF RATING 87%



■ Take a look at this screen. If you get *Kaboom*, you see it in your dreams, nightmares, every waking moment...

■ ...And similarly for *Kreuzen*, actually. Your target is the light brown colour on the bottom right. You have a long way to go.



SIM PIG

AQUILA

DISK STR 17

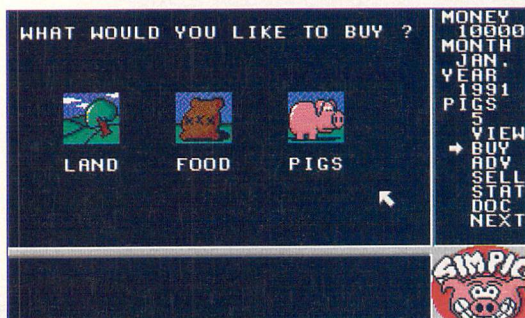
If you fancy a good laugh, take a butchers at *Sim Pig*. The game is written using *STOS* by Animal Soft of Amsterdam, and is based loosely around the *Sim City/Sim Earth* series by Maxis. In *Sim City* you kept an entire city running, organising factories, homes and development. In *Sim Earth* you

looked after an entire planet, and saw to it that it evolved correctly.

With *Sim Pig*, you are put in charge of a pig farm, and the idea is to fatten up the pigs, sell them, and make more money than your ST-controlled neighbour who has a similar goal. The graphics are very well drawn, and there is a lot of humour in the program – which vegetarians may take the wrong way, incidentally, so steer clear. It's an entire business simulator, involving buying, feeding, selling and advertising pigs; so as well as being fun, it's an education. At least, that's what you can tell your mum when you're supposed to be doing your homework.

STF RATING 81%

■ Vegetarians beware: *Sim Pig* is a meaty game that's worth getting your teeth into. Good grief, what an awful caption.



SHOCKWAVE

NEW AGE

DISK C104

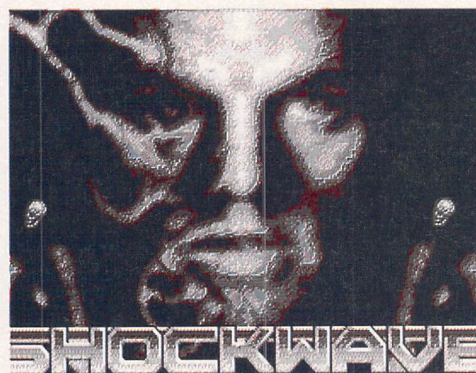
LICENCEWARE

Yet again *Asteroids* comes to your ST. Hooray! Oh well, never mind. *Shockwave* is a sort of updated *Asteroids*, with well drawn graphics and decent sampled sound effects. Instead of the usual rotating and firing movement, though, the *Shockwave* ship moves in

the direction you move the joystick, making it easy to control.

Also, as you shoot an asteroid it leaves behind a mineral deposit which you can collect. When you complete a level, you visit a shop where add-ons for your ship are sold, and the shopkeeper has an attitude problem ("OK, I'll sell it to ya. But I still don't like the way you smell," is one of his favourite comments). This is a game to come back to when you're in need of a little bit of light-hearted entertainment.

STF RATING 78%



■ *Shockwave* probably isn't the type of game you buy for your kids (they probably beat your high score.) Marvellous for some cheap light relief.

MCNAUGHTON GAMES

LAPD

DISK G304

This set of five simple games was programmed in *STOS* by Rod McNaughton. They are all based on proven ideas, such as '80s arcade games or board-games, and each is presented well. Here's a quick run-down of the games:

Confusion: strategic game for two players played on a chequered board.
Cyclotron: variant of '80s arcade clas-

sic *Light Cycles*. Interesting enough, but basic.

Ergon: Good war game, similar in style to *Battle Isle*.

Greenies: simple version of arcade game *Qix* – you have to paint all the squares before the beasties get you.

R Zone: arcade game, where the idea is to collect orange radiation pods, but if you stop moving, you die.

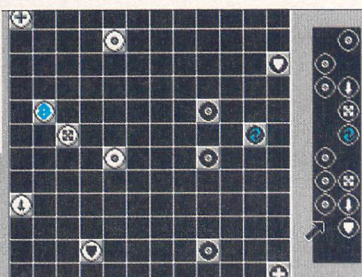
If nothing else, it keeps the kiddies quiet for an hour or two.

STF RATING 60%



■ Or if chess-type games are more your cup of tea, then *Confusion* is for you. Only problem is, you need to read the instructions...

■ You like wargames? You might like to try *Ergon*, the *Battle Isle*-inspired strategy game which is one of five on the McNaughton disk.



FALCON/TT

NETHACK

FLOPPYSHOP

DISKS GAM 3777 AND 3778

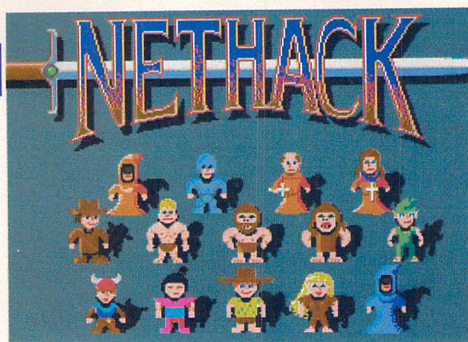
Nethack is a *Swords and Sorcery*-style game for the TT and Falcon. It runs in high resolution mode with 16 colours, and requires at least 2MBytes of RAM to run. There, those are the technicalities – if you have such a machine, read on.

Although it's definitely a variation of the RPG theme, *Nethack* is quite different to most in the genre. Even in compacted form the code takes up a whopping 800K, and it's obvious that a tremendous amount of

work has gone into the game. As well as the usual characters such as elf, mage and wizard, you can also choose from races such as samurai, tourist and caveman. Each is represented by colourful and cute sprites which you move around the mazes and levels using your mouse, slaying dragons and collecting lots of treasure on the way.

The problem with the game is that although it uses the capable power of the TT or Falcon, the character sprites aren't animated. This is a shame, but then it's only a cosmetic point – the game is still very good.

STF RATING 83%



■ *Nethack* only runs on the TT or Falcon, not the lower-end machines. Before you get the game, prepare yourself for weeks of burning the midnight oil.

Game Here

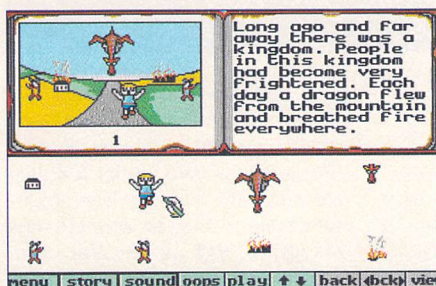
■ As you can see, the game graphics are small and well-defined. This is opposed to the game, which is large and, um, sprawling. You won't finish it in a hurry, anyway.

You miss the Jackal.
The Jackal misses.
You miss the Jackal.
The Jackal bites!

In what direction

7

EDUCATION



MAGIC STORYBOOK

16/32

DISK EDUC 033

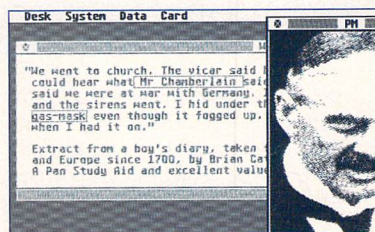
Probably covered under the much-hyped "edutainment" banner, *Magic Storybook* comes complete with a recommendation from the great Rolf Harris himself. Apparently Rolf, on his *Cartoon Club* programme, said "this is completely great, mates" or some-

■ Create your own story about menacing dragons, torched homes, terrorised villagers, frightened children, burning... Hang on, Rolf endorsed this?

thing along those lines. So there you go.

The book is aimed at children from five upwards, and gives you a book with pictures on the left page, and the story on the right. You can flip through the pages, look at the pictures and read the story, or you can go straight to the Edit section. This enables you to change the story, or add to the pictures from the range of clip-art provided. It's very well presented, and makes a good teaching aid for the age group.

STF RATING 82%



SECOND WORLD WAR

LAPD

DISKS M153 A, B AND C

Aside from all the hyperbole about multi-media and how it's going to change our lives, the technology is certainly best used in creating teaching aids. *Second World War* is not only informative about the title subject, but it's also geared towards teaching the teachers about the

■ Peace in our time, eh? These extracts from a boy's diary written during the war make interesting reading – and amusing, in hindsight.

national curriculum for History GCSE. And that can't be bad.

Although it's mainly text-based, the author has scanned in several pictures and newspaper clippings to backup his writing. Everything is displayed in normal GEM form, with the pictures and pages accessed using your mouse. It's a bit short, but the disks are packed with other interesting news clippings and a variety of pictures.

Note: If you get this disk, use the *Tinyview* utility supplied to see these images, not *Art Gallery* as suggested in the supplied documents.

STF RATING 70%

DEMOS



LIQUID OSMOSIS

FLOPPYSHOP

DISKS DEM 3789C, 3790C AND 3791C

Three disks full of tunes and graphics are on offer with this demo by Cybernetics. The music is excellent and varied, with each piece covering a different style from ambient to techno, and the graphics are chosen to suit. As the faster music plays, a

■ A good example of the artwork to be found on this demo, a program packed with excellent music, pictures and animations.

variety of still and animated graphics are flashed up in correct time. These range from vector shapes, to

plasma effects and still drawings. Other calmer pieces are accompanied by serene effects such as animated water droplets, and simple poetry scrolling up the screen.

It's a rolling demo, which plays through and asks you to swap disks when necessary, but a menu gives you the option of skipping to any of the effects. Nicely done.

STF RATING 75%



CHACONA/ GOGGDEMO

FLOPPYSHOP

DISK DEM 3792C

A couple of music demos showing off the capabilities of the STE. *Chacona* is a single tune, with a bass line taken directly from an old C64 game called *Comic Bakery* (original music by Martin Galway.) It's a groovy boppy piece of music, and while it's

■ Providing interesting grabs for music demos is always difficult – and this is no exception. The music's great, take my word for it.

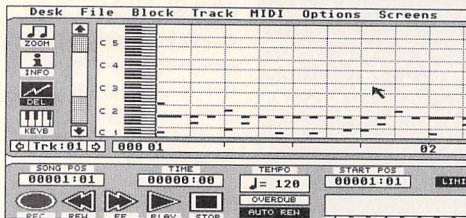
playing a set of channel meters provides

some visuals – along with the obligatory scrolling message which makes your eyes go funny.

The *Goggdemo*, by Unit 17, is a collection of four songs. The sample quality is excellent, and each tune is in full stereo. A slightly more readable scrolly message accompanies the music – still as pointless as ever, but the water reflection effect is technically clever.

STF RATING 69%

MUSIC



■ Using a program such as *Sequencer One*, you can load in one of 50 drum patterns from this disk. Phil Collins, eat your heart out.

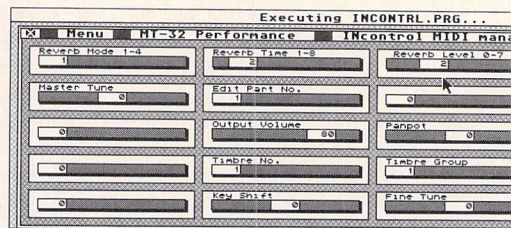
DRUM PATTERNS VOL 1

CALEDONIA
DISK MU59

50 drum patterns could be yours if you get this disk by Voyeurs – and none of this rumba, bossa nova and swing business like you get on those home organ-type things. No sirree, these patterns have macho names like tension, nasty and, um, latino.

OK, so not all of them are so great, but they are very useable. As long as you're equipped with a sequencer which supports .MID files (such as *Sequencer One*), and a multi-timbral keyboard or drum machine, you're laughing. There are people who would say that using other people's drum patterns is just lazy, but when you're stuck for ideas this is a great way to get the muse flowing.

STF RATING 80%



■ *INcontrol* is a fairly old program, but MIDI sound modules are more popular than ever. If you have one, this program might make life easier.

INCONTROL

GOODMANS
DISK GD2014

Written using *GFA Basic*, *INcontrol* enables you to program a number of sliders to alter parameters on your MIDI instruments. This is especially useful for MIDI modules which can't be programmed from the unit, such as the Roland MT32. Any parameter

which can be accessed through MIDI can be programmed, such as volume, reverb, fine tune and panning, and the program also supports MIDI-compatible mixers such as the Kawai R50.

It's a fairly old program, written in 1991, but it's a useful program to have around if you use MIDI sound modules.

STF RATING 71%

UTILITIES

PRINTING PRESS 3.2

CALEDONIA
DISK DTP14

Gutenberg was a German, so it seems appropriate that this impressive high resolution printing utility is programmed entirely in German. *Printing Press* is a Shareware program and has been around in several ver-

sions for a few years now, this is the best version yet and is stuffed with features. Although it's in German, it's no problem getting to learn which option does what, with options for creating address labels, posters, banners, disk labels and invitation cards. There's even a built-in art program for designing your own graphics or touching up the clip-art provided.

You may have to search for a long time to find a better printing utility than *Printing Press*.

STF RATING 85%

■ Design your own soppy cards using the clip-art supplied, if you are happy with options labelled "Rahmen laden" *Printing Press* is for you.

INVOICE MASTER

LAPD
DISK M148

Running a small business can be a tedious task, especially when it comes to such mundane jobs as accounts, book-keeping and invoicing customers.

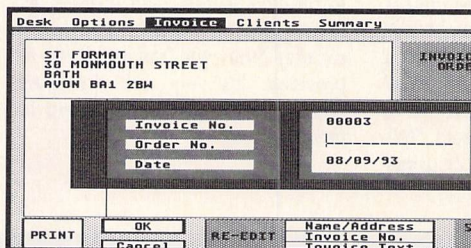
Invoice Master is a Shareware invoicing program designed to be used with the minimum of fuss. It

uses dropdown menus and GEM forms combined with keyboard short-cuts keeping the whole thing simple. All standard invoice functions are covered, you can even create summaries to keep an accurate track of clients, VAT or invoices. New clients can be simply added from the relevant menu by entering the details – raising an invoice is as simple as clicking on a menu option.

A comprehensive program, well suited to the small business based at home.

STF RATING 78%

■ Enter the order number and raise an invoice to *ST FORMAT* for 300,000 three inch lengths of string, a bargain at £100 per 1,000 lengths..



ATARI-TEXT

EMERALD CITY
DISK SN37

This is one of the weirdest programs you're ever likely to see (at least on this planet). Imagine a teletext simulator, where everything is displayed using ASCII characters, and you enter numbers to jump to different pages.

Got it? That's *Atari-Text*. Included in the text is a game cheats section, which covers a fairly large number of games, an adventure game where you move location by skipping pages, and a number of PD reviews.

If you've ever thought of working for Oracle or Ceefax, then you can practice using *Atari-Text* because it enables you to add in your own pages. This takes time, but it's possible to make unusual presentations of your text files. An interesting but pointless novelty.

STF RATING 60%

■ Using *Atari-text*, you can create your own Teletext simulator. Some people will probably welcome this addition to their PD collection. Hmmm..



MINI PICS

LAPD
DISK A78

It's a hassle sorting out all your picture files, you never know which pictures are on which disk and it's dead easy to forget what you have called a particular picture. *Mini Pics* gets around this problem by creating

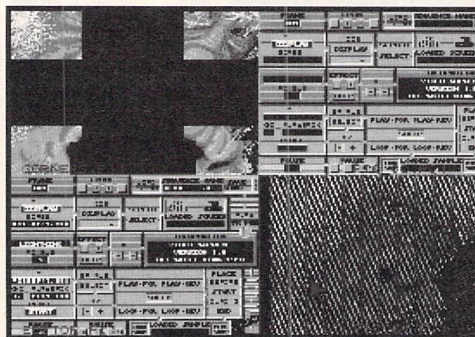
"menu" files showing up to 64 pictures on a single screen.

This is done by shrinking each picture file to a fraction of its original size and pasting it onto a screen. *Mini Pics* loads 20 different picture files, depending on the resolution. It's also rather useful in that it saves files in *Degas*, *Neochrome*, *Crackart* and block formats, and can print disk

labels showing up to 76 filenames, rounding off a handy but not really essential utility.

STF RATING 72%

■ *Mini Pics* enables you to view 64 pictures at once, the only problem is that each picture has a separate palette so things can look a bit confused on-screen.



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ARC50 HACMAN, superb pacman clone. MR PACKY, another super pacman. SOCCER brilliant 3D football game 2 players. MUTANT WIPEOUT aerial shoot em up. INVADERS needs no description.

BRD04 CHESS, superb chess game. DECODER, excellent mastermind. SUPER SIMON, computer version of hand held game. DOMINOES, puzzle game. GOLF card game. Also on this disk DRAGON MAZE, 2 game, SENSORI BACK GAMMON, BRIDGIT, STARTREK, BATTLESHIPS.

ARC14 HOME, and L'ORB 2 super pinball games. GALTIC RANGER, unusual shoot em up. MONKIES & BALLOONS, bounce the clown and burst the balloons. FIRESTORM, another good arcade game rescue the humans. LAZERBAL, super game and interesting version on the pinball theme. Also on this disk LOST TREASURE, WIDOW MAKER, SLALOM & BREAK OUT.

AST 01 PLANETARIUM simply the best PD Astronomy program. SKYMAP another great Astronomy program plus aSTRonomer.

BRD 01 LAZERCHES, OTHELLO, CHECKERS, WHEEL OF FORTUNE, and more. A superb collection of BOARD GAMES.

ART 08 ANI ST Great animation package formerly sold at £80.00 now PD, VAN GOGH Paint package with animated sprites. 4 LANDSCAPE Generators including GENASIS and a CAD Package.

MUS 31 New Version of The ACCOMPANIST SEQUENCER (V2.5)

WPR 01 ST WRITER V4.2 and FIRSTWORD. The best word processors for the ST (E) plus a spell checker, print spooler and a selection of ready to use letters.

ODD 07 THE WORLD OF STARTREK Over 300K of text interviews and biographies from the original STARTREK and NEXT GENERATION plus loads of pictures from both series. A must for all TREKKIES!!!

ARC 04 TETRIS, superb tetris game (see review in issue 1 of this mag). KLAX TRIX, WELTRIS & TETSID, 3 more good games on the tetris theme. MR DICE, COLLAPSE & BURGER, 3 more good games to fill this superb value disk.

ARC20 BLAT Superb Falling Blocks game. STE only, Best on 1 Meg.

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A simulation of the German invasion of the Soviet Union during the Second World War. The campaign is fought using a strategic map and a scrolling tactical map forty screens in size.

Designed for people who enjoy intelligent games, allowing players all the time they need for thought, based on strategic and tactical manoeuvre not on mere mathematics.

You command the German army through intelligent army commanders against a computer opponent, developed over ten years, that commands the Russian army as competently as a human player.

Easy to use interface produces a fast paced game with the need to change army orders only when the player deems necessary. Written by Ken Wright, the most prolific author of strategy war games.

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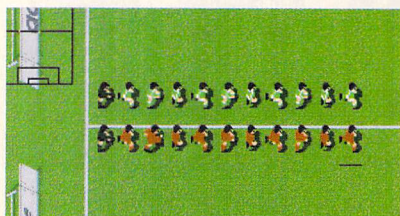
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FOOTBALL

Four new soccer games are set to join the plethora already available on the ST. Can the newcomers score? Andy Nuttall sticks his boot in



What makes a good game of football? If you're anything like most footie fans, you've probably got an opinion or two to share with your mates over a pint or two: passion, skill, aggressiveness, hyper-

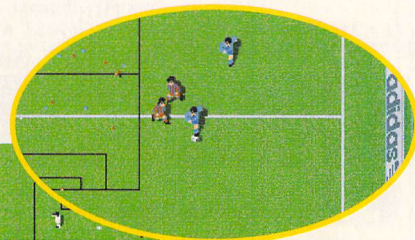
"Put 22 players and a ball in a game, and it sells in droves"

bole – all ingredients which make up the best football games.

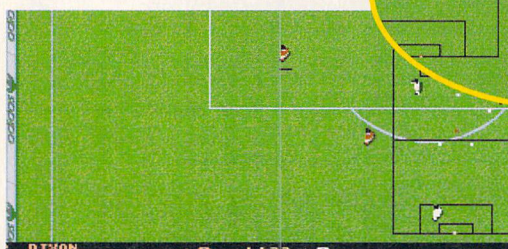
But what about ST football games? Do the same rules apply, and if so, how are they translated into your ST? And why are there so

many questions in this article? After all, it's supposed to be informative and interesting, isn't it? Hang on a sec, though. These questions have been pondered and argued by game designers, programmers and marketing execs since the days of the Spectrum. Hundreds of 'em appear; some are great, most are average, and some are downright awful. But nearly all have one thing in common: money.

Fact one: football games sell. Like so many scarves, kits and window stickers, put 22 players and a ball in a game, and it sells in droves. Marketing people know this as well, and they're willing to throw more money at football-type games than virtually any other.



■ Goal!, Dino Dini's sequel to *Kick Off 2*, is due to appear on the ST in the next few months.



OWN GOALS AND GAFFS...

With 40-odd football games for the ST, and only a handful of them worth their salt, what happened to the rest? We cast our cynical, incisive eyes over previous issues of ST FORMAT, and then retrieve them, pop them back in, and get some amusing quotes...

MicroProse Soccer

MicroProse Not reviewed
This came out before *ST FORMAT* was born, but this quote from Maff Evans' footie round-up of *STF 11* should give you an idea of the quality: "This offering broke new records for sub-standard gameplay, lousy graphics and poor control of players." An interesting fact to note, fans, is that this game was written by Sensible Software...

Kenny Dalglish Soccer Match

Impressions *STF 7, 32%*
Although Kenny did incredibly well at Anfield, he made a mistake putting his name to this atrocity. Our review said: "Getting to grips with kicking the ball proves extremely difficult thanks to one of the most ridiculous control systems ever installed in a soccer game."

Soccer Glory

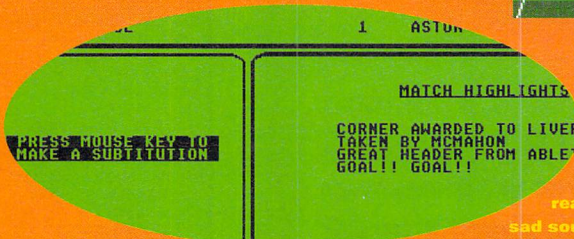
Tanglewood *STF 11, 29%*
"The sheer randomness of events in the match destroy any illusion of reality."

Gazza's Super Soccer

Empire Reviewed here and now, 25%
"A small sprite wobbling around the screen in



■ *MicroProse Soccer* was originally created by the Sensible boys, but converted to the ST by the Electronic Pencil Company... and bodged.



■ *Gazza's Super Soccer?* Gazza's Super Crap, more like. God, this is awful.

■ My goodness, *Soccer Glory* is impressive. Look at those bright, vivid hues; read the beautifully-written prose; imagine the sad sound effects and completely cack gameplay...

CRAZY?

But wait – let's play a game. Make a mental note of the ST football games you've played, and count how many of them were worth playing. Got past five fingers? Time for fact two: there have been over 40 football games on the ST.

Does this show a real attempt at bettering the quality of footie games; to produce a more playable game than the last? Or is it just blatant hype and commercialism from the games houses? It's interesting to note that the top football games, according to our colleagues (see boxout – page 43) are non-licensed.

Virgin Interactive Entertainment have brought in Dino Dini to produce the forthcoming *Goal!*. He's pretty well known by games players as the creator of the classic *Kick Off* series. Mike Merren of Virgin commented: "We've got Dino

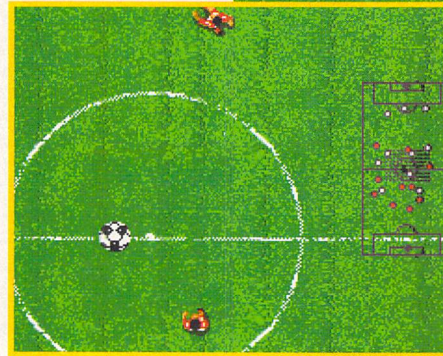
in, which is good, so with our forthcoming *Goal!* people know what to expect without us having to sign John Barnes or FIFA."

Anil Gupta of Anco is tight-lipped about the sales of *Kick Off 2*, which built on the success of *Kick*

"Renegade are quick to release figures for sales of Sensible Soccer - to date over 30,000 copies"

Off: "I'm not in the hype business. Let's just say that it's the biggest-selling game ever." That's some claim – but one which remains

■ Ocean are trying to steal the computer football crown from Sensible with their *European Champions* game.



■ If you're very astute you may recognise this as FA Premier League, which Ocean were advertising some months ago...



unconvincing without hard facts. Renegade are quick to release figures for sales of *Sensible Soccer* – to date over 30,000 copies on the ST alone. Tom Watson of Renegade commented: "There is always going to be a demand for these games. Like football, it's a male-dominated market, so football games will continue to sell."

ogy (and stealing a look at other computer formats) we can get a good idea of what they are about.

Goal!

Goal! from Virgin Interactive Entertainment is Dino Dini's sequel to *Kick Off 2*. That game is considered by some to be the ST's finest hour; a game which provides a good challenge for one player, but a complete Friday evening in for a group of two or more.

Kick Off 2 is an unusual game, in that part of its appeal lies not in its playability or graphics, but in a number of bugs which dog the program. For example, occasionally you kick the ball over your crossbar, and the referee awards you a corner – from the other end of the pitch! Similarly, now and again a penalty is awarded for a challenge which could in no way be considered "in the area." This recreates the poor refereeing decisions which occur in real-life games, so making it more realistic.

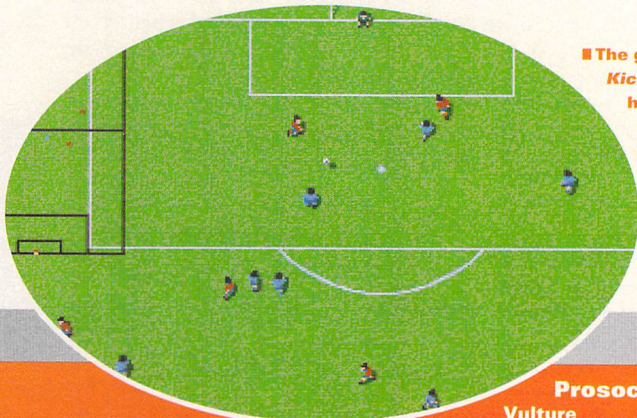
Goal! promises to iron out these bugs (shame.)

The new boys

With no fewer than four football games to be released in the coming months, this flood is set to continue. There's *Goal!* from Virgin, which we've already mentioned; *Super League Manager* and *European Champions* from Ocean and *Sensible World of Soccer* from Renegade. Given what we've already said about the football game genre, we could be forgiven for being ever-so-slightly cynical about these releases. But hey, who are we to prejudge? (Snigger...)

All of the games are in the very early stages at the moment, but using proven scientific technol-

■ The good bits from *Kick Off 2* are in here, apart from the bugs and the ability to score easily from kick off. "Keep 'em in," we say...



vague response to your joystick's movement," it says in issue 28.

Treble Champions

Challenge STF 14, 19% Getting on for the worst game ever, we have: "Challenge claim the game is a 'stunningly realistic football strategy game,' but realistically they're being stunningly economical with the truth. It looks more like a sixth-form computer project."

Prosoccer 2190

Vulture STF 17, 12%

This really is the lowest of the low, the epitome of crapness, the lowest end of the football games scale.

This offering from Vulture got the praise it so richly deserved: "When the players run around the pitch, their legs move like the clappers but their bodies warp across the screen, appearing and reappearing like a bad pint of beer." Do we really need to add anything? 12%. Ha, ha, ha, ha, ha, ha, ha...

■ Prosoccer 2190 is a sickening attempt to take football into the future. It's utterly, utterly pathetic. Do yourself a favour, buy *Speedball 2* instead.

FIXTURES			
For Week 1			
NEW YORK	22 v	LOS ANGELES	10
BRAZILIA	9 v	RIO	24
CHICAGO	21 v	HOUSTON	30
SAN FRANCISCO	22 v	WASHINGTON	15
LONDON	12 v	MADRID	17
ROME	4 v	MUNICH	20
STOCKHOLM	19 v	PARIS	22
ATHENS	v	AMSTERDAM	

Next Up

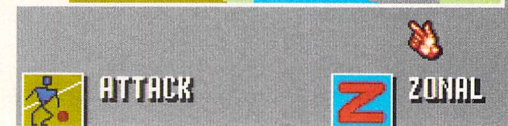
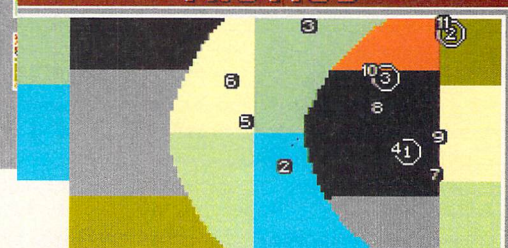
ATHENS vs AMSTERDAM

PLAYER OPTIONS



■ The screen on the right has got something to do with tactics, apparently. Further than that we couldn't guess, because the game is in German, and called *Lothar Matthäus*.

TACTICS



THERE'S ONLY ONE JIMMY HI-ILL

To find out just what does make a good footie game, we took a wander around the Future Publishing building, and hassled various football-playing types until they gave us some quotes. It seems most computer footballers hold strong opinions about the game

Trenton Webb of *Sega Zone* magazine isn't a big fan of licences: "Licences are out of the window, really. None of them have ever been any good - Gary Lineker's *Hot Shots*, Gazza's *Super Soccer*..." (Trenton then goes on to list about 500 other football licences which, frankly, were awful.) "The best games are the ones which have come out on their own - like *Kick Off* and *Sensible Soccer*."

Stephen Bradley of *Amiga Format* is similarly enthusiastic about *Sensible Soccer*: "Some games need the hype of a big-name licence to succeed. I don't think that applied to *Sensible*. It's the simplest game to play, and it can be one of the most spectacular."

"A good football game," says *Amiga Power*'s Stuart Campbell, "Should have a

football, and at the end of the day you need 11 men both giving 110 per cent for the full 90 minutes. And lots of green, obviously."

Andy Hutchinson, erstwhile editor of *ST FORMAT*, now of *Commodore Format*, is slightly more reserved: "*Sensible Soccer* is like a cartoon version of football. It could in no way be called a simulation. One of the reasons for its success is its role as a multi-player game, where you can invite 12 of your mates around and play a full league."

Ollie Alderton, also of *Commodore Format*, says "I liked *Kick Off 2* and *Sensible Soccer* because they felt good to play. There's an excellent game I saw in an arcade recently, with huge player sprites which moved really well. That's the ultimate, really, because it's just like watching football on the TV."

Gamesmaster's Les Ellis reckons "The two most important things are speed and a good control system. I liked *Sensible Soccer*, although it's difficult to turn on the ball - that could be improved. Above all, there's not enough violence - we want to see pitch invasions, and be able to elbow other players in the face." Charming.

Whoa there, guys. Surely you don't all have to talk about *Sensible Soccer*? There are 40-odd other games, you know. Ah, here's Tim Smith of *Amiga Format Specials*. He'll see us right:

"*Sensible Soccer* has proved it. What you need beyond all else is playability. You need the programmers to have paid some attention to what's going on in real football."

"I'd like to see a football game that didn't encourage the long ball game; a true management sim which would link you up via comms; Manchester United docked three points for Manchester United Champions; and possible tweaking of rules, such as kick-ins, dropping the back-pass rule, and wider goalposts. That way, it would be possible to experiment with future FIFA rules, to see if they would work."

Now here's a little thought to leave you with, it seems that Leicester City and Liverpool football clubs are producing their own exclusive range of toiletries - for men, we imagine. Not to be outdone, Jon Hare of *Sensible Software* told us: "I think you may see some *Sensible* condoms, actually. Flavoured ones, of course."



■ Ocean's other offering is a management sim, which links with *European Champions*. Sorry about the Italian.

But it is going to add in loads of features and added player control to make the game even better. The most notable addition is going to be realistic momentum on the players, enabling you to dribble the ball past defenders without having to trap it. At least, that's how it works in theory...

European Champions

The first of two football games from Ocean is an arcade footie game, played with either one or two players. On the surface of it, *European Champions* looks just the same as many other football games, with a choice of teams from around Europe, but there are a couple of features which stand out from the crowd.

The first is the different control options. You can either set it to ping pass, where you tap <Fire> to pass; point method, where you hold down <Fire>, move the joystick then let go of <Fire> to pass; and the cursor method, which gives you a direction cursor to move around. The second option is to change the view of a match - either horizontal or top-down - while you're playing.

Super League Manager

Well, it's a football management game. What more do you want to know? OK, OK, you're the manager of Folkestone United (at least, you are in the game. If you are the manager of Folkestone United in real life then, erm, ha, ha, ha.) Anyway, you're this manager, right, and you have to manage a team. You start off in the fourth division, and you have to get your team out of the lower ranks and into the Super League.

There are two ways to make it: work hard, work your players hard, and score lots of goals; or sell your players down the river, blackmail the chairman of a Super League club with some compromising photographs, and then slot into your big fat leather chair with a fat cigar and a smug smile on your face. (Oh, um, hello, Mr Ocean. I was just saying about your game, and how accurate and realistic it is. No, really.)

Ocean have built a handy link-up feature between their two games, if you just happen to buy then both. Sometime during a sea-

son in *Super League Manager*, you are given some ties to play out using *European Champions* (or Audiogenic's *Emlyn Hughes' International Soccer*, for that matter) - so if your team isn't doing too well, you get the chance to put it right. Also, at the end of a season, you can set up a mini-league between the top teams. And lastly, let's have a big hand for...

Sensible World of Soccer

The sequel to *Sensible Soccer*, almost unanimously acclaimed as the king of football games, is due for release early next year. It is to take the proven game engine of *Sensible Soccer* and add manage-

■ How do you create a football game which actually makes you laugh? Give it to the *Sensible* boys, any day.

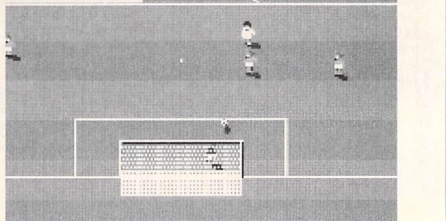
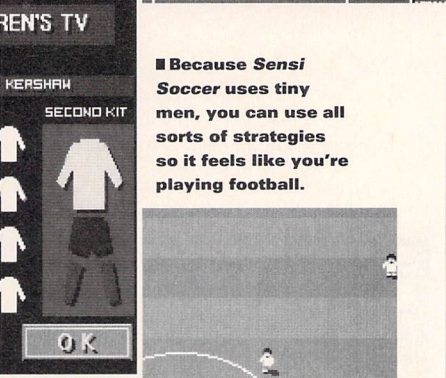
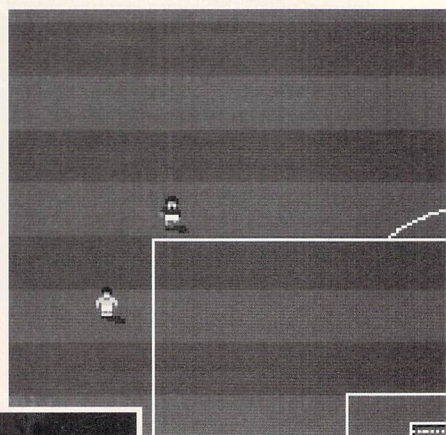


■ Because *Sensible Soccer* uses tiny men, you can use all sorts of strategies so it feels like you're playing football.

ment options, hundreds of international league teams, a worldwide transfer market... oh, loads of stuff.

The *Sensible* boys are writing it at this very moment, having employed an expert to type in all the teams, players, coaches and managers - a big job, as you can

imagine. It's going to take something pretty special to beat the original, but we've got plenty of confidence in the *Sensibles*. There'll be more information on this in the coming months - keep an eye out for it. **stf**



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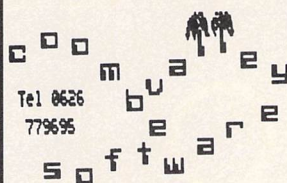
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ST/MAG/1193

DIGIT SOUNDTRACKER

Take a look at the spectacular new high res-only soundtracker program from Germany

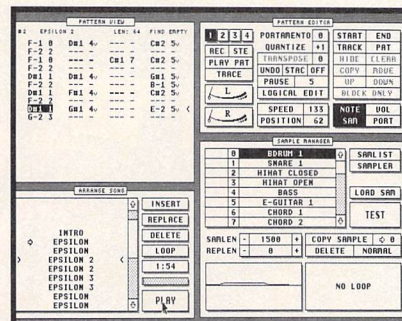
There has been an unfilled niche in the UK market for some time for a good commercial, soundtracker package. *Audio Sculpture*, which also runs in high res, promised much but was let down by a poor user interface and an awful manual. The package is presented in a conventional A5 ringbinder and

comes with two manuals. The second one is in German but don't discard it as you need it to look up a password each time you load the program.

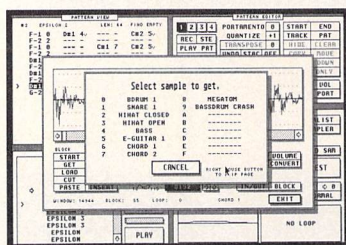
The program is easily installed by clicking on the main DIGIT.PRG and filling in the registration form. This only happens the first time you run the program. After entering the German password the main program screen appears. If you are unable to enter the password correctly the program loads in demo mode. This sim-

ply means you can't save anything. There is a GEM style drop down menu bar which controls loading, saving, tone control and preferences. Provision is also made for accessing any standard GEM accessories you have loaded. The rest of the screen is divided into four sections:

The Sample Manager is comprehensive, to say the least. Here you can load .SAM signed samples into slots ready for use in a piece. If you click on the name of a loaded sample and then on the "TEST" button you can audition that sample before using it. There is even a dedicated sampling module built in to this section. If you have Galactic's *Sample Star* you can actually sample from here. If not,



■ The friendly main screen of Digit. At last someone has had the sense to produce a soundtracker with a MIDI sequencer-style interface. This is sure to widen the appeal of soundtracking further still.



■ Digit even has its own built in sampling module. You can tune existing samples and edit them precisely as well as sampling with the Sample Star cartridge. For extra fun you can add echo to your samples.

then you are still able to load in existing .SAM samples and edit them to your liking. The Arrange Window enables you to organise the playlist for your patterns. It includes a loop

SAMPLE STAR

Take a break from tradition and create 8-bit samples via your printer port

New sampling software always creates a lot of interest in the ST world, whether you're a serious musician or you just enjoy sampling for fun. Traditionally, all samplers plug into the cartridge port on your ST, but Galactic are now sell-

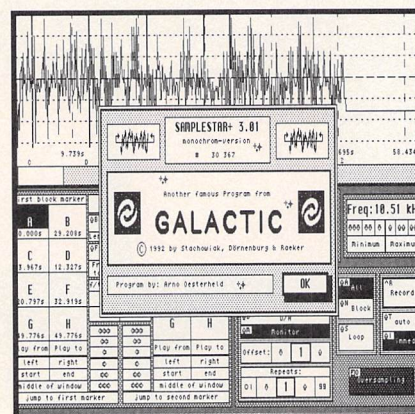
ing a high quality sampler in the UK which uses the printer port instead.

The accompanying software is very comprehensive and runs in high resolution only. The sampling section of *Digit* uses the *Sample Star* cartridge as well. If you're into soundtracking,

these two products complement each other perfectly.

The sampler is quite fiddly to set up, but it's definitely worth the hassle when you hear the results. This is the best – it's superior quality 4-bit and 8-bit sampling. The clarity achieved, even at 6.25Khz, is astounding. The samples you create are easily converted to work with any other sample-based software.

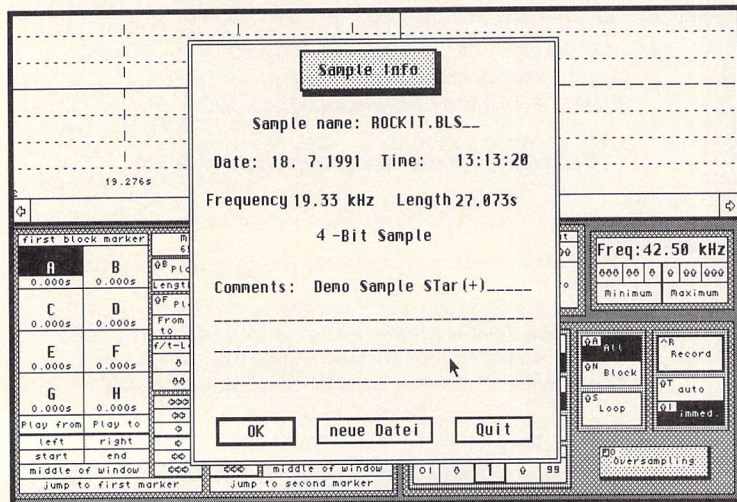
Marker points are used to great effect – there are no limitations to the basic left and right markers as you find in *Replay 8*; you can have up to eight markers in your sample. You can place these markers very accurately. For example, marker A can be placed 16.076 seconds from the start of the sample and marker B 16.077



■ Galactic's new sampling cart boasts 4 and 8-bit resolution, plus oversampling. An over-modulation trimmer and digital re-processor are also included. It's pretty good.

seconds from the start of the sample. These points can be saved, enabling you to load a long sample in chunks from several disks into the different marker points and keep it perfectly intact. A selection of digital effects are available from the drop down menus including echo, repeat and fade-out. All the effects work very well.

The manual begins by explaining how to hook the cartridge up to



■ Everyone hates the ST's eight character limit on filenames, so Galactic have found a way round this little irritation. Whenever you save a sample, this wonderful dialog box pops up – giving you the opportunity to write a couple of lines about it.

point facility which ensures that your music does not come to an abrupt end. There is also a display here showing how long, in minutes and seconds, your music runs for.

The Pattern Editor controls much of the editing and global power of *Digit*. You can set sound

"Functions are self-explanatory and easy to use"

output for STFM or STE here, meaning that STFM users are not excluded from the fun, although there is full STE DMA support. A section called Logical Edit exists to enable global changes on selected blocks of music. This saves a great deal of note by note editing. Portamento, quantize, transpose and a whole host of other features are controlled from this section. On top of all that there is a couple of old-fashioned style Left and Right level meters added to make you feel at home.

Pattern View is where the four channel output is graphically displayed. Cursor control enables you to quickly arrive at any note and edit it.



Input can be from computer or MIDI keyboard and in step time or real-time. The whole input process is quick and painless. Using the quantize feature it is possible to give a piece of music a good "groove" rather than sounding completely mechanical. The patterns are generally 16 bars long and divided into semi-quavers, but this configuration can be customised for each piece.

Verdict

Digit is a polished piece of software. The majority of functions are self-explanatory and easy to use. It's capable of bringing the musician out in almost anyone. The manual is clear and helpful, even if the translation from the German sometimes reads a little strangely. The quality of play-

back is superb, after a little twiddle of the tone controls. The only problem is that *Digit* saves pieces of music in its own propriety .SNG format and not in the conventional .MOD format. The .SNG files contain all the samples and there are source code listings supplied with the program to enable playback in your own programs. Galactic tell us that they are releasing a player program into the PD very soon. We look forward to it.

ANDY CURTIS

Digit sound tracker

Price DM 60 (about £24)
Galactic, Julienstae
7, 4300 Essen 1,
Germany
☎ 010 49 201 792081

Highs:

- Superb sequencer-style interface.
- Stunning sound quality.
- Stuffed with useful features.

Lows:

- No support for .MOD file format.
- Needs a different German password every time you boot-up.

Alternatively:

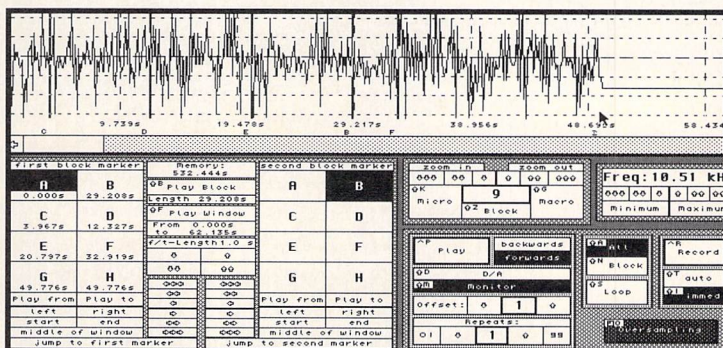
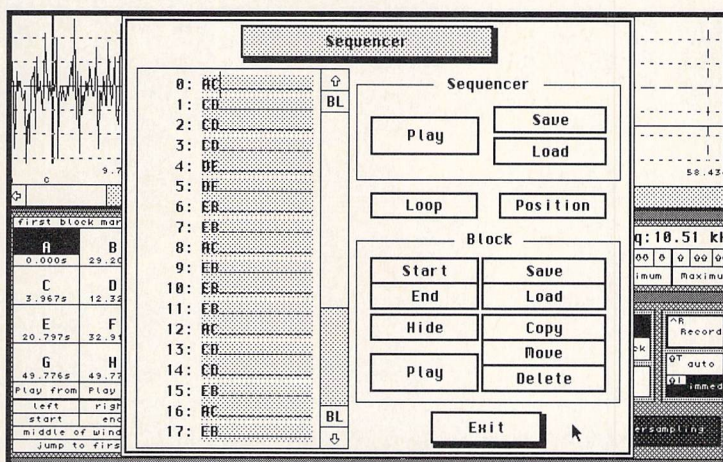
- Audio Sculpture £4.99 from Direct Software ☎ 0908 379550. Poor manual and user interface. It does handle standard MOD files, though. This is something that *Digit* can't cope with.

your ST. You need a 12 volt DC power adaptor capable of delivering at least 200mA. You also need a mono 3.5mm input jack plug and a stereo 3.5mm output jack plug to hook the cartridge up to your sound source and your amplifier. It would make life much easier if the cables and the power supply unit were supplied with the software. It's a bit irritating that the sampler sits in the printer port – you need to "attach" a

"This is the best – it's superior quality 4-bit and 8-bit sampling"

printer distribution cable or buy a printer switch box.

The manual gives a long and detailed explanation of what sampling actually is, how it's done and why *Sample Star* is better than whatever else it is that you're using. It's good to have the background although the bias doesn't give a very rounded view! One feature of the manual is that all the screen grabs shown are of the German version of the program. This means that you have to refer to the English version on screen to work out what is what. Indeed, even parts of the program are still in German.



Verdict

Sample Star is an excellent sampler for your ST. There are some annoying drawbacks with the package but you get good value.

ANDY CURTIS

back is superb, after a little twiddle of the tone controls. The only problem is that *Digit* saves pieces of music in its own propriety .SNG format and not in the conventional .MOD format. The .SNG files contain all the samples and there are source code listings supplied with the program to enable playback in your own programs. Galactic tell us that they are releasing a player program into the PD very soon. We look forward to it.

By marking blocks in your sample you can create whole pieces of music using the in-built sequencer. With up to eight markers you can produce some very accurate sample. It plays, loops and repeats blocks in any combination you choose. Effects such as echo, repeat and fade-out can also be added.

Sample Star

£68 from Galactic,
Julienstae 7, 4300 Essen 1,
Germany
☎ 010 49 201792081

Highs

- Superb sample quality, versatile sample editor, wide variety of features.

Lows

- Incomplete German translation.
- Power supply and cables not supplied.
- Fiddly.

Alternatively

- Stereo Master Microdeal £29.95, full STE stereo support but not high res.
- Replay 8 by Microdeal. £66.99 from First Computer Centre ☎ 0532 319444 8-bit support, medium or high resolution.

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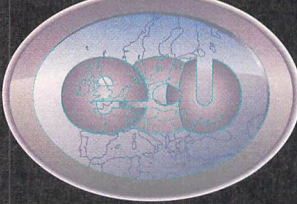


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ST FORMAT NOVEMBER 93

PHOTO SHOW

Sound and vision are brought together on the Falcon. Clive Parker shows you how to create stunning presentations

T rue colour graphics combined with CD quality sound – multi-media is here with the first Falcon program to actually use Photo CD. Both of the Falcon's major strengths are brought together in *Photo Show* – a configurable slideshow enabling Photo CD images to be displayed accompanied by a CD quality soundtrack.

Sound and vision

The idea behind the audio capability of *Photo Show* is to add music, speech and sound effects to a visual presentation – the Falcon's built-in sampling and audio hardware makes it perfect for this type of application. Slideshow presentations at meetings are typically boring affairs so adding sound, in the form of music or spot effects, can really make an impression on a client. Imagine that you are showing a potential customer designs for a new music CD inlay, it would be more impressive if music was playing from the CD at the same time.

In control

The slideshow is controlled by a script created from within *Photo Show*. Cre-

ating the script is easy because everything is done by pointing and clicking with the mouse. Scripts can be constructed in minutes and consist of Photo CD images, sampled sound files and FTC images. FTC images are simply Photo CD pictures that have been converted to *Photo Show* format, the advantage of using them is that they load in under a second from hard drive, the same image takes 35



■ Using the Fade option enables one picture to be faded into the next using a shutter effect.

seconds to load from Photo CD. Another advantage of using FTC images is that you can combine

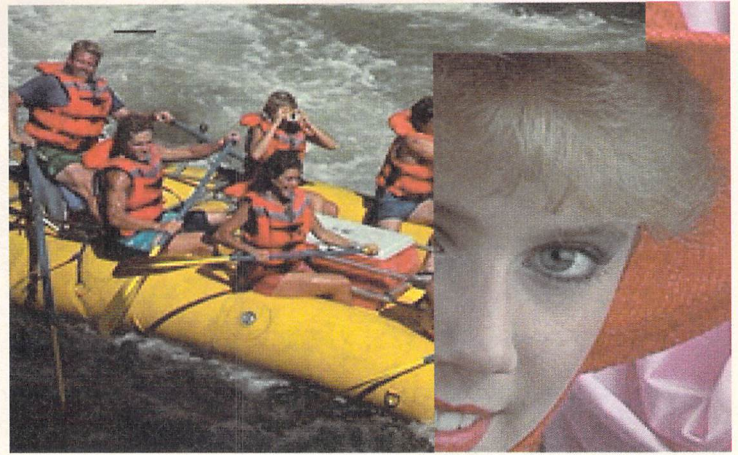
Other image formats

Most DTP programs cannot use Photo CD images directly in Kodak's PCD format. The *Photo Show* export module is supplied to enable Photo CD images to be converted to other file formats for use in graphics, photo manipulation or DTP.

Three major file types are supported in five image sizes; Encapsulated PostScript (EPS); Tagged Image File Format (TIFF) and RAW format. You can import EPS files directly into any DTP program that uses PostScript, EPS files are typically twice

the size of the other image file types. Practically all serious DTP and graphics software can use TIFF and RAW files, enabling your Photo CD pictures to be used with almost any software. Be careful when saving pictures in the two largest resolutions, they create files of over 4MBytes and 18MBytes in size. These soon eat up your hard drive space.

You can use the export module on any ST with suitable CD-ROM drivers, the MultiTOS CD-ROM drivers only work with the TT or Falcon030.



■ The other effect for overlaying a picture over another is the Strip option, the new picture is displayed using four vertical bars.

images from several CDs in one show, this is impossible if you are running the presentation from CD-ROM. Sampled sounds in standard AVR format

“A configurable slideshow enabling Photo CD images to be displayed accompanied by a CD quality soundtrack”

are used, you can create these with any sampler that can save in AVR format either on the Falcon or on your ST. Samples can either be played individually or looped to provide continuous background music for a rolling presentation. Three music samples are supplied.

When you select a Photo CD image from the CD-ROM drive you choose a visual effect to be used when displaying the image on screen. This is a good idea let down by the fact that there are only three visual effects in the program, a few more imaginative fades, wipes and merges would greatly improve the versatility of *Photo Show*.

You can show your presentation in either manual or auto modes. In manual mode you control the flow of the presentation with the mouse buttons, ideal for meetings where you may need to move back and forth through a series of images to make a point. Auto mode simply plays a prepared script, usually running in a continuous loop. This type of display is the kind of thing you see running on computers in showrooms showing off the capabilities of the hardware and software.

Getting up and running is a simple process and only takes about five minutes, just transfer the software to your hard drive and run the

program. To use *Photo Show*, MultiTOS must be installed and running. If you don't have a CD-ROM driver installed instructions are provided for installation of the driver supplied.

Verdict

Photo Show is the first of many CD-ROM compatible programs lined up to appear on the Falcon. It's All Relative have taken a simple but effective approach to creating multi-media presentations that is easy to set up and use. The manual is packed with hints and tips for getting the best results from MultiTOS, Photo CD and the Falcon.

Priced at \$35, about £24, it's not going to break the bank. Remember that you have to pay postage from the USA, import duty and VAT before you can use it. Of course, you do need to have a Falcon and a CD-ROM to use the program in the first place. *Photo Show* is definitely worth a look Adding a few more options and effects would turn a good program into a brilliant one. **stf**

Photo Show

\$35 (about £24)

It's All Relative, 2233 Keeven Lane, Florissant, MO 63031
USA ☎ 0101 314 831 9482.
4MByte Falcon030 with MultiTOS, hard drive and Photo CD compatible CD-ROM

Highs

- Simple to use, easy to set up, inexpensive.
- Runs on any colour TV or monitor.
- Converts Photo CD images to useable formats.

Lows

- Can only be ordered directly from the USA.
- Limited visual effects.
- Scripts cannot be edited once created.
- Photo CD images take a long time to load.

What else?

- Nothing yet.

ST
FORMAT
81%
UP

DRAGON GRAPH

Present your statistics informatively in graph form. Frank Charlton shows you how

Whether you're producing a detailed report on your company's sales figures or displaying the results of a survey in a home-produced fanzine, making large chunks of numerical data look interesting as well as informative can be difficult. Often the most eye-catching method is to present your figures as a graph – easy to read, and gives you an instant comparison between sets of figures.

D-Graph from American software house Dragonware is simply a tool for turning your statistics into a visual form, which you can then incorporate into your DTP program or word processor. The program comes supplied on four floppy disks, three of which contain Atari's Font GDOS system for displaying and printing the fonts used by *D-Graph*. FontGDOS is sort of a "halfway house" between the original GDOS and the newer vector font based SpeedoGDOS. Font GDOS still uses the same bitmap fonts as the original, but presented in a more manageable form. Of course, you don't need to use FontGDOS if you already have GDOS installed for another program, and *D-Graph* also supports SpeedoGDOS if you have it. Your copy of *D-Graph* needs to be registered before

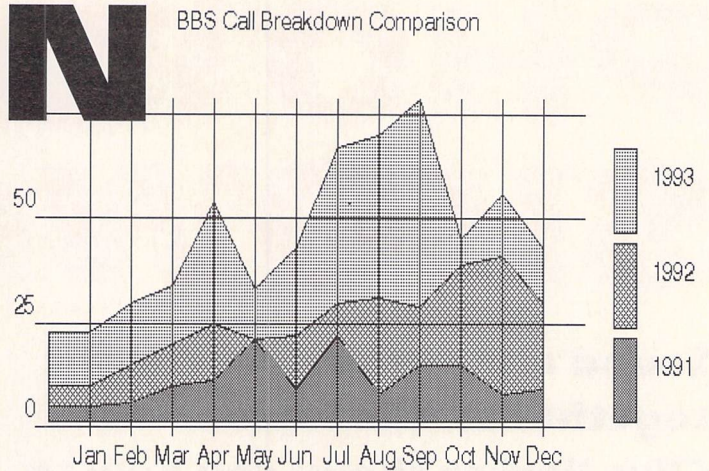
you can use it, but there's no complex installation procedure to be done. Just copy the files to your hard drive or make a backup of the disk, register it, and you're ready to go.

D-Graph is a standard GEM-driven program, and is written to run under MultiTOS. The program is designed to be used with a minimum fuss without resorting to the manual every few minutes – the manual is sparse at only 20 pages, but it does cover all of the program's functions, and you shouldn't need to refer to it once you've used it a few times.

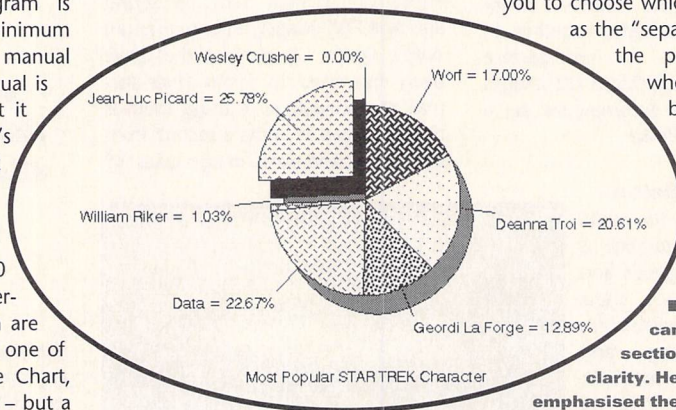
D-Graph supposedly generates graphs in up to 50 different styles, but the differences between most of them are difficult to spot. You can use one of four basic graph styles – Pie Chart, Bar Graph, H-Line and V-Line – but a

wide selection of parameters can be easily customized from a single dialog box to produce the effect you need. Titles can be added and altered, but you're restricted to placing the title above or below the actual graph in preset positions. All

■ Here we've created a filled line graph showing a comparison of three years' worth of data.



changing your entries. Alternatively, you can import an ASCII file from your database, word processor or spreadsheet, and *D-Graph* enables you to choose which character acts as the "separator" – used by the program to tell where each entry begins and ends. Obviously you need to output the graph in a format you can use. *D-Graph* uses

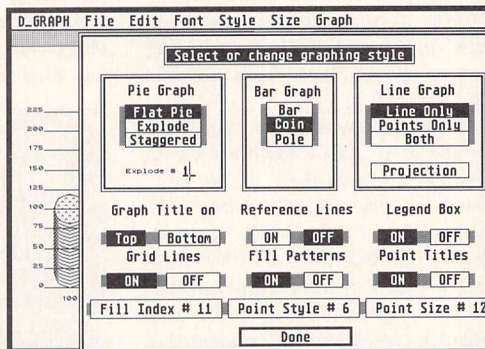


■ A 3D pie chart can have a section "exploded" for clarity. Here we've emphasised the largest section.

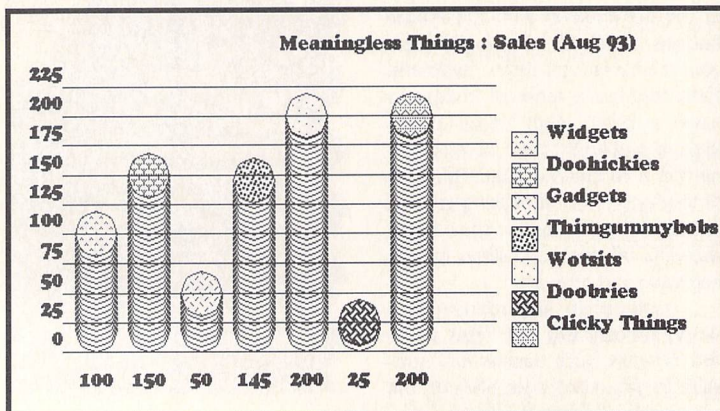
graph types can be either flat or 3D, which can improve the graph's readability in most cases. Pie Charts can have a section "exploded" – that is, made to stand out from the other sections by enhancing its 3D effect.

Once you've chosen your basic graph format, you have two ways of entering the data needed to produce the graph. The easiest method is to enter it into the custom dialog box for each graph type, which means you need your figures on paper in the first place. The dialogs are self-explanatory though, and it only takes a few minutes to set them up. Click the "Done" button, and your data is transformed into an attractive graph. You can set the fill patterns used, font types and sizes, titles for the horizontal and vertical axis, and whether or not you want a "key box" to explain what each piece of the graph represents. Producing a graph takes literally minutes, and the whole thing can be altered and re-generated very quickly without losing data. You can even switch graph types and *D-Graph* produces the new format without

GDOS for printer output, and you can make the graph fill the page, or specify where you want it printed at its normal size. Graphs can be saved in many formats – IMG, DOO (a basic 32K screen dump), PI3 and even MAC and IFF. The preferable choice is to use the GEM metafile format for vector graphics if your programs support it, so you don't lose quality when rescaling the graph. **stf**



■ Here you can change the styling of your graph to suit your needs, all from one dialog box.



■ We've created a "coin" graph here, a basic bar-graph with data represented by stacks of coins.

Dragon Graph

£75 16/32 Systems
 0634 710788 hard drive
 installable; 1MByte RAM;
 TOS 1.4 or later

Highs

■ Very easy to use,
 produces high quality
 results, supports all
 popular formats.

Lows

■ Too expensive
 for what it does.

What else?

■ HyperChart, from
 Atari 0753 533344.



BEGINNERS GUIDE TO STOS



A package that promises to be gentle with you as you take on STOS programming

Learning to program your ST is undoubtedly a rewarding and fascinating business, unfortunately it can also be an intensely frustrating experience. It's very easy to spend long nights staring at the same bit of obstinate code trying to figure out why it refuses to work. You need a gentle initial introduction or you might be scared off the whole thing for life.

The Beginners Guide to STOS Basic aims to take you from a stumbling absolute beginner to a competent *STOS Basic* programmer with the minimum of bloodshed. *STOS Basic* has been around for a while now and

is a slightly idiosyncratic but powerful version of Basic. It has lots of specialised commands for controlling

"It gives you a substantial knowledge of the basics"

graphics and sounds and is an ideal package if you're a novice coder. *The Beginners Guide* is a daunting package

at first sight. There is a 600 page ring-bound manual and two disks. It's in fairly big print and takes things slowly, subject by subject.

Your hand is held through basic principles and then onto a series of tutorials. Everything is accompanied by examples of code which are also on the disks.

Things start at the very beginning with a chapter on using the editor and the basic operation of getting a program to run. The very first example is getting something to print on the screen.

Subsequent chapters explain the use of colour, variables, numeric functions and control loops. Each area is explained in detail. The chapter about variables takes five pages to explain the basic principle before moving onto different variable types. By chapter Seven you are ready for your first program, a very simple

Guess The Numbers game. The Chapter starts with the bold statement that writing a program is easy. Which it is. Programming is a very logical series of simple commands. Writing a very good program is less easy but you have to start somewhere, don't you?

Hello, World

By Chapter 20 you are ready to start on a more serious shoot-'em-up. Don't expect any wonders though, the programs are all simple and are designed to introduce various aspects of using *STOS*. All the main areas are covered from graphics and sound through to file handling. The pages are littered with encouraging comments like: "It might look complicated but it's really very simple."

Even if you ingest and absorb the entire guide you will still have a lot to learn. Some aspects of *STOS* are ideal to start with but need to be scrapped if you go on to more advanced things. Games like *Ozone* represent the very best in *STOS* games programming and don't use the methods outlined in the guide. It's not a complete course in *STOS*. It gives you a substantial knowledge of the basics and enough experience and confidence to use the *STOS* manual to learn new commands

The Beginners Guide to STOS certainly lives up to its title. At £40 it's a trifle expensive too, costing more than *STOS* itself. But if you've got *STOS* sitting around doing nothing because of the initial shock the complexities of programming gave you, then *The Beginners Guide* is ideal.

CHRIS LLOYD

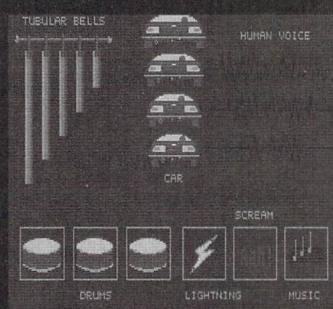
Include these fabulous recipes

Integral to the STOS Beginners Guide is a series of tutorials that build into complete programs. It's an ideal way to learn structured coding and the range of commands. Each program is explained in depth and by the end of it you should have a firm grasp on the basics of a program's construction

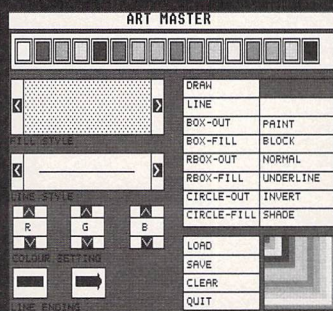


■ This is a simple educational shoot-'em-up called *Shoot the Spook* to introduce animated sprites and collision detection. Things start to get more complex at this point.

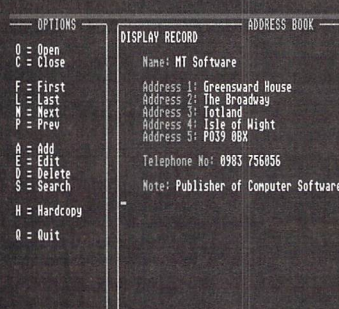
■ What you were all waiting for - alien blasting. *Alien Attack* has you using your mouse to kill waves of little foreigners.



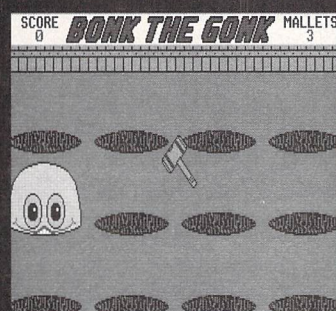
■ An example of a program using sampled sounds is included. *STOS Basic* needs the *Maestro* extension to handle these although *The Guide*, unfortunately, doesn't cover it.



■ A project every programmer attempts at some stage: an art package. *STOS*'s powerful range of graphics commands come into their own here making features like cutting and pasting blocks very easy.



■ Something a little more serious, a database. It covers all the basic techniques of opening and closing files and getting data in and out of them. Vital stuff.



■ *Bonk the Gonk*, a particularly cruel game which involves hitting small mammals with mallets. A good example of a simple game that *STOS* can easily handle that would involve some serious coding using any other language.

Beginners guide to STOS

£39.95
MT Software
☎ 0983 756056

Highs

■ Clearly written and gentle introduction to *STOS*.

■ Plenty of tutorials.

Lows

■ A bit too simple in places.

■ Leaves a lot still to learn.

■ On the expensive side.

STEERING
76
STEERING

RAY AND TRACE



The complexities of script files, lighting positions and texture mapping challenged your intellect and artistic skills. Here are the best entries from our compo



Raytracing enables you to create the most realistic pictures possible on your ST or Falcon, and when we gave away the *Persistence of Vision* ray-tracer back in issue 49, we were giving you the chance to prove that – and you did.

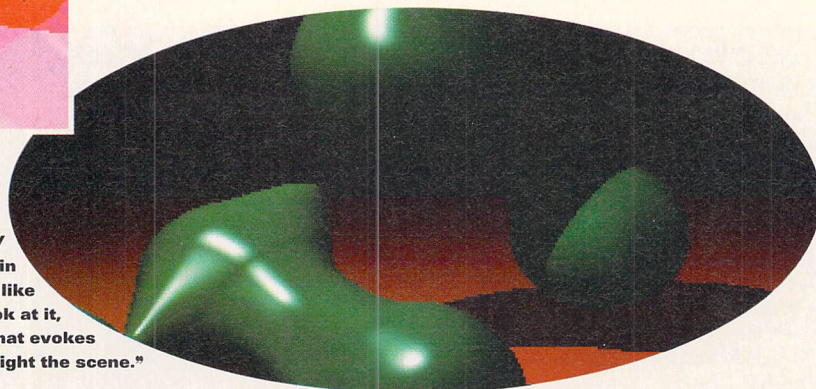
With the added incentive of £100 up for grabs you set to work and got to grips with the occasionally difficult task of unraveling

script files aiming for your reward with brilliant images. Some of the results were truly stunning – here we bring you the best of the bunch and some of the others as well, just so you can see how much creative potential there is

If you haven't got the issue with the *Persistence of Vision* ray-tracer on it and you'd like to give tracing a go, turn to page 47 and order your issue now.

THE CLOWN BY COLIN RICHARDSON OF KENT

"After a great deal of sweat and tears, this is the best I could do in four weeks. My ST has been on nearly every night – raytracing! I've read the PC version of the manual backwards, forwards, sideways, inside out and even the right way round and I still couldn't get the hat right! The *POV* file is very simple – just some nested spheres, a few triangles, some boxes and that bloody hat... it started about two weeks ago, I'd mapped out all the co-ordinates, figured out the sphere, box, triangle and cone positioning, traced it, tweaked it, and tweaked it again... the triangles, boxes and cubes looked brilliant but what about that bloody hat! First I couldn't get it off the floor, then it was like a giant bow tie at the clown's feet then it was like giant feet at the clown's feet and so on, but it was all still on the floor, then I got it the right size and shape but it was still on the floor... eventually I moved everything below the hat!"



WOMAN BY LENNART ÖSTERMAN OF SWEDEN

"Thank you very much for sharing the wonderful *POV* raytracing program with us – it's a delight! Since I got it, all I do is think and eat *POV* raytracing. When I create computer graphics, I'm mostly interested in creating something new, not in copying some that already exists, like objects or pictures. 'Woman' may seem very simple when you first look at it, but what is important is finding the right colours – a shape that evokes some kind of feeling, and the right angle to light the scene."

THE COLLECTED WORKS...

The four pictures here were all raytraced by Philip Matthews of London SW18 – talk about ambitious!



COURTYARD

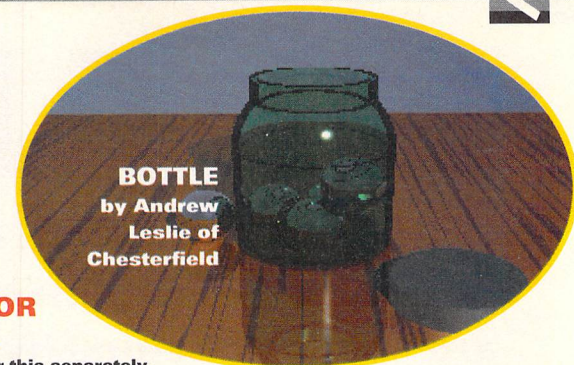
The light coming from where you're positioned gives the whole thing a rather eerie feeling – and the whiteness of the fencing is very emphasised against the shadowyness of the rest of the scene. A very complex image almost bordering on the professional level.



RINGS

Pillars decorated with the marble texture mapping surround an intricate set of rings. The colours here look very clean, highlighting the shapes.

REVISITED



BOTTLE
by Andrew
Leslie of
Chesterfield

CHURCH BY NATHAN TAYLOR OF CORNWALL

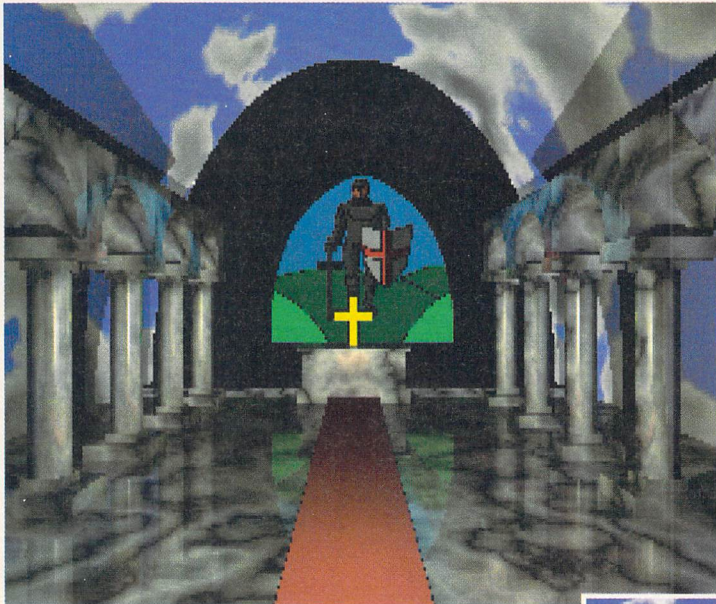
"I defined each object for this separately, then gave the whole thing a definition then duplicated the pillars and arches down each side having decided what the whole thing was going to look like it was designed with a pencil on graph paper. The roof is a big cube with a cylinder taken out then mapped with the cloud texture. I drew the window using *Degas Elite*, save as a .PC1 loaded into *Prism Paint* then saved as IFF format uncompressed. I tried to use the Texture map on the Window .IFF but *POV* would have none of it, never mind.

I found that if the **COMMAND.TOS** is set from the **INSTALL.APP** on the Desktop you are able to run *Protext* and also *Photochrome* from within it, returning back when you quit - before they would run but there was no mouse pointer - which does make loading a bit on the tricky side!

I've also found that the **RAWTRACE.BAT** is incorrect - if you set it to dump not raw, that is -

```
pov68000 -w%1 -h% +v -d +x +fd +b1 -a +g9
+!includes +!graphics +!scenes -!%3.pov -o%4
```

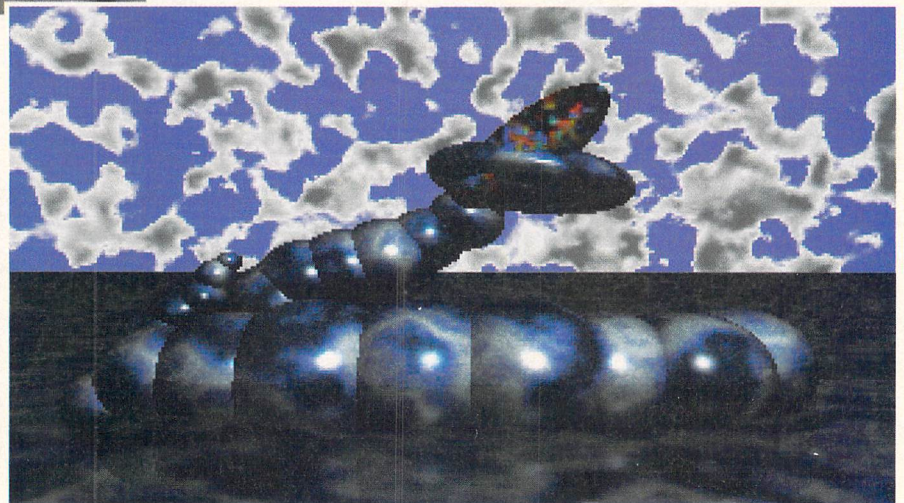
This enables you to trace smaller pictures (80 x 50) and still be able to trace them from *Photochrome*."



BLOBBYSNAKE BY STEVE ATTWOOD OF THE WEST MIDLANDS

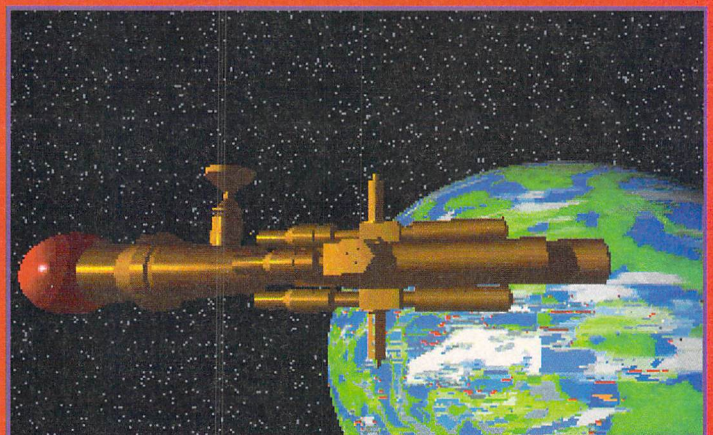
"Although this is only a load of spheres and a couple of ellipsoids, it does look pretty - OK, the head isn't quite right - that is the intersection between the two ellipsoids, but there isn't time to run it again!

A tip - if you keep getting Out of Memory errors and so on when you're trying to create complex objects and you're using the **COMMAND.TOS** command interpreter to launch the **POV 68000** program, try this: rename **COMMAND.TOS** to **COMMAND.PR**, place it in an Auto folder and reset your ST. You then get the {A} prompt, try running **TGATRACE** etc to render your image. By auto-booting **COMMAND.PR** it frees up anything between 30 and 70K of RAM, making the difference between whether your raytrace runs or not."



OBELISK

The most popular shapes are used here - spheres and cylinders - yet more marble pillars and a sphere along with the sky giving a sort of fresh air outdoors feel to the picture.



SHIP

Up in space now looking down on the earth from the ship up above. Great contrast in colour even if the subject is a slightly overused one in the world of computer art.

ST ANSWERS

Connecting CD-ROMs, curing viruses, PC compatibility and many other questions are expertly fielded by the ST Answers crew

THE STF ADDRESS

Send all your ST related problems to ST Answers, *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW. Please indicate the type of problem on the envelope.

BEGINNERS



If you have bought your ST recently and you're not quite sure about which bit goes where, you need help.

COMMS



Communication is the buzz word for the '90s and is becoming a buzz word for ST Answers. Check it out here.

DISKS



Floppy disks spin at incredibly high speeds, so something's bound to go wrong with them at some stage.

GAMES



If cheating at games is your thing (tut, tut) you're better off turning to page 46 for Gamebusters.

GRAPHICS



Having a few problems with your graphics package? And you're not quite sure where to turn to. Well, look no further.

HARD DRIVES



It's hard, very fast and can store a hell of a lot of data. Sometimes though, it causes unsolicited errors.

PRINTERS



Using a printer is the easiest thing in the world... until your paper gets chewed and big black blobs start appearing.

PROGRAMMING



Whatever language you use, at *ST FORMAT* we have the experts to tackle your particular programming nightmare.

SOUND



You're lost in music, no turning back... and all that Sister Sledge stuff. Look for this logo if you're into sounds.

ST PROBLEMS



If you're not quite sure what you're looking for, or not quite sure what your problem is, look out for this logo.

Co-processing



I am considering adding a 68881 co-processor to my Mega STE and have a few questions to ask. Would all software benefit from it or would the program have to be specially written? Does the co-processor speed up the screen updates in *Calamus*? Where can I buy the 68881 co-processor that was mentioned in the news article in *ST FORMAT* 50?

Philip Hough, Newport

stf: Co-processors are only used by specially written software, if a program doesn't know that the 68881 is in your Mega STE then it can't use it. Unfortunately *Calamus* falls into this category, it has no co-processor option. The 68881 costs £52.88 and

■ Sadly, the *Chaos Engine* demo didn't work on some older STFM's. It's still a brilliant game though, so go and get it.

the 68882 costs £76.38, from CGS ComputerBild on ☎ 081 679 7307.

Chaos chaos



Is my Cover Disk faulty? I have tried to decompress the *Chaos Engine* demo from issue 49 and it doesn't work. The demo resets my ST in a few seconds when I run it. I have a 1MByte STFM.

L D Sanderson, Peterborough

stf: No, your Cover Disk is fine. Unfortunately our *Chaos Engine* demo

doesn't work on some older 1040 STFM's and upgraded 520 STFM's. The full version of the game works perfectly on all 1MByte STs including STFM's, so you can buy it.

Keyboard killer



I have a problem with a virus inside my STE. I can only use the first five keys on each line of the keyboard, the other keys either don't work or display random ASCII characters. I have tried various virus killers but they don't work. They deal with infected disks and not my



STOS CORNER

Stuck on your STOS? Billy Allan provides the solutions

Sound techniques

Could you please tell me how to get *ST Speech* to work from within *STOS* and whether you can play *Quartet* music from within *STOS*? How do I run animations from *STOS*? I own *Animaster* and *Cyberpaint*.

Maximillian Worth, Bognor Regis

stf: There is a PD disk which shows you exactly how to use *ST Speech*, it includes a special version of *ST Speech* for *STOS*. You can get it from Floppyshop (☎ 0224 586208) on disk LAN 75. There is PD program by ZSD which enables you to play *Quartet* music, also available from Floppyshop on disk number MUS 3687. We don't think there is a program which displays SEQ files from *STOS*, though if anyone has one then please let us know!

Interzone inc

I have recently come across an unusual bug in *STOS*. When you use the CLEAR command in an .ACB file and you try and call it for the second time, a row of black holes appears down the left side of the window and the message "Editing Program 5" comes up on the screen.

If you then press HELP again you can now list the accessory even

though this is usually impossible! Do you have any suggestions?

A M Marsh, Kent

stf: Well, you certainly get the prize for "Most Obscure Bug of the Month"!

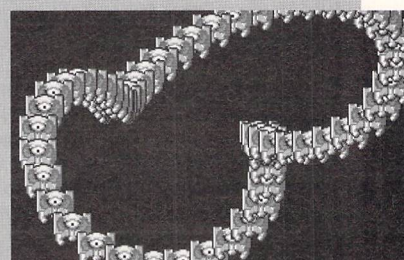
Unlimited edition

How do I make one of those "infinite" sprite screens. I'm sure there is a bit of cheating going on!

Lawrence Bender, Inverclyde

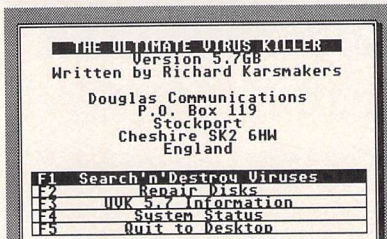
stf: "A bit of cheating" is an understatement! The way they work is to draw the sprites without restoring what was underneath them before they were drawn, as normal. If you then keep flicking through a series of different screens in a loop it appears as all of the trails left behind by the sprites are in fact moving! This how to do it.

```
10 key off : hide : curs ↓
   off : mode 0
20 bob 0,0,320,200,0,1
30 reserve as work 10,32000*4
40 dim SCR(5)
50 D=palt(start(1)) : wait vbl
70 fill start(10) ↓
   to start(10)+length(10),0
80 X#=25.0 : Y#=30.0
90 SCR(0)=back : ↓
   SCR(1)=physic ↓ :
   SCR(2)=start(10)
91 SCR(3)=start(10)+32000 ↓ :
   SCR(4)=start(10)+64000
```



■ The sprite is not erased when it is moved, giving the impression of multiple images on-screen.

```
92 SCR(5)=start(10)+96000
100 CNT=0 : G1=15 : MRK=0 : ↓
   G1#=rad(G1)
110 rem MAIN LOOP <
120 logic=SCR(CNT) : ↓
   inc CNT : if CNT>5 ↓
   then CNT=0
130 X=(X#*sin(G1#)) ↓
   +Y#*cos(G1#))+150.0 : ↓
   Y=(X#*cos(G1#))-↓
   Y#*sin(G1#))+80
140 inc G1 : if G1>359 ↓
   then G1=0
160 inc MRK : if MRK>359 ↓
   then MRK=0
170 G1#=rad(G1)
175 X#=X#+sin(rad(G1*2))*2
176 Y#=Y#+sin(rad(MRK*3))
180 bob logic,start(1),0,X,Y,0
190 physic=logic : wait vbl
200 if inkey$<>" " then ↓
   goto 120
210 default : end
```

■ **The Ultimate Virus Killer** is brilliant for fixing dodgy disks, but it's not so hot at repairing faulty keyboards.

ST itself. Is there a virus killer that deals with my problem?

Paul Fowler, Merseyside

stf: No, there is no virus killer that can sort out your problem because you don't have a virus in your machine. Your STE is suffering from a faulty keyboard – a hardware problem. A virus is a small program and disappears when your STE is turned off. Contact Ladbroke Computing on ☎ 0772 203166, they can sort it out. Ladbroke have a minimum repair charge of £35.25, the repair may cost more depending on what's wrong.

Video star



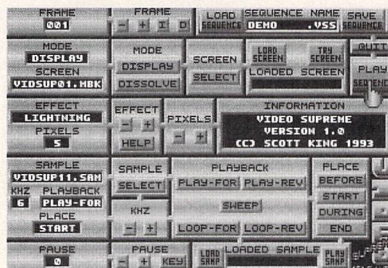
I have a Fujix camcorder and I am producing videos with it.

How can I combine my ST and camcorder for editing and titles? I haven't managed to find any information on this subject.

B Gray, Lincs

stf: The only video editing software and hardware that we know of is made by Syntronix (contact ☎ 0332 298422), they have a range called Editman Super. The EX 300 enables two Super VHS videos to be connected together for editing frame-by-frame. It costs £399 and you need two S-VHS videos to use it. Editman Super is designed for semi-professional use, as yet there isn't a program specifically for amateurs.

You can create video titles simply and quickly using Video Supreme, £14.95 from Goodman International (contact ☎ 0782 335650). Turn to page 87 for a review of the software.



■ **Video Supreme** enables you to create stunning titles for your videos using Degas and Neochrome graphics and sound samples. You can see that over 300 fades, wipes and merges are available in your intro sequences.

Which TOS?



I have just contacted Silica Systems intending to order a 1040 STE. On enquiring if TOS 2.06 was installed in the 1040 STE I was told that this version of the operating system was only installed in the Mega STE which is no longer made. I know TOS switchers are available to flip between operating system versions, but what TOS should I expect when buying a new STE?

David Stretton, Walsall, Staffs

stf: All new 520 and 1040 STEs have TOS 1.62 installed as standard. If you want to buy an STE already upgraded to TOS 2.06 then contact Compo Software on ☎ 0480 891819, they can upgrade an STE to order before sending it to you so it remains under full 12 month warranty. It's best to speak to Compo Software directly to discuss your exact requirements as prices vary depending on the upgrades fitted.

Falcon stereo output



I have my STFM connected to my stereo system using a Monster Sound Cartridge. Is there a similar device available for the Falcon030?

Kris Hyde, Ross-on-Wye

stf: No, the Falcon doesn't need a cartridge for stereo sound output because it has built-in stereo capability. There is a 3.5mm stereo jack socket on the Falcon that you can connect directly to your stereo system.

Blitter questions



Can TOS 1.0 handle a blitter chip and do older games crash when it is in use? I have an old 1985 STFM and I want to upgrade it. Can I add STE capability to my old STFM?

Dave Harley, Somerset

stf: If you have an old STFM with TOS 1.0 then there is no place on the circuit board to install a blitter chip. If you want to upgrade your STFM with a blitter and other STE components you should contact Gasteiner Technologies (☎ 081 365 1151), they can supply STE motherboards for £99 not including RAM. All other STE chips are included on the board. To install it in your old STFM case takes a bit of case cutting to accommodate the extra ports; stereo output, analog joystick ports and a relocated TV output. You simply transfer the power supply and disk drive to your new motherboard.

If you don't want to hack up your old case then Gasteiner also supply STE cases for £28, although by the



GFA CORNER

If you're having problems with your programs, Mac Marsden's the expert to turn to for advice

Enterprising data

Could you please explain how to open a file by using Random Access, and how to save and load data using this format?

R Tew, N Yorks

stf: With Random Access you have to specify how many overall characters are to be saved and loaded with each file, and also how many characters each field in every record takes. Take a Name and Telephone number file, where we have allowed 20 characters for the name and 15 characters or the telephone inputs.

```
1.OPEN "x",#1,"FILENAME.EXT",35
2.FIELD #1,20 AS N$
3.FIELD #1,15 AS T$
4.INPUT "NAME :";NAME$
5.INPUT "TELEPHONE :";PHONE$
6.LSET N$=NAME$
7.LSET T$=PHONE$
8.PUT #1,X
9.CLOSE #1
```

Where line [1] opens the file on disk and, lines [2 and 3] reserve 20 and 15 characters respectively for each field, lines [4 and 5] get your data to be saved, lines [6 and 7] set the characters to the left hand side of the string, line [8] saves the record (X) to the file, line [9] closes the file. To load in your data use lines [1 to 3] then GET #1,X, then close the file with line [9]. To make use of this style of saving and loading data it is best used from within a loop.

Functional procedure

I have seen in some program listings the command "FUNCTION", could you please explain how this differs from an actual PROCEDURE?

Malcolm Higgs, Nottingham

stf: The FUNCTION command with ENDFUNC form a subroutine which can be called many times from within a program. It is a useful addition to any program, used like a PROCEDURE, but a value may be returned with the command RETURN X. For example, if our program needed the square of a number many times then we could use the following program;

```
1.INPUT F%
2.PRINT "THE SQUARE OF ";F%;" IS ";
3.F%=@SQUARE(F%)
4.PRINT F%
5.FUNCTION SQUARE (F%)
6.F%=F%*F%
7.RETURN F%
8.ENDFUNC
```

Line [1] gets the number we wish to square, Line [2] prints what we are doing, line [3] calls the FUNCTION, notice that it is a slightly different format than what we would use to call a PROCEDURE, line [4] prints the result of the FUNCTION, line [5] is the beginning of the FUNCTION, line [6] does the mathematics, line [7] returns the mathematical result, that is if F% held 12, it would now hold the value 144, line [8] ends the FUNCTION.

Tip of the month

A problem we have recently come across is that when using ATEXT 1,1,2,"ST FORMAT", sometimes only part of the text message is printed on the screen, that is, "RMAT". The cure for this is to set ACLIP before using ATEXT, to give the largest possible screen area. ACLIP defines a "clipping" rectangle, to which "Line A" screen outputs are limited. Using ACLIP A,X,Y,X1,Y1 where; A = 0 clipping switched off A = (Any non zero number) on X,Y = top left coordinates of clipping rectangle X1,Y1 = bottom right coordinates of clipping rectangle

time you have paid for a new STE motherboard (£69), STE case (£28) and 1MByte of RAM (£20) you could almost buy a new 520 STE from Silica Systems (☎ 081 309 1111), they are selling them for £149.

Desktop memory



How much memory would TOS 2.06 take up on the Desktop of my 1MByte STFM if I added a TOS switcher?

Brian Barrington, Avon

stf: Using TOS 2.06 in your STFM doesn't take up any more RAM than your old version of TOS, or so little more that it doesn't make any difference at all to your software.

Wipe out



I have a second-hand ST and I have somehow wiped the Language disk so I can only play games on it. Where can I get a replacement disk so I can learn to use the ST properly?

Stephen Pike, Norwich

stf: You don't actually need the Language disk to use your ST for software besides games! The Language disk contains a version of BASIC and some other utilities to run on your ST, the ST runs OK without them. Atari UK customer services can supply a replacement Language disk, give them a call on ☎ 0753 533344. If you want to learn more about your ST then read ST FORMAT every month, we cover all

aspects of the ST. If you want a good book on learning to use the ST then get the Atari ST Explored direct from Kuma Computers (☎ 0734 844335) for £9.95, or you can order it quoting ISBN 0-7457-0141-8.

What's the difference?



What's the difference between an SVGA monitor and a VGA monitor, and what resolutions are possible on the Falcon using a ScreenBlaster and these monitors?

William Baldwin, Birmingham

stf: The difference is in the screen resolutions, a VGA monitor has a resolution of 640x480 pixels and an SVGA monitor has a resolution of 1080x800 pixels. There are so many resolutions possible with ScreenBlaster that it's impossible to list them all here, the maximum resolutions available depend on the capabilities of the individual monitors.

PC piccies



I have many of your picture conversion programs from Cover Disks, but I need a program to convert RAW, TGA, P11 and SPC pictures to PC compatible PCX, BMP, DIP or MSP files.

David Hampson, Chester

stf: The program you need is called GEM-View, it's a Shareware program available from any PD library – look in Essential Contacts on page 104. GEM-View converts all the file types you have listed to PCX or BMP files, for full details on using GEM-View turn to the Masterclass on page 94.

Slight incompatibility problem



I have a bare 120MByte IDE hard drive. Can you tell me how I can connect it to my ST and where I can get the parts?

Richard Kennedy, Worcs

stf: It is impossible to connect an IDE (Intelligent Drive Electronics) hard drive to an ST. All the host adaptors and hard drive kits available are designed to connect SCSI drives to the ST. Your best bet is to sell the IDE drive, or swap it for a SCSI drive, and buy a SCSI hard drive kit from First Choice Computers (£199) or Gasteiner Technologies (£166). Both kits contain everything you need to build your own drive except the SCSI drive mechanism. Give First Choice a call on ☎ 0532 319444 or Gasteiner on ☎ 081 365 1151.



ASSEMBLY POINTERS

Assembly problems bothering you? Tony Wagstaff provides the answers

Copy form...

I am trying to blit a NeoChrome picture to the screen using the VDI `vro_cpyfm` call, without much success. Could you tell me how it's done?

L J Russell, Ramsgate

stf: Although L is programming in C, the principle is the same in any language. First off we need to set up two Memory Form Definition Blocks, or MFDBs, which supply the VDI with information about the size and format of the source and destination memory areas. Each MFDB is 20 bytes long, the first long containing the address of the start of the data area, where the NeoChrome picture data is stored in memory for instance. If this is set to zero, the screen is used, and the rest of the MFDB is ignored. Otherwise the following elements of the MFDB, all word lengths, are used.

The first two words after the data address contain the width of the image in pixels then the height of the image in pixels. The next word contains the width of the data in words. If, for example, the data was 26 pixels wide, each line would still need to be stored in 32 bits, or exactly two words of data. Following this comes a standard flag, set to 0 for `vro_cpyfm` indicating the colour bit planes are interleaved. Finally come the number of bit planes, which can be obtained from `vq_extnd` extended inquire in the fourth element of `intout` or `work_out`, and three words reserved for future use.

Having set the MFDBs, one for the source, and one for the destination, the top left and bottom right co-ordinates of the source and destination rectangle are placed in `ptbin`, (in C, the points array), enabling us to blit just a section of the total image. Make sure the two rectangles are the same size, and that they fit inside the total image space, or anything could happen! Lastly the mode is set to the logical operation, which is the same as for the Line A `BitBlit`.

...and transform

Can you tell me when to use the VDI `vr_trnfm` routine?

stf: This call, similar to `vro_cpyfm`, is used to transform data that is machine specific into standard format, or vice versa, and is useful if you need to draw images on machines whose graphics format is unknown. In low res for example, the

first word of screen data contains the first bit plane of the first 16 pixels, followed by the second bit plane of the first 16 pixels, and so on.

The four bit planes are interleaved through word values. In medium res there are only two bit planes to interleave, which is why low res pictures look decidedly odd in medium res. `vr_trnfm` enables you to translate images between formats, even if you don't know what they are – programs written a couple of years ago wouldn't have known about some of the Falcon's resolutions.

Suppose you create an image in low res 32x32 pixels in size. Set up a source and destination MFDB for this with the standard flag set to 0, indicating we are transforming machine specific, interleaved, data to standard format. Now call `vr_trnfm`, you can pass the same MFDB for source and destination but this can get very slow, and your image is transformed into standard format. This is not interleaved, each bit plane contains all the pixels of the image, not just 16. Save this image data, and when you come to use it on an unknown machine, `vr_trnfm` it with the standard flag set to 1, since we're transforming from standard to machine specific, using the original dimensions (32x32), and `vq_extnd` for the number of bit planes, as above. This converts to the resolution of the machine it is running on. Finally, having checked your image fits into the screen area, use `vro_cpyfm`, again using the original dimensions and `vq_extnd` in the source MFDB, with the first long of the destination MFDB set to zero to move this image to screen.

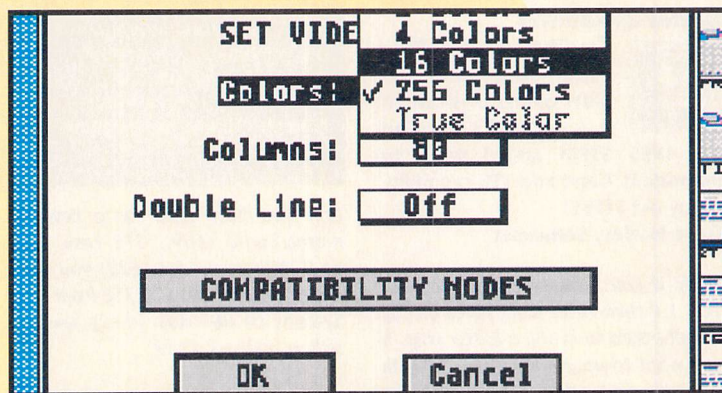
The only drawback with `vr_trnfm` is that images are often stretched and squeezed between resolutions. Since high res is the same pixel height, but only half the width of medium res, images appear twice the height when transformed from high to medium, as can be seen with the Desktop icons.

Memory

How can a program tell how much memory the machine it is running on has available?

S A Benning, Wallingford

stf: The MMU memory configuration register, which takes the byte value at address `$FFFF8001`, can be used to determine the memory capacity of an ST. Bits two and three contain the size of memory for Bank 0, and bits nought and one the size of Bank 1. Both banks take the following binary values – 00=128k, 01=512k, 10=2mb 11=reserved. You need to be in supervisor mode to access this address.



■ Another way to speed up MultiTOS is to reduce the number colours to 16 instead of 256, you can do this from the Set Video option.

Speeding up



I understand that MultiTOS is "boringly slow." What is your opinion?
Petit Josef, Belgium

stf: There's no denying that MultiTOS is rather slow when compared to the standard Falcon operating system.

However, you can speed up the operation of the top application by inserting the following line in your MINT.CFG using a text editor;

`SLICES=3`

This provides more processor time to the topped application. Another way to speed up text scrolling and screen updates in 80 column mode is to change the video to 16 colours rather than 256.

Slow screendumping



I understand that an ST's graphics screen takes 32K of memory. If I perform an <Alternate> <Help> screendump it is 105

seconds before I can use the mouse again, yet if I use a 64K hardware printer buffer it still takes 50 seconds before I can use the mouse. I had expected it to take about ten seconds before I could use my ST again. Why does it still take so long to send the data?

N W Scott, Cheshire

stf: Although you have a 64K hardware printer buffer it still takes time to send the screen information to the buffer 1byte at a time before freeing your ST to carry on with other tasks. If you use a software printer spooler a much greater speed increase is achieved, this is because the screen data is shifted almost instantly to another area of memory from where it is sent to the printer. Your ST is able to continue with other tasks after

FALCON

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around ten seconds while the printer chugs away. Spoolers are available from all PD libraries, try the ST Club (0602 410241) disk PTR.15, it's crammed with printer utilities and costs just £1.45.

Take control



How can you insert printer control codes for the Canon BJ-10ex into Protext 4.3?

T Richardson, Northumberland

stf: Changing dipswitch 12 on the printer to ON flips it to Epson LQ mode. You can now use the Epson LQ printer drivers supplied with Protext to drive the Canon BJ-10ex.

version of GEM and are not compatible with the ST.

Give me more



Where can I get more fonts for Write On?

Peter Taylor, Portsmouth

stf: Call the ST Club on 0602 410241, they supply a program called C-Font that converts Calamus outline fonts to the Write On font format. You can also get Calamus fonts from the ST Club, they have 20 disks of PD Calamus fonts ready for you to convert. ST Club disks are £1.45 each and C-Font costs £9.95.

Going CD-ROM



I have a Mega STE with internal hard drive. Can I add a Mitsumi CM0005 Multi-Session CD-ROM drive by using a Supra SCSI host adaptor? I have removed the hard drive mechanism and I am left with a 50-way socket on the ribbon cable and a power supply socket. Does a CD-ROM drive work with this setup?

Christian Payne, Devon

stf: The SCSI host adaptor can drive a SCSI CD-ROM drive as long as you get the proper driver software for it. The ICD Professional Hard Drive Utilities are supplied with CD-ROM drivers and work with all STs, you can get them from Ladbroke Computing (0772 203166) for £39.95.

PC GEMs?



I have seen GEM software advertised in a PC magazine, Deskpress 1.2 and Ventura Publisher GEM 3.0. Do these work on an ST?

William Bailey, Cardiff

stf: No, they don't. These are programs designed to run under the PC

Blankness



I bought some blank disks and found that they were already formatted and could be read by both my ST and my PC. My ST cannot normally read disks formatted by my PC and vice versa. How is this possible?

Eric Mann, Winchester

stf: Your ST should be able to read disks formatted on your PC without any problems, the ST disk format is based so closely on the PC format that they are almost identical. Try formatting a few disks on your PC to nine sectors and 80 tracks, this is the standard format for 720K PC disks, and your ST can read them.

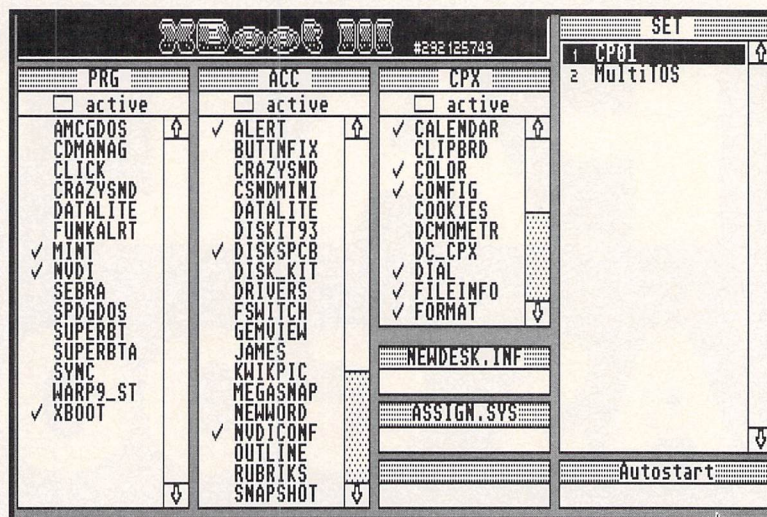
Falcon and ST drives



I have an ST and a Falcon and would like to get an external hard drive. Is there a hard drive with a connector so that I can use it with both machines?

Scott Clark, Scotland

stf: The ideal drive for you is one of the FA-ST ICD range from First Computer Centre. Their drives have an internal host adaptor for STs and also



Swapping drives between machines is possible if you use a boot manager like XBoot 3, it enables you to choose the programs and Desk Accessories that you want to use.

have a SCSI connector for the Falcon, so you are able use the drive with both machines.

However, if you just swap cables and use the drive on your ST after using it on the Falcon you could run into problems because of the differences in the operating systems. The Falcon versions of utilities, Auto folder programs and Desktop files are not

always compatible with the STE or STFM. You have to use some kind of boot manager like XBoot 3 to select the correct setup for the machine connected. The 52MByte FA-ST 52DC drive from the First Computer Centre (0532 319444) costs £350 or the 130MByte FA-ST 130DC costs £400. XBoot 3 from HiSoft/AVR (0525 718181) is £34.95.



MUSIC AND MIDI

Having some problems with music and MIDI? Then Andy Curtis is your man

Memory worries

I have recently borrowed a 520STFM and obtained some PD sequencing software. I already have a MIDI keyboard and I'm interested in purchasing my own ST setup with, perhaps, Steinberg Pro24. I need to know if it is best to get a 520STFM or a 520STE with or without a memory upgrade. My confusion is added to because the STE is no longer made so will software soon dry up completely? I would really welcome your help.

Ian Puttock, Kent

stf: If you really are after Pro24 then the only way to buy it new is to purchase the 1040STE Music Maker package from Silica Systems (081 309 1111), currently on offer at £199. This means that you have the 1040STE – a great starter computer for MIDI composition. The STE is still being made in quantity and is likely to be until November. With exciting MIDI software being constantly produced and updated the ST is still head and shoulders above the rest in the MIDI arena.

Contemptible compatibility

When I buy my STE I would like to buy a reasonable monitor as much of

the MIDI software requires a good level of resolution. I am not clear as to which is the best for me. I like the occasional arcade game and so would prefer colour but do not want to invest, for example, in the Atari SC1435 if this is not compatible with an IBM PC which I might be able to afford in the future.

Blandford Hayes, Norwich

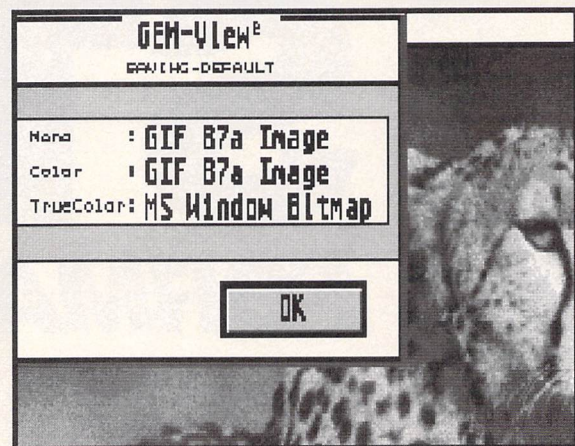
stf: If you simply fancy an arcade blast from time to time then why not just hook up to a standard TV with the RF lead supplied with your ST? This leaves you free to buy a dedicated high resolution Atari monitor for use with your MIDI software. These can be purchased from Ladbroke Computing for £140 (0772 203166). As for PC compatibility, all we can suggest is that you look into what your ST can do for you. Now then, do you need that PC?

Score editing in colour

Is it possible to use Notator or any other MIDI program with score edit on my TV set?

Brendan Goodjohn, Ely

stf: No. You need an ST as well as a TV set. If your ST has at least 1MByte of memory then you can use Breakthru from Gajits Software which has an excellent score edit facility that looks beautiful on a standard TV set. See the special offers on page 104 for details on how to order Breakthru.



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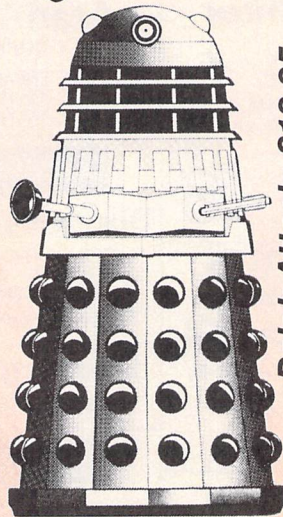
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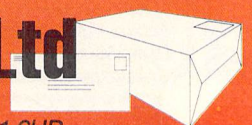
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SCREENPLAY

We've got a few stonkers in store for you this month... walk this way with Andy Nuttall through the best of 'em



DOGFIGHT

MicroProse in non-simulation shocker! The Big M's latest offering puts you in any dogfight anywhere in history - from World War One right over to the Gulf War, with a choice of 12 different aircraft. Unlike most flying games, you don't have to bother with all that landing and taking off business: this is pure arcade action, and it starts on page 68.

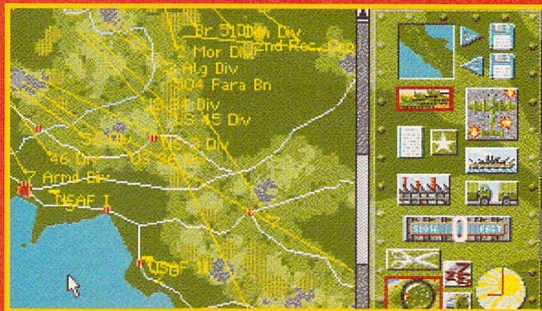
ISHAR 2

"Hang on, didn't you review this one a couple of months ago?" you cry. Aha, but this is the extra-super-smashing Falcon version, and it's great. Find out all about it on page 72.



HUCKLEBERRY HOUND

"Oh, my darling; oh, my darling; oh, my darling, Clementine..." Hanna Barbera's cyan dawg gets the full alternative treatment (that's a platform game between me and you.) Find out if it's better than Dr Who: Dalek Attack on page 75.



MISSIONS DISK

We slated Campaign a few months ago for being buggy and crashing all the time. Empire have ironed out those bugs, and released a new set of missions to boot! Step into Europe and North Africa on page 73.

Hints, tips and cheats



Blimey! These cheats and tips are getting more popular by the month. We've got a whopping four pages of tips for all the best games starting on page 80, and a full page dedicated to Captain Blunder on page 84

The second installment of Renegade's play guide to the brilliant Chaos Engine.

- The rest of the level codes for Psygnosis' Lemmings
- The final part of our spookily full solution to Elvira 2: Jaws of Cerberus.
- Planet and computer codes for Mindscape's classic Captive, giving more power to your droids.
- A really weird cheat for Xenon

Captain Blunder's pages Availability

What is it? Where did it come from? Where has it gone to? Direct questions like these towards our very own Cap'n Blunder, and he'll scour the countryside to find "it."



Cheat

"Oooh, no, I couldn't bring myself to do that." Come on, there's no shame in it. Games can be difficult for all of us. Except CB, that is, because he knows all the best cheats.



Techie

What happens if your Chaos Engine disk goes down when you're almost at the last level? Or your ST bombs out in the last stages of Gunship? Let Blunder know all about it, he's your man.



Tip

A bit like a cheat, this one, but smaller and less of a giveaway. Useful if you only want to know the answer to a specific problem. Mr B's got loads of them.



General

If you've got an enquiry which doesn't fit into any of the categories above, it comes under this inspired heading.



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 520STFMs unless otherwise stated.

DOGFIGHT

Chocks away with MicroProse's latest simulation, enabling you to fly against the Red Baron or the Red Army. Andy Nuttall reaches for the skies...

"In what seemed like no time at all I was flying, wind in my hair and the sharp smell of fuel bringing back memories of the last time I was up. My Camel was a good beast – I hadn't been up in her before, but she had a good pedigree. Like the pup before her she was strong and solid, but I was finding it difficult to manoeuvre her easily.

"Manfred Von Richthofen was up that morning as well, I remember. Nobody had really heard of him before, so I wasn't apprehensive at all – as far as I was concerned it was going to be just another dogfight.

"Suddenly, everything was quiet... Even my engine seemed to be making no noise – it was pretty scary, I can tell you! Then, in the distance, I could make out a small shape from just below the clouds. Then all at once it was upon me, and it was gone: a long, thin metal cylinder that made a whistling sound as it passed a few feet above my head.

"With thoughts flashing through my mind as to what the thing was, I decided to fly through the clouds to investigate. Pulling back on the stick, the Camel turned

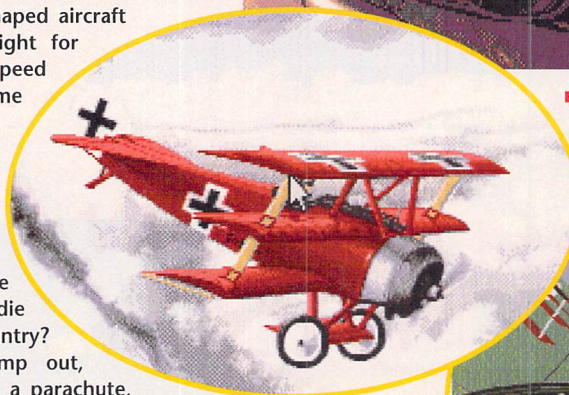
and rose up into the whiteness... In seconds I was above them, an image frozen in my mind that would stay with me for ever. A huge, dart-shaped aircraft heading straight for me at a speed which gave me no time to get away. Thoughts flashed through my mind: should I fly for the aircraft, and die for my country? Should I jump out, even without a parachute, and take my chances? Should I try and manoeuvre past him, and then get away quickly?..."

To find out what happened in the end of that little story-ette, you simply must play MicroProse's *Dogfight*. It puts you slap bang in the middle of an aerial battle with any number of enemy aircraft, all computer-controlled and hell-bent on your demise.

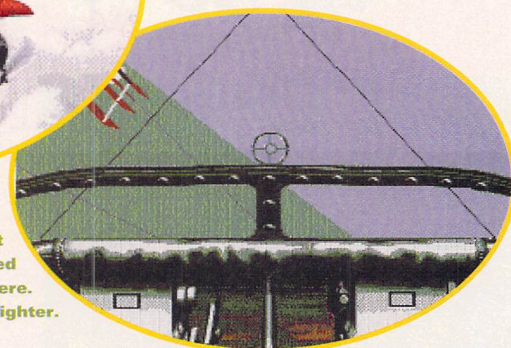
You can fly a Sopwith Camel, and you can set yourself against up five fighter jets – just to see what would happen, and to test your



■ Above: An idea for the What If? mode, where any type of planes fight each other. Left: One of Baron Von Richthofen's Flying Circus aircraft, guns blazing, swooping in for the kill.



■ If you look carefully, you'll just make out the Red Baron on the left here. Bloody fast, this blighter.



wits and skill more than any flight simulator ever has before. MicroProse call this a "What if..." scenario, because you can take any of 12 different planes from anywhere in history, and throw them together into combat.

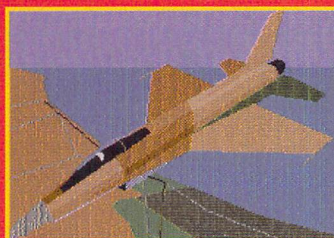
MicroProse are extremely keen for this to be described not as

a simulation at all, but an arcade game – because most of the technicalities such as taking-off and landing aren't there. You can begin a dogfight from whichever position you like: behind the enemy, above them, side-by-side, head-to-head or bounce from above. It's also more of an arcade-

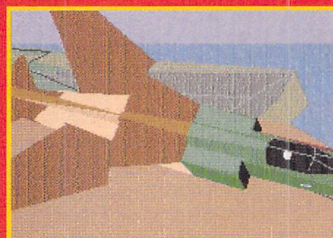
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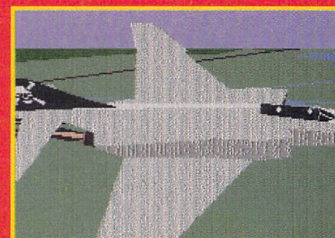
■ **North American F-86E Sabre**
A single-seat fighter-bomber which ruled the skies in the 1950s. Probably the first modern jet fighter, because of its computerised interception and afterburner system. Apparently it was the first plane to shoot down a MiG-15.



■ **F-16A Fighting Falcon**
Hang on, that sounded a bit train-spottery, didn't it? Wouldn't it be better to just put "my goodness, this one's a bit of a beast," or something. As it happens, this one is a beast – what with four Maverick missiles and 18 FFAR Rockets.



■ **Mikoyan-Gurevich MiG-15**
"My aeroplane's got no nose."
"How does it smell?"
"Er, a bit like diesel, really."
* The publishers would like to point out that they are in no way responsible for people's actions in response to that "joke."



■ **McDonnell F-4J Phantom II**
Marvellous. We used to have this one in Top Trumps years ago. It's got these missiles on it, which are dead hard and everything, but they're called "Sparrows." How we laughed – as did the enemy when one of these babies was launched.



■ *Dogfight* offers you a plethora of aircraft to fight with. As you can see, it doesn't only stick to one period, you can choose from anywhere in history!

style game because MicroProse have seen fit to make it one-player only. If there's ever a game which is crying out for a two-player option, it's *Dogfight*. Apparently there is a possibility that later updates of the game may have a two-player or a link-up mode, but it's doubtful.

The main reason to be annoyed about the lack of two-player mode is because your ST is so damn good at it. Even on Easy mode, with you given the advantage of being behind your enemy,

it's still incredibly difficult to out-maneuvre your foe. If you think that sitting in a Mirage IIIE or a Sea Harrier, and trying to shoot down a Fokker DR1 or a Messerschmitt is easy, then think again. These things fly so quickly your target has disappeared as soon as you locate it. "But why don't you just use a missile?" you say. Aha, it's because most air-to-air missiles are heat-seeking, and are programmed to detect the heat from a jet aircraft – so the heat from a propeller plane isn't enough for it to pick up. So,



■ The cockpit shot shows you all the instruments... but if you need to look where you're going...

FRIENDS, ER, POSSIBLY



■ Sopwith Camel

Aaaahhh, this is a bit of a dear, isn't it. Couldn't you just cuddle it, and call it Grandma? Well, matey, the Camel was up shooting things down before you were, er, born. Before your Grandad was born as well, probably.



■ MkII Supermarine Spitfire

Doesn't the spitfire remind you of a dog? If it was alive, it would probably be a bloodhound, or something – with a big cold, wet nose which it would put on your toes just as you went to sleep. Ah, they don't make 'em like they used to.

Five things with dogs in them

Sleepwalker

Ocean's excellent Comic-Relief cash – sorry – tie-in has a dog in it. He's called Ralph, and he likes swimming, jumping and saving his master. Eats anything, loves children (arrr!)

Huckleberry Hound

Hanna Barbera's Hound is most definitely a dawg, except that he's not like others. He's blue, you see, and he's also unfortunate enough to have a game made about him (see page 75.)

One Step Beyond

Smith's crisps make Quavers, and their mascot is Colin Curly, a dog with an extremely fat head and small

ears. And a yellow suit, sadly. He's the star of this game from Ocean.

Reservoir dogs

Quentin Tarantino's slightly disturbing gangster film has got a whole host of dogs in it. Seven, in fact, and they've got names like Mr Orange, Mr White and Mr Pink. Worth seeing, but not if you hate razor blades.

Man Bites Dog

Hailing from Belgium, *MBD* is a mock-documentary about a serial killer. In the nicest possible way, the documentary team follow him about as he kills people, and it all gets a bit graphic. But it's got a dog in the title, so it can't be bad.

for the first few attempts at knocking other planes down from the sky, you get knocked down from

"If there's ever a game which is crying out for a two-player option, it's Dogfight"

the sky. Lots, in fact.

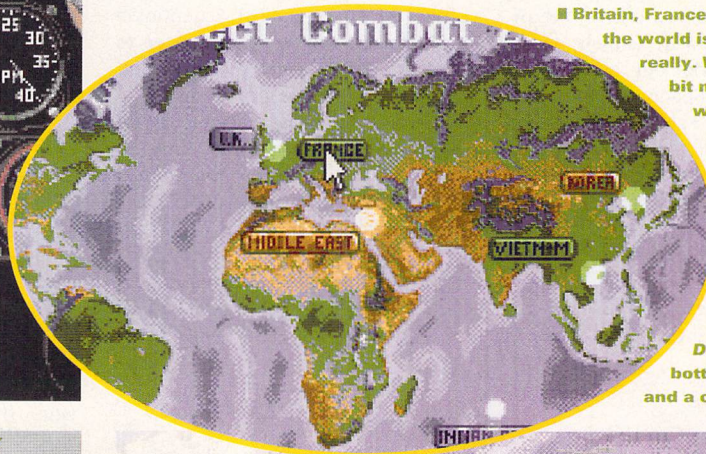
Fortunately, even though the game doesn't install onto hard

drive, there is no hanging around before you can go back into the air and try again. The presentation in *Dogfight* is where it scores most brownie points – it really is second to none, including other MicroProse games.

Impossible missions...

Once you've got the hang of flying around and shooting other planes down in Duel Mode, and tried meddling around with history in the What If? option, you can then go on to the really meaty part of the game. The missions.

These take place in six different scenarios: WW1, WW2, Korea,



■ Britain, France, Vietnam... the world is your oyster, really. Well, maybe a bit more of a whelk. But anyway, the point is that most scenes of great aerial battles can be reproduced using just *Dogfight*, two bottles of Squezy and a cup of water.



■ Hooray! The mighty panels of the Sopwith Camel win the skies once more... and the guns, obviously.

Decisive action and a killing instinct brings just rewards – another victory!

■ A typical view out of an F-16A Fighting Falcon. Unfortunately we couldn't bring you an enemy craft as well - we were flying too fast!



Vietnam, the Falklands and Syria. Each is well-planned, and as you would imagine it fits in well with the point in history. The WW1 strategy sends you out as one of a group of Sopwith Camels, with a view to taking out a couple of Observation Balloons and a Zeppelin. Lots of Fokkers are launched to try and wipe you out - this is generally where the ST-controlled Camels get shot down, leaving you to get the other targets yourself.

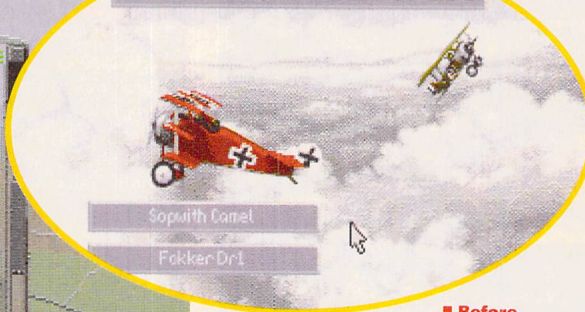
The Falklands scenario pits British Sea Harriers against Argentinian Mirages. The British Task Force is split into two groups, one

south of Port Stanley and one positioned north of Falkland Sound. Taking the role of the British, your mission is to defend both halves of the Task Force against Argentinian air attacks - with a priority given to certain aircraft carriers. (You're getting into this now, aren't you?)

As well as doing your heroic duty, you have to find time to destroy a couple of Argentinian defensive installations, so that the Task Forces can move in.

In the Vietnam mission, you take on the role of a USAF pilot with an order to knock out the Haiduong railway, along with some

Select Your Aircraft



■ Before every dogfight you are given the choice of a highly patriotic aircraft, or one which was at one time considered to be highly unpatriotic.

radar sites and SAM installations. You can set your group of F4 Phantoms up to patrol, attack, support or defend various sites, and they go off and get on with it while you just concentrate on completing the mission objectives.

The other three missions are similar to those - fairly simple if you're a flight sim addict, but not easy to complete. You can play the enemy as well, remember, so even when you finish the six allied missions, you've still got plenty of challenges ahead. This isn't a game you're going to finish in a hurry.

The main area which lets *Dogfight* down is the sound. OK, so the ST's capabilities in the aural department aren't supreme, but you expect something more than a dull

"The presentation in *Dogfight* is where it scores most brownie points - it really is second to none"

thudding sound when you fire your machine guns. To make it worse, all of the aircraft make the same noise when firing cannon-type weapons, and later aircraft make a dull "whoosh" sound when launching missiles. Oh, and not forgetting the crash when you die, of course, and the low hum of the engines, but that's about your lot - a distinct lack of atmosphere.

Dogfight is a bit of a risk for MicroProse. It's difficult to make a game of this type exciting, but by cutting out all the technicalities they've managed it pretty well. If you are into techie flight sims, you can add in details such as taking off and landing, but they've pitched it right for most people. It's a good game as it is, but if MicroProse add in a two-player head-to-head mode and a few more sound effects, we'll have a classic on our hands. **stf**

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To give *Dogfight* the best chance in life, MicroProse are giving away an Avirex canvas flying jacket, worth about £150, away in our amazing Dogfight competition. To further prove their generosity, they're lobbying ten copies of the game our way as well - one for the winner, and nine runners-up.

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- A "Eat lead, Fokker."
- B "Make tracks, MIG."
- C "Suck on this, Sopwith."

2 Again in WW1, flying in your Camel the peace and tranquillity is disturbed by a raving lunatic in a Flying Circus. What is the name of this dastardly chap?

- A Monty Python
- B Baron Manfred Von Richthofen
- C Che Guevara

3 In Britain, how do you spell "manoeuvre?"

- A Maneuver
- B Man over
- C Manoeuvre

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Dogfight

£34.99

MicroProse

0454 326 532

Highs

- Fast and playable simulation.
- Loads of missions to complete.

Lows

- Poor sound effects.
- One player only.

83
ESTIMATING



■ **Duel Mode:** fighting realistic battles against realistic enemy; **What If?:** putting your choice of any six planes into the sky at the same time; **Missions:** 12 storylines give you the chance to re-enact bits of history.

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ISHAR



Once again, this time on the Falcon, the people need someone to do battle with the forces of darkness

There's always someone spoiling things, isn't there? No sooner have the islands of Arborea become the kind of place you feel safe letting the kids roam around in, than a syndicate of odious misfits starts causing trouble. Your reaction is obvious. You round up a small group of adventuring types and go around hitting people who don't co-operate and nick their stuff. *Ishar 2* is a vast fantasy

and lots of sandwiches. Each character has a profession and various attributes and skills. You need a well balanced party to make it; a priest and a magician being essential characters.

If you've played the original *Ishar* you're going to feel at home straight away – the look and feel of the game is very similar. The method of spell casting has been improved and at last you get a map



Friendly looking bunch aren't they? The inns of *Ishar* are full of these ne'er-do-wells, dodgy priests and strange monsters. It's these guys you have to choose for your team.

role playing game with all the magic, monsters and strange old men in lurking in the woods that you would expect.

There's nothing new in the formula. The adventure is divided up into a series of missions. It's virtually the same as *Ishar 2* for the ST but improvements have been made for this Falcon version.

As with all RPGs you recruit various characters to help you. You need to equip your chaps with suitable sharp instruments, metal suits

Under the third island is this moody dungeon populated by very thin people with axes. If you haven't developed your character's attributes much then you get a severe kicking. Gosh, they really are terribly thin, aren't they?

that actually shows you where you are. The action takes place over 14 different islands and is three times bigger than the prequel.

Characters from the first game can be loaded in so you can keep all your old adventuring buddies, just like the old days. It's all mouse controlled with a

Your attributes and inventory. To survive you need to build up money and experience to buy the best monster-bashing tackle. The priest and magician are essentials.



The vital shopping part of the game which no adventure is complete without. There are no pretensions to reality here – you can't buy clothes or anything. It's all potions, food and nasty implements here.

few keyboard short-cuts and very easy to get into, one quick read of the manual is enough to get you into the thick of things.

My God, it's full of colours

The graphics are superbly colourful – it uses the Falcon's 256-colour mode to good effect. Everything is detailed and atmospheric and every island has a distinctive new set of graphics. The backgrounds and sprites are simply luscious.

When it gets dark the entire palette fades to a range of dark colours and lights appear in the windows of the buildings and at dawn everything is given an orange hue.

The sound is pretty special too. At the beginning of the game you have the option to have continuous 8-track music along with the sound effects. Each new area brings its own sounds, from croaking frogs and birdsong to moans and clanking chains – all in glorious stereo.

The gameplay is the same as the ST version, although everything moves faster, curing one of the ST version's main problems. There are no extra characters or missions to really make the Falcon version particularly stand out, although the extra graphics and sound capabilities are used well.

Verdict

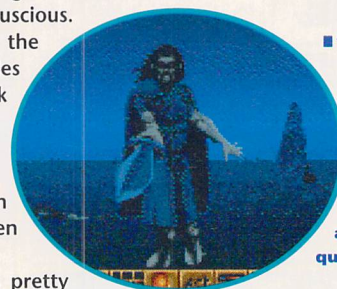
If you consider yourself a fan of this style of game and you've got a Falcon then you've no excuse but to get *Ishar 2* – it's right up your street. It's simple to play, huge in size and once you start adventuring it's difficult to stop.

It's not easy at first, you wander around getting clobbered until you work out some tactics and what your objective is. The game suffers a little from being quite lin-

ear. If you don't finish the first quest you can't even get off the first island.

There is a lot of exploring to do, even though you have a map you still need to know the locations of the all-important shops and inns. Sometimes all the wanderings gets a bit much, until you suss the mission and set sail for the next island, and a whole new set of challenges.

The Falcon version of *Ishar 2*



"You swine, I've been waiting here for six hours to have this fight." It looks like the "wait around until it gets dark and hope he goes away plan" didn't quite work.

plays one mean game and looks and sounds divine – a highly recommended game.

CHRIS LLOYD

Ishar 2

£32.99 Daze Marketing
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All 2MByte Falcons
Two high density disks
Hard drive installable

Highs

- Simple to play but has loads of depth.
- Huge and varied world to clump around in.
- Brilliant graphics and sound.

Lows

- Too much exploring to do which slows things down.
- You can't really talk to anyone which gives you a slightly detached feeling to the environment.



CAMPAIGN

Once again war rages in Europe. And this time it ranges from the scorched African desert to the icy steppes. James Leach gets both hot and cold

You remember *Campaign*, a wargame that swaggers to its friends about having a added 3D battlefield option. Despite this hard pub-talk, the game didn't work too well. It just tried to do too much and ended up not doing anything brilliantly.

Back in issue 44 we awarded the original *Campaign* 20 per cent. This, as it turns out, was a little harsh. The bugs which caused original copies of the game to crash were later removed, and the game was re-released bug-free. So, if you buy *Campaign* now, you shouldn't have any problems. (Indeed, to run this mission disk you need an original copy of *Campaign*.)

Anyway, undaunted by our review, Empire have launched a counterstrike with the cunningly entitled *Campaign: From North Africa to Northern Europe*. This, quite patently, is a stack of new scenarios, all historically accurate down to the last jerry-can of stale water. So maybe you liked *Campaign*. Maybe

you love the idea of having another 25 scenarios to play around with. Maybe when you rushed home and tore open the box, you were disappointed when all that dropped out was one disk and a thin manual, occupying 1.7 percent of the actual space of the packaging. Never mind. 25 missions is a number not to be sniffed at.

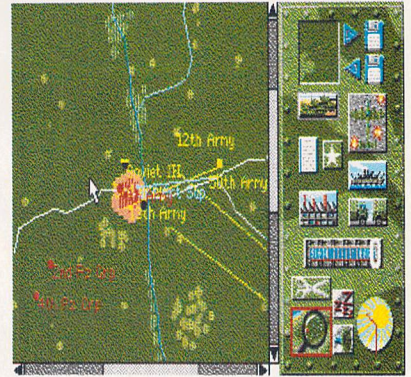
The scenarios are arranged in rough chronological order, presumably so that it's possible to play through them in order and end up feeling exactly like you've just come through the latter half of the war. The rumbling all starts at Tripoli, then drifts across Libya, briefly popping up to Berlin for a scrap, before settling back down in the deserts for some more slapping. Then the m  le spreads to Italy. Of course, it doesn't last long there, and before you know it, the

war in Asia." I forget who it was. Fanny Craddock, possibly.

Anyway, around scenario nine you get to test out this maxim by having a go at Kiev or Leningrad. It's an incredibly complex tank-frenzy, and if the idea of lots of heavy armour moves you – you're going to be riveted to the screen.

So you get the general idea.

There are loads of maps, basically. You can try rearguard actions, beach-landings



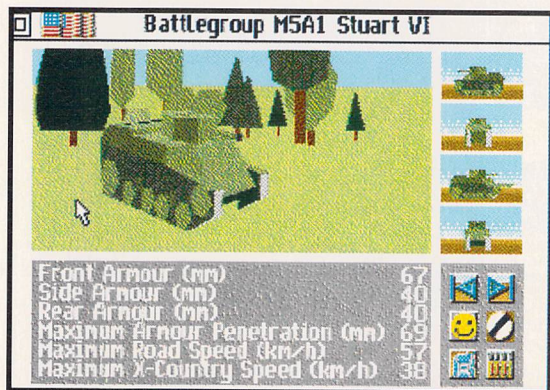
■ Berlin! City of 1,000 canals. Relax at the luxurious Ritz, then why not walk along the Seine to the Colosseum? It's all in lovely Berlin!

minefields, set forces and decide their locations and formations. This means that the amount of work that went into producing this missions disk must be less than any other comparable product; the writers could do it all from inside *Campaign*.

Verdict

Campaign is flawed, but still remains playable, especially if you didn't partake too much of the 3D

"A stack of new scenarios, all historically accurate down to the last jerry-can of stale water"

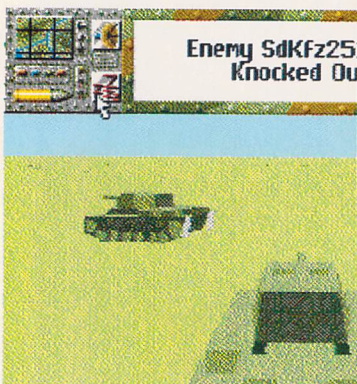


focus is on Russia. Someone once said "Never fight a land

■ (Left) Learn your tanks. Or, er, don't, in fact. That way you can head towards any tank in the area and blast it, chuckling heartily if it's one of your own.



■ (Right) Wake up, villagers! This is your early morning call, courtesy of the Eighth Army!



■ (Left) Oh. It's one of ours. Let's follow it, watch it shoot someone, kill it and claim the credit! (Snigger).

massive tank wars, river crossings and, oh everything.

Whether or not *Campaign: From North Africa to Northern Europe* is any good depends on what you think of *Campaign* itself. The major problem is just that it tries to be two things and fails to be either. If you want 3D vehicle destroying, surely you can get a *Battlezone*-type game? If you're a strategy fan, you're likely to recoil in disgust at the idea of actually driving a tank across a plain, and shooting at differently coloured baddies.

The graphics aren't too bad. Well, the 3D sections are quite good.

They inevitably slow down badly when there are lots of vehicles around, though. The strategic views aren't so hot. A jerkily zoomable map and a few screens depicting units is your lot. It does the job – just.

You can play either the Allies (hooray) or the Axis forces (boo), and it's possible to customise each scenario to weigh it heavily in your favour, as any self-respecting General would do. In fact, the customising options of *Campaign* is one of its strongest features. You can lay

sections. This addition takes the game further, and 25 is a healthy number of scenarios to play.

So really, it's impossible to criticise a missions disk which is limited by the parent program. Let's put it like this; *From North Africa to Northern Europe* is *Campaign* at its best. And it'll take a long time to play through (and win) each scenario. If *Campaign* worked for you, this disk is a necessity. **stf**

Campaign missions disk

£15.99

Empire

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Highs

■ 25 long battles, all historically accurate and very varied.

Lows

■ *Campaign* isn't the best wargame around, though.



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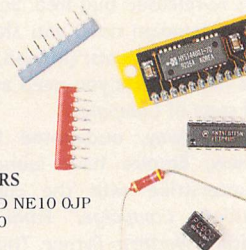
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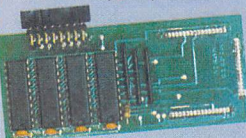
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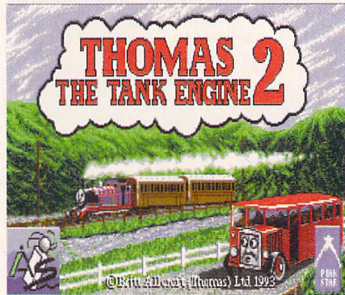
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RETAIL SHOWROOMS

THOMAS THE TANK ENGINE 2



■ If you just can't leave your childhood alone, you need to return to *Thomas the Tank Engine*, the simulator of steam engine racing.

Back in the mists of time of your childhood you probably remember Reverend Christopher Audrey's stories of trains who had lives and feelings of their own. They'd get depressed, fancy the train in the next shed and generally have quite a social life in the sidings.

Well, Thomas and his friends – as well as the Fat Controller – have come to your ST in a burst of competitiveness to find out which

is the fastest train. You take the part of whichever engine you have the most empathy for and if you have a willing friend you can get them to join in as well – decide whether you can cope with an easy or hard route and choose what scenery you'd like to race over – either the main line, postal run, waterway or through the wood glade and then get on with it. There are leaves on the line to contend with as well as other trains, signals and level crossings.

Irritatingly, you can't actually plan for obstacles until you've gone too far and lost precious seconds – although there is a small map on-screen all it effectively does is show you where you are compared to your opponent – it doesn't really enable you to

■ The intro sequence is ripped straight off the book and gets you into the game in a sedate sort of a way.

see what line you should take when the line gives you an option somewhere along the course.

Verdict

Really designed for children, *Thomas the Tank Engine* is going to appeal to everyone who's a closet train spotter – and those who have come out as well. It's a bit repetitive going on the same lines all the time, but it looks attractive with detailed graphics from the books although it does have an irritating tune bleeping along all the time. Great fun for a short while.

PAULA RICHARDS



■ You play the train at the top and your mate or your ST competes against you beneath.

Thomas the Tank Engine 2

£9.99 Alternative Software
☎ 0977 797777

Recommended for age group 4 – 8 years

Highs

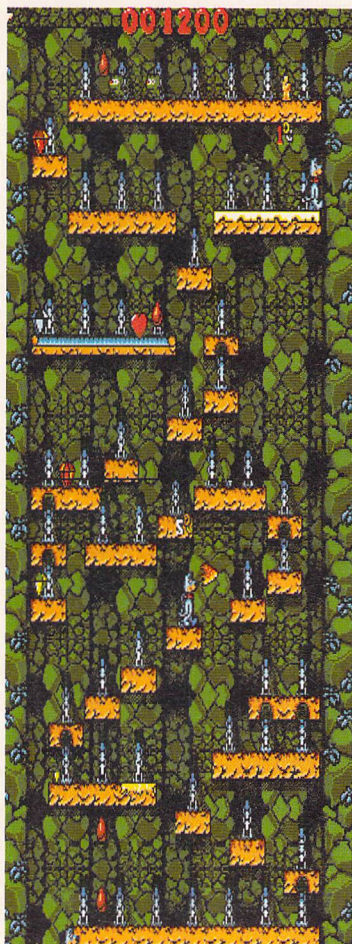
■ Big enough choice of options for the intended age group.

■ Appeals to adults as well.

Lows

■ Graphics too detailed for 4 – 8s.

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HUCKLEBERRY HOUND

This is actually *Huckleberry Hound* in *Hollywood Capers*, though the *Hollywood Capers* bit is a very tenuous connection. The only remotely Hollywood thing about the game is that you're search-

"You've got to avoid the baddies, help yourself to extra lives and temporary invincibility"

ing for Huck's Oscars which he's carelessly mislaid since the award ceremony – and the fact that each of the levels are described as acts and scenes.

An excuse for a platform game, no better nor worse than

■ First scene, first act. Get to the top of the heap and pick up the Oscar, collecting the diamonds in the order red, green and blue for extra points.

any other, in fact; try and find the ornaments along with a selection of diamonds – and if you can manage to pick the jewels up in a particular order so much the better.

There are six levels round which you've got to avoid the baddies, help yourself to extra lives and temporary invincibility along the way – all except for the last level that is – there are no baddies on that one – you just have to pick up as many goodies as possible within the time limit.

Verdict

There's nothing remotely special about *Huckleberry Hound*, the graphics are simple, your tasks aren't original, the baddies aren't particularly bad or frightening and worst of all you don't really care



■ What a dog, what a man, it's your hero *Huckleberry Hound*.

whether or not to manage to find Huck's diamonds or Oscars.

The only vaguely good thing about the game is that it's not ludicrously expensive for what it is – get it only if you need to waste some time and money.

PAULA RICHARDS

Huckleberry Hound

£9.99 Alternative Software
☎ 0977 797777

Highs

■ Er – everything you'd expect from a standard platformer.

Lows

■ Nothing remotely original about it whatsoever.

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SUPER SPACE INVADERS

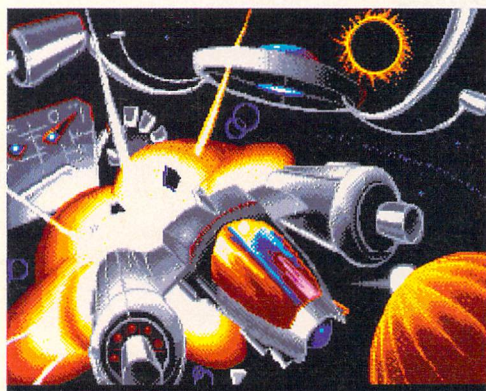
Your age may just be the decider in whether or not you like this coin-op conversion from the Hit Squad. *Space Invaders* was responsible for a complete cultural revolution in entertainment and social response to computers. The alarm and panic seemed to affect everyone from teachers to journalists to parents. The only people who seemed unaffected by the hype were the actual players of the

game. Aside from mugging grannies and stealing from mum's purse, they were none the worse for wear.

As is natural, arcade games progressed and *Space Invaders* was soon perceived as the arcade equivalent of a train spotting game. This seems to have been too much for the creators of said game and they tried to fight back by releasing *Super Space Invaders*. So does it live up to the arcade machine? Well, the simple answer is that the question isn't an easy one to reply to. It's one of those annoyingly ambiguous yes and no responses.

It is a good conversion because the look and process of the coin-op has been captured very well indeed.

■ Some of these invaders have big brothers. Terrifyingly, they know where you live. Gulp!



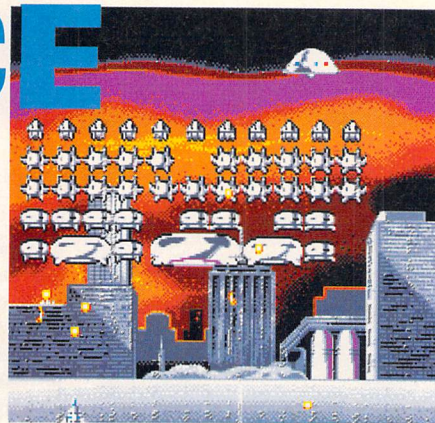
The backgrounds and invaders are almost identical to the arcade machine. The process is incredibly similar with the inclusion of super power-up weaponry, gained by a strategic shooting of the ubiquitous flyover flying saucers.

The bonus section where you have to protect a herd of cattle being mysteriously abducted by UFOs is hilariously adhered to. As is the ability to play with a friend by your side, if, of course, you feel that way inclined.

Right, with the "yes" part of the answer out of the way, what about the "no" response? The playability suffers from the wrong feel. The bullets that you fire travel too slowly. The Invaders' bullets are too quick and certainly more frequent than with the original.

Verdict:

Despite the fact that the coin-op was a success, if you're under 19 you're likely to think *SSI* looks dated and boring. If you're older



■ Opening screens like this make you think that you're in for something special. Ah well. Will you fall for it too?

you may be overcome by nostalgia and part willingly with our tenner. Cry before you buy.

STEVE MCGILL

Super Space Invaders

£9.99 Hit Squad
061 832 6633

Highs

■ Basically sound coin-op conversion.

Lows

■ Out-paced easily by other budget shoot-'em-ups.



HARD DRIVIN' 2

Coin-op conversions always face an uphill struggle when they're adapted to fit the constraints of home computing hardware. When the original *Hard Drivin'* was converted it had been waited upon with hopeful anticipation and hand wringing all round. 16-bit computers were still perceived as being able to do anything that the arcade machines could muster. Thus many thousands of purchasers were disappointed to find that

they had a game that resembled the coin-op in name only.

The biggest criticism was the poor control. It was almost impossible to stop the car skewing all over the road as if it was being driven by Teddy Kennedy. Even perseverance and practice to the most extreme degree only ever resulted in inadequate performances.

Hard Drivin' 2 is supposed to put paid to the inevitable backlash of criticism and bitterness. Does it succeed? The answer is partly. The steering includes a new special auto-centring feature. The simulation algorithms are tweaked to make the car feel more like a car. This means that *Hard Drivin' 2* is not as hard to drive as the original, it's merely difficult. Sighting cars through solid objects has also been corrected. So middling marks for realism there.

You just can't help but feel that *Hard Drivin'*, no matter how good the conversion, was going to disappoint anyway. The real hook

■ There's no accelerator pedal. There's no brake or clutch. But you do have a mouse as a steering wheel.

with the coin-op was that it had tactile feedback from the steering wheel that made it feel like a real car. The sound was excellent and you had a brake and accelerator pedal. All round, a true simulation and driving experience.

Verdict:

There is no doubt that *Hard Drivin' 2* is streets ahead of the original conversion. Its saving grace is the inclusion of a serial link that enables you to play against an Amiga or PC owning friend. It also has a track creating feature so you can design your own circuits. But the thrill of the coin-op was the visual, aural and tactile feedback. For that reason alone, the conversion doesn't burn the rubber.

STEVE MCGILL



Hard Drivin'

£9.99 Hit Squad
061 832 6633

Highs

■ Improved control system.
■ Serial link.
■ Track Editor.

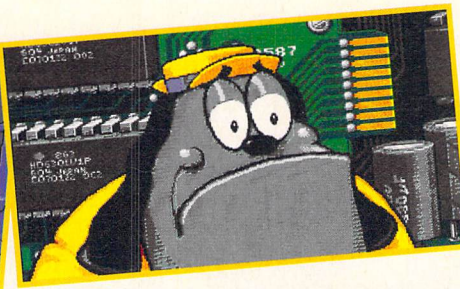
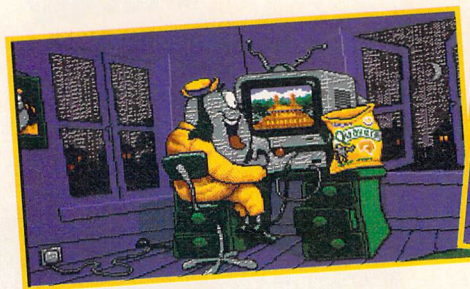
Lows

■ Still does no justice to the coin-op.



■ *Hard Drivin'*. Far too hard to keep driving on the track, more like.

GO ONE STEP BEYOND!



■ Eating crisps and playing games in the moonlight? Is this normal behaviour for a... oops, nearly gave Question Two away.

Win yourself a copy of the *FORMAT* Gold rated *Pushover* or *One Step Beyond* in our special cheesy snacking compo. We've got together with a host of companies

– Walkers, Smiths, Ocean and Microtime Media – to bring you either *One Step Beyond*, reviewed last issue, or one of ten copies of the staggeringly original *Pushover*.

Just answer the questions below and send your entries (on interesting postcards please) to Go

One Step Beyond!, *ST FORMAT*, 30 Monmouth Street, Bath, BA1 2BW by Friday 15 October.

If you are related or belong to any of the companies involved, don't even think about entering. Remember – no multiple entries. The editor's decision is final.

- 1** What sort of snack does Colin Curly like?
- 2** What sort of animal is Colin?
- 3** What sort of games are *Pushover* and *One Step Beyond*?

GIMME! GIMME! GIMME!

Back in issue 50 of *ST FORMAT* we gave you the chance to win yourself five games from Kixx XL's range. We asked you five questions: 1. What *STF* rating was *F-19 Stealth Fighter* given? 96% 2. Who does Zak McCracken try to save the world from? *Aliens* 3. How many Kixx XL titles are there for your *ST*? 13 4. Who played Indiana Jones' dad in the *Last Crusade*? *Sean Connery* 5. What is so spe-

cial about the aliens in *Future Wars*? They travel through time and space.

The lucky, generally Christian nameless, winners are G Bainbridge, Tyne and Wear; G Brewer, Hemel Hempstead; A Conniff, West Sussex; A Piper, Cardiff; Tim Walker, Orkney; Jon Kelbie, Dunblane; A Mortimer, Hull; M Badge, Wilts, Alf Cole and Justin Keverne of Kent. Congratulations!

■ You've eaten them all? Pig! (No, that's not Question Two, either...)

Write music for computer games

This month's *Future Music* shows you how..

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Dear Newsagent, please reserve me a copy of *Future Music* every month, starting with issue 13, on sale Tuesday 19 October.

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THAT'S ENTERTAINMENT!

Get involved in the future of computing at the amazing second FES

The second Future Entertainment Show



■ Helter skelters were the order of the day last year, but in 1993 we've got a huge lasre game in a bouncy castle for you to enjoy. Sounds rather surreal...

ment, where the prize is a trip for two to the Consumer Electronics Show that's held in Chicago.

If hardware is more the sort of thing you're interested in, you're going to be able to pick up some bargains at the show. With companies like Gasteiner, Datel, Power Computing and Silica there peddling their wares, they may just be reducing their prices a little...

On Thursday Channel 4's Gamesmaster TV programme is going to be broadcasting live from the show, with the new presenter

Dexter Fletcher around on all four days to host competitions and giveaways. Also on

Thursday the Radio One Roadshow will be broadcast ing a three-hour programme live from the FES, with star DJs making appearances on the stage.

As an added bonus if you buy a ticket for the Friday of the show, you receive a free *Aladdin* movie ticket. Not just any old ordinary



■ This horrifying sight is the Typhoon - it's apparently the only fairground of its kind - presumably because it's fast - like a typhoon, probably.

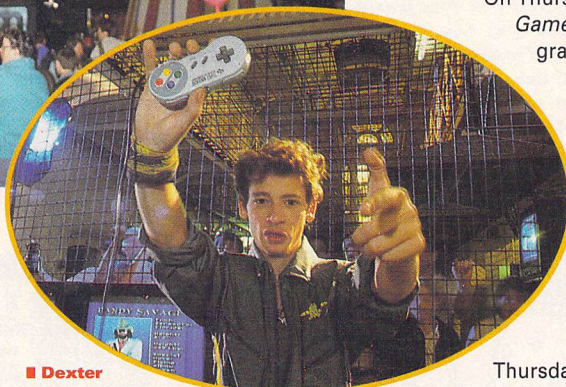
ticket, though. Oh no. This is an invitation to a preview on Sunday 21 November - this is the only way you'll see the film before the general release.

That's it so far, although there are more and more exciting events being added in all the time. It really will be the most spectacular entertainment event ever - so don't miss out! Remember, though, this year the show is ticket-only, so make sure you order your tickets now by ringing the hotline on ☎ 051 356 5085, or use the priority booking form on page 99. Be quick, time is running out... **stf**

Last year's Future Entertainment show was one of the biggest ever entertainment events. Later this year you're going to find that the Second Future Entertainment Show at Olympia is even bigger!

Incorporating Gamesmaster Live, the show is to bring together all areas of entertainment - loads of the latest video games, arcade games, fairground rides and there's even the futuristic Laser Quest set in a bouncy castle.

One of the highlights is the world's largest games arena, sponsored by The Games Arena at Rumbelows. Here you're going to be able to play all of the latest games from the top software houses - including Domark and Gremlin Graphics. Game-playing



■ Dexter Fletcher, the new presenter of Channel 4's Gamesmaster is going to be at the FES every day - if you want to meet him, that's the place to be.

competitions are to be held on all four days, and on Sunday the final of the National Computer Games Championships is going to take place, with a top prize of £10,000. Regional heats take place all over the country during the school half-term in October - so if you want to enter, get in touch with your nearest Virgin Games Centre or Megastore. Also to be held in the show are the International Computer Pinball Championships from 21st Century Entertainment.

■ Last year the games arcade was sponsored by Electronic Arts and this year Rumbelows are doing the honours with what's being billed as "the world's largest games arena."



THOSE IMPORTANT Q AND As

Where is this amazing event going to be held? *Grand Hall, Olympia, London*

Nearest Underground Station? *Kensington, Olympia*

When is it going to be? *Thursday 11 November (10am to 8pm); Friday 12 November (10am to 5pm); Saturday 13 and Sunday 14 November (9am to 5pm)*

How much is it going to cost me? *£6.95 each*

But what if I've got a family who also want to go? *If you've got a*

family - that is, two adults and two children - you can get a special priced ticket of £24.95.

And what if I can persuade my teacher to take a whole load of us from school? *If you can book one ticket for at least 15 people - if you're a teacher, say, you can get everyone in for £6 each.*

Well, I can't be bothered with all that hassle, I reckon I'll just turn up on the day. *No! Whatever you do don't do that! The Future Entertainment Show is ticket-only and you won't be able to get in without one.*

Call the hotline ☎ 051 356 5085

If you want to find out what's new, have a great day out and pick up some bargains for Christmas, then come along to the

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Stumped by your favourite ST games? Then despair no longer. Rob Mead has rounded up another selection of hints, tips and cheats for your delectation

Chaos Engine RENEGADE

Explore the first two worlds with Renegade's complete solution. Watch this space for the rest of it next month!

World One, Level One - The Beginning

This level provides a gentle introduction to the game. Shoot the first



■ Collect the dynamite lying on the floor to destroy the stone monsters and their generators.

node you come across to reveal the first set of silver keys. Collect these keys to open a gap in the trees to the east. Collect the first set of gold keys to open the small, secret room immediately beneath you.

World One, Level Two - Mud Rivers

Shoot the first node you come across to reveal the first set of silver keys. Collect these keys to create a bridge across the mud.

If you collect the first set of gold keys, a pair of bridges appears giving access to the small island with the second set of gold keys on it. The monster who patrols these keys can be shot from the safety of the main island. If you collect these keys, the third set of gold keys appears and creates a bridge immediately to the east enabling you to enter the hidden area. Pick up the second set of silver keys to reveal



■ Don't forget to zap the node standing on top of the stone column in the Rockies level of World One.

the bridge to the west giving access to the rest of the level.

You're now faced with a choice by the narrow bridge which leads to the fourth set of gold keys. If you venture down here and collect the keys, you must then retrace your steps and head north, having elected to take the top route up the narrow isthmus, surrounded by small islands. This is the more hazardous of the two choices. If you ignore the fourth set of gold keys and continue around them to the south and east, by the time you have shot the node the keys have disappeared and you have to take the bottom route to the final island. The only way to exit the level is to shoot the last node which is down a pit at the end. This node can be activated by throwing an appropriate special weapon into the pit – like the bomb – or collecting the fifth set of gold keys which completes the set of steps and enables the node to be shot.

World One, Level Three - Rings

After coming down the steps from the start position, you're immediately presented with a choice of routes. You can either continue due east in relative safety past the trees, or head south to follow a parallel route past the rock face. The latter route leads you past the first set of gold keys. These create a set of steps which provides access to the top of the western side of the central ring. As you approach the stick of dynamite you're surrounded by beetles. Collect the dynamite to kill them all off and reveal a circle of gold rings.

The third set of gold keys on the western side of the central ring opens a set of steps which leads up to the eastern half. If you shoot the rock-pillar with a face on it, it blows up, enabling you to collect the first set of silver keys which opens the central ring. Once through the central ring, the fourth set of gold keys shuts down the monster generator – they are directly outside and save you the bother of having to shoot all the Lizardmen.

To get out of the next section you must collect the third set of silver keys. It opens the room contain-

ing the second set of silver keys which disappears by the time you get there. There is no way to get this set of keys. If, however, you shoot the node in this room, the fourth set of silver keys appears in the ring of stones outside the door. This set of keys opens the way forward. They also reveal the fifth set of gold keys. These provide access to the secret area immediately to its west. Go all the way to the bottom of this area and collect the sixth set of gold keys. To leave the next section you must obtain the fifth set of silver keys. Collect the gold ring to the north and west of the fifth set of silver keys. This causes it to disappear from the top of the wall and reappear within reach.

To reach Exit A, you must first activate the node. This reveals a coin, slightly behind you, to the east. Collect this coin and another appears again, slightly to the east. Follow this chain of coins and you discover the way to the sixth set of silver keys is open, this creates a set of steps to the ledge and the exits.

World One, Level Four - The Rockies

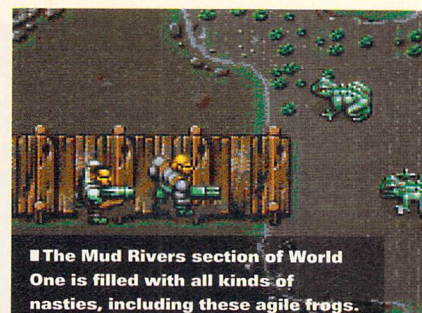
There are two start points to this level – A and B. Which one you use



■ Kill the yellow monster and you can liberate the power-ups and dosh secreted in the air.

depends on which exit you took from the previous level. Collect the second set of silver keys to remove the rock pillar which blocks access to the main section.

Collect the third set of silver keys which reveals the fourth set of silver keys. The latter set of keys creates the stairs which provides access up to the central column. If



■ The Mud Rivers section of World One is filled with all kinds of nasties, including these agile frogs.

you stand on the very top of this column you can shoot the node on the rock pillar to the east and this causes the fifth set of silver keys to appear. These keys create a set of steps. As you continue along the rock ledge a number of beetles attack you, so collect the bomb to shut down their generators.

When you pick up the sixth set of silver keys another set of keys appears just to the north. As you collect these, another set appears and so on, until you come to the final set – the seventh set of silver keys – which creates a set-up step immediately to the north. The node at the bottom of the pit can be activated by firing an appropriate special weapon deep into the pit. If, however, you do not have such a weapon, you can collect the node activation token. This attacks the node, but also creates a large number of thumpers, all of which fire. Having activated this final node, you may now progress down and round the corner to the east towards the exit.

Just before the final section, the way is blocked by two rocks. You can shoot and destroy either

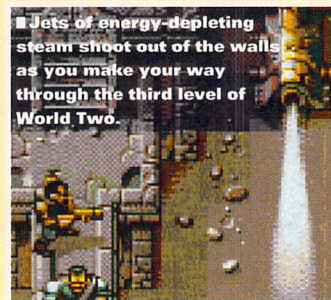
set on the left reveals a lot of treasure and food whereas the set on the right produces a lot of nasty monsters. You can only get one set, so you have to get it right.

If you enter the room to the west of the maze by any of the three entrances you are sealed in. Here the pillar in the centre of the room starts to change. If you shoot it while it's completely smooth it blows up to reveal the first set of silver keys. These keys release you from the room.

The maze has three exits. The first set of silver keys gives you access to the centre of the maze. This enables you to shoot the node at the centre and exit over the walls up the middle. The third set of silver keys opens the western exit of the maze at ground level. The fourth set of silver keys opens the eastern exit of the maze at ground level. If you have exited the maze by the central route over the walls, you can collect the fifth set of silver keys which enables you to exit this area. All three routes converge. If you then move to the east when you reach the exit you can explore the area to the west along

enable you to switch to the eastern route. If you continue along the western route, collect the fifth set of silver keys. These keys release the beast guarding the sixth set of silver keys. When you kill this beast, pick up the sixth set of silver keys to leave this area and activate the node at the end of the route. If this is the first node you have activated on this level, a crater appears behind you and you have to step into its middle and be teleported. If this is the second node you have activated, door A opens.

Where you are sent to by the teleporting crater depends on whether you activated the node in the centre of the maze in the previous level. If you did, you're sent



you begin at start B, you must collect the gold rings, shoot the firemen and activate the nodes to form a complete circle of marks. When you have completed the circle, a crater appears at point one which teleports you to start A. If you begin at start C you must shoot all the nodes along the corridor to open the pipe grating at point two. If you enter the pipe you get teleported to start A.

From start A you must collect the first set of silver keys which completes the parallel set of steps and enables you to continue into the level. When you leave the area where the steam jets are, the pipe carrying the steam blows up and all the steam jets stop. The steam jet must be extinguished before you can progress any further. Shoot the feed pipe directly to the north to turn it off. To reveal the second set of silver keys, you must activate the



back to the original start point of this level. If you didn't activate the node, you're sent to the beginning of the eastern route.

The start begins in the large room filled with dust devils. If you collect the third set of silver keys you have access to the central rings of the level and can switch to the western route. If you continue along the eastern route you're sealed into the room until you have killed all the guards which attack you. You are then allowed out to the end of the route and can activate the node.

Similarly, if this is the first node you have activated, a crater appears. However, if it is the second node you can go out of door B. If you are forced to go into the crater, you're either sent back to the start point or to the beginning of the western route depending on whether you activated the node in the centre of the maze.

If you are sent back the original start point of the level by either of the teleporting craters, the seventh set of silver keys appears, revealing the set of steps up onto the central walls of the level. You can then activate the final node and leave the level via exit C.

World Two, Level Three - Steam

This level has three start points – A, B and C. Which one you use depends on which exit you took from the previous level, Traps. If

node which is round the corner to the west. This generates a number of monsters. Catch up with them and kill them to reveal the keys.

World Two, Level Four - Quarters

This level has three start points – A, B and C. Which one you use depends on which exit you took from the Steam Level. The level is divided into four quarters, each has an entrance-way and an exit-way. If you begin at start A, you cannot adventure through the entrance-way of the south-western quarter which means you miss an extra-life token. A metal pillar is placed in the doorway of the secret room which means you also miss out on all the treasure in the room.

If you begin at start B you cannot adventure through the entrance-way of the south-eastern quarter. If you begin at start C you can explore the whole level. The first set of silver keys one opens the north-eastern quarter so that you can activate the node and proceed. The first set of gold keys destroys the steam jet so you can pass safely through the entrance to the north-western quarter.

And that's all for now. See next month's issue for the solution to World Three.



of them, but not both – unless you are very quick. The fourth set of gold keys is under the one to the east which reveals a set of steps down to the secret room to the south, immediately below you.

World Two, Level One - Maze

There is a large number of hidden bonuses within the maze. Collect the first set of gold keys to create a set of steps. These give you access to the second set of gold keys to reveal silver coins surrounding you. If you walk down the corridor, a weapon power-up is revealed.

There are three metal pillars. Only one can be shot, so you can get either a first aid kit, a weapon power-up or an extra life. It is possible to get more than one by hitting the pillars at exactly the same moment. In fact, it's possible to get all three with the right weaponry. You see two sets of gold keys. The

the narrow wall tops. This gives you some special power and a power-up. If you move to the west you get the food which lies on the eastern walls near the exit.

World Two, Level Two - Traps

When you appear in this level you have a choice of two sets of silver keys to collect. The first set of silver keys opens the door to the east, while the second set of silver keys opens the door to the west. It isn't possible to get both sets of keys.

The western route takes you into a sealed room where you must shoot the metal pillar. This opens a gap in the wall in the western side of the room. However, if you shoot the pillar again, it changes to another shape and opens the door to the room to the south which contains the fourth silver keys. These keys give you access to the central rings of the level and



Captive MINDSCAPE

Neil Clarke of Anfield, Liverpool has sent in some tips to boost your droid's experience points and a complete guide to all the planet and computer codes. Well done Neil, you've won £25. To gain skill levels more quickly with the weaker droids, you can get experience from the strong droids. To do this place a weaker droid's ROM chip into the brain of a stronger droid's brain. You now have access to the experience points of the stronger droid. When you've used all or some of the experience points replace the ROM chips

Base 0 - Butre

CHAESELUME

EXNEED
LAPLEBEE

Base One - Pelphi

RUPPESICBERY

Base Eight - Phupet

MIDINSHAM
RUPNETON
SYTHAFAR
CHAENEDEAPE

Base Two - Meestre

RUPPEKAL
PHYDERLAPS
EXSOMIDED
SCOOOFAR
EGINHAM

Base Nine - Budod

YULCEPTON
EINSTHASY
RUPGINENEHAM
VISOKAL
CHALEAPE
POCPEFAR
ELISCBEE
RATINSINK
DEESDON

Base Three - Triekos

POCINSBEE
ELDERS
YULTHAAPE
RATSICPOCY
ELISYDON
VIGININK

Base Four - Salstee

LAPCEPY
PHYDERED
SYTHALEBEE
EXSOSY
MIDINSNEING

Space Station

POCCEPED
EXPESOFAR
YULESY

(NB: Do not blow generators)

Chips

Optic Basic	AG-Scan
Optic 2	Route Finder
Optic 3	Mapper

Base Five - Seavy

EPETON
YULESDEAPE
POCCEPLAPS
SYLEKAL
RUPSOHAM

Base Six - Soopia

CHASBEE
SCOSINSINK
ELSIDON
VIEAPE
RATSICS
YULOOHAM
POCGINKAL
EXTHAPAR

Base Seven - Quooenl

SYINSINK
LAPDERING
YULENEBERY
MIDESDON
PHYSIY
QUESOSIFAR
QUELTES

Optic 4	Radar
Optic 5	Magna Scan
Optic 6	Bodyscan
Optic 7	Vision
	Corrector
	Visor
Optic Super	Anti-Grav
Devscap Basic	Shield
Devscap 2	Fire Shield
Devscap 3	Greaser
Devscap 4	Power Sapper
Devscap 5	Fixer
Devscap 6	Recharger
Devscap 7	Deflector
Devscap Super	



Always dying in Elvira 2? You must be sick of this pic then. We printed it anyway, 'cos we're like that.



ELVIRA 2

ACCOLADE

Are you ready for an encounter with death? You better be. It's time for part two of Jaz McGovern's complete solution to this bodice-ripping, body-splattering adventure

Studio Three

You should have Level Six magic by now. Leave behind everything with your junk pile except your:

Weapons and armour
Spells
Test tubes
Precious metal items
Crucifix
Mirror
Keys and pen left in the meat locker
Pillow
Hairsprays
Gin and vodka
Wizard suit and make-up
Put on the armour and pick up the sword. Keep moving straight through Studio Three. The bats are nasty, but eventually you enter the church. Turn the precious metal into magic armour and the religious articles on the altar into a Holy Blast spell. Take the prayer book from the pulpit - don't turn it into a spell just yet. Fill the test tubes with holy water from the font and use one of the filled vials with the crucifix to create a Bless spell. Make a supply of Ice Darts and Healing Hands before you close the prayer book. Drag the pulpit to the left. Check your armour and open the trap door beneath the pulpit. Create a Protection spell and head down the hole. Dispatch the banshees and move the slab aside. You're now in the catacombs.

Catacombs

Almost every room has a trap. When you get to Level Eight, launch a brainboost and mix spells for the following:
Freezing Blade (pen and knife from meat locker)
Illusion (mirror)
Trueflight (pillow)
Apply the freezing blade to the dagger in the Second Level. This, along with the Bless spell, makes the dagger into the ultimate weapon. At Level Nine mix up some Cure Wounds spells and turn the hairspray cans and bottles of booze into Nova spells.

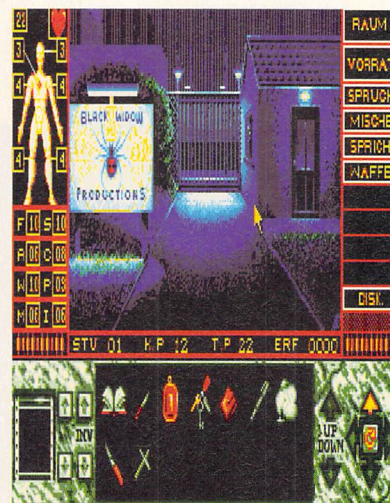
Don't use Telekinesis, Buoyancy or Holy Blast spells in the catacombs and hold on to at least one Unholy Barrier spell. Elvira can be found along the far wall of Level Six. Wait though. She's really a doppelganger - you have to kill her or she turns into an acid-spitting

cobra which takes all your fireballs. Take the war lance she's guarding. When you slash your way back to the catacombs entrance and get to the top, watch out. There's a zombie behind you. Whirl around and throw an Unholy Barrier spell to keep him away. Don't move. Don't touch him or try to hit him with a weapon - lob holy blasts at him. When they run out, use fireballs, then Ice Darts if necessary.

Spider Caves

Go back to your junk pile in the haunted house entrance. Patch your wounds and heal up by waiting a while. Then take all your spells including Buoyancy and Telekinesis, as many Weapon spells as you're qualified to make, weapons and armour, yellow liquid in flask and the nail file.

Head across the hall to Studio One. The crystals you find in the spider caves can be turned into spells and the mushrooms have special properties. You have to kill



Schlock-horror abounds in part two of our Elvira 2 solution. What if it is in German. So sue me, OK?

every single worm and maggot in the rooms before you get the goodies. When you first enter Studio One, look for the elevator near the entrance and turn it on or you can't get out later. Turn crystals into spells and turn edible mushrooms into Herbal Healing spells as soon as you can.

On Level A of the spider caves invoke Buoyancy and Breathe Underwater spells before entering the lake. At the bottom of the lake, along with the water nymph is a discarded rope which you need for the Blind Demon spell.

In Level B is a small side cell. Inside is a giant scorpion guarding a binding scroll that you need to defeat Cerberus. On Level D you run into a director. Get the elevator key from his wallet with a Telekinesis spell. In the cavern on Level D

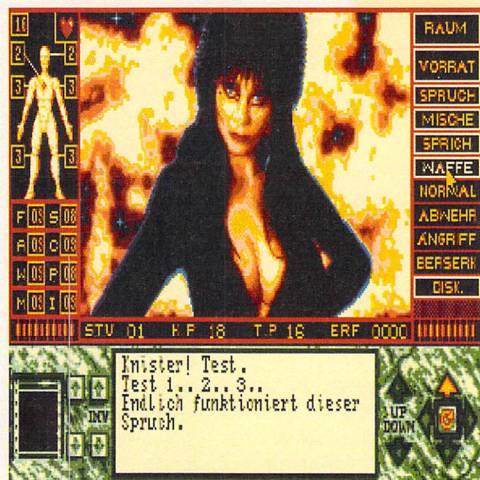
you see a giant spider in her lair across the chasm. Fire an Ice Dart to get her attention. When she comes after you, lead her around to the elevator. Go straight through both elevator doors and close them behind you. Now she is trapped. Climb down her web and rescue Elvira. This time Elvira turns into a giant wasp. Once the coast is clear, pick up the chief's tomahawk before heading out.

To leave the caves use a vertical strand of web to swing down to Level C. Go to the elevator, use the key from the director and ride

down to Level A to get out. In the haunted house, stop off in the entrance. Pull down the barometer from the wall and turn it into a Summon Storm spell. Go to the roof of the house and invoke the storm. The surge fires up Frankenstein's apparatus. Go down to the basement. Keep the wire cutters handy. Use them to clip Frankenstein's head wires. Take the metal band, brain, scalp and heart. There's no time to be squeamish.

You now have the brain, heart, scalp, eggs and prayer book for a Resurrect spell, binding scroll and rope for a Blind Demon spell, ten black candles, a magic bag, tomahawk, war lance, chalice of blood and matches. Go back to the church through Studio Three. Tell the priest you need help. He draws a pentangle. Get ready with the tomahawk, war lance and magic bag, so you can get them instantly.

Click on the candles to light them and use the magic bag to summon Cerberus. Throw the Blind Demon spell to stop him. The instant the lightning dies down, throw the war lance at him. He appears to blow up, but he's just spitting fire. Throw the tomahawk at his heart. And that's it, you've done it.

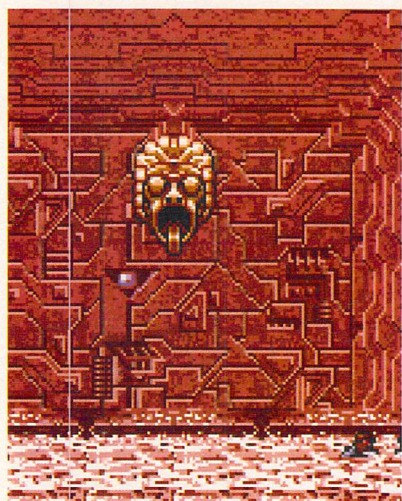


■ What does this mean? Answers on a postcard, please. First out of the bag wins a free German copy of *Elvira 2*.

KULT

ACTION SIXTEEN

General game tips: Attack any aspirants which happen to be around since they contain useful objects. Never kill guards unless you want to get killed as well. Try a PSI Shift to get their zapsticks instead. Saura is really your girlfriend SciFi, so don't kill her unless you want to be ravaged by rabid turkeys. Use zone-scan to detect hidden traps and sticky fingers to open them.



■ Tom hated Tahitian restaurants, especially when he was about to become part of the menu.

GOLDEN AXE

VIRGIN

Press <T> when told to press a key to play for infinite lives. If this doesn't work plug in two joysticks and select a two-player game. Don't touch the second joystick. When you lose your last life press <Fire> on the second joystick for another three lives.



■ "Eat fist, dirtbag." A swift uppercut sends another belligerent baddie to beat-'em-up hell in *Golden Axe*.

XENON

Mastertronic

Die after killing the mid-level nasty on Level Two and you won't be troubled by any more aliens until the end of the level.



Lemmings PSYGNOSIS

With *Lemmings 2* dominating the ST chart, we thought we'd take a trip down nostalgia alley and supply you with more of those level codes for the original game

Taxing

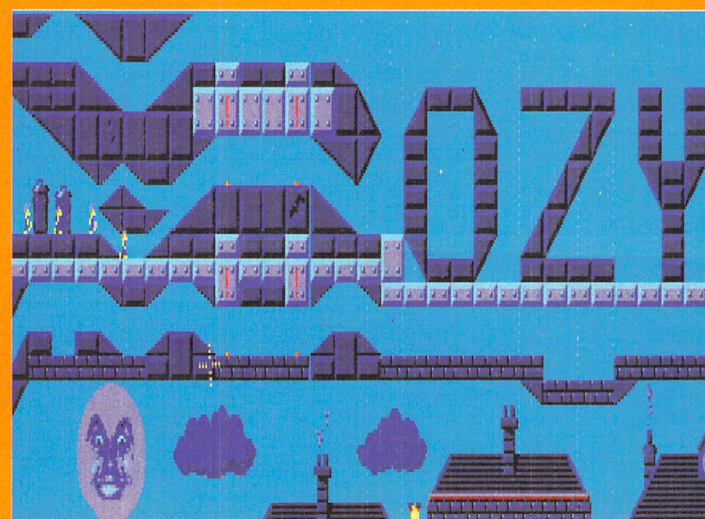
1	MFMCGKLNFO	16	HMDLGKOMGT
2	GMCOKLMOFY	17	MELGCKLNGN
3	MCANMMFPFO	18	DLGIJOMOGV
4	CINOMGMQFK	19	LCENMMDPGU
5	GEKKNMJBGJ	20	GKNNOLHQGS
6	KJLDLGGCU	21	GKHNHNBHY
7	NHNLJGCDGY	22	KJLFGNGCHK
8	IDLGMOENGN	23	NJLGNGADHW
9	LDLGCJOFQV	24	KNOHGOOEHL
10	ENGIJNLGGO	25	LFNNGCJNFH
11	LGANOLDHGJ	26	GNGIJLLGHP
12	GKNOLDLIGU	27	HFANLLFHHU
13	GAJIMMHJGX	28	FINNLFHIHN
14	OKHMDNCKGT	29	FAJHMFHJHP
15	OIMELGALGK	30	IJHMFMFKHG

Mayhem

1	NJMNLFELHX	16	IJHMEMGKIO
2	HMFJFINMHQ	17	NHMDIFALIV
3	MHFJALNHHX	18	HMDIFINMIO
4	FHFJLMOHQV	19	MDIFAJLNIX
5	HFANLMFPHN	20	DIFJLMOIQ
6	FINLMFHQHW	21	IFANLMDPIN
7	FAJHLDIBIW	22	FINLMDIQIW
8	IJHDFICIP	23	FAJHDFIBIJ
9	NHLDIFADIN	24	IJHDFICJS
10	HLDFINEIV	25	NHLDIFADJP
11	LDIFAJLFIO	26	HLDFINEJY
12	DIFJLLGIX	27	LFIFAJLFJR
13	MGCNNLEHIO	28	FIFJLLGJK
14	FINLLDIIN	29	IFANLLFHXX
15	FAJHMDIIP	30	FINLLFIJQ

Two-Player

1	JAHLDBKMQ	11	NHMDKJALMP
2	IJHLDKJCMJ	12	HMDKJINMMY
3	NHLDKJADMW	13	MDKJAJLNMR
4	HLDKJINEMP	14	DKJIJLMOMK
5	LDKJAJLFMY	15	KJANLMDPMX
6	DKJIJLLGMR	16	JINLMDKQMQ
7	KJANLLDHMO	17	JAHLFKBNT
8	JINLLKDIMX	18	IJHLFKJCNM
9	JAJHMDKJMJ	19	NHLLFKJADNJ
10	IJHMDKJKMS	20	HLFKJINENS



■ "Up above the streets and houses, er, Lemmings riding high..." This is the last caption for *Gamebusters*? We want style, panache, humour.

■ More fast, furious shoot-'em-up action from the Bitmap Brothers' classic arcade romp *Xenon*.

CAPTAIN BLUNDER



For all your gaming problems, big or small, the man in the tights is here to answer 'em all

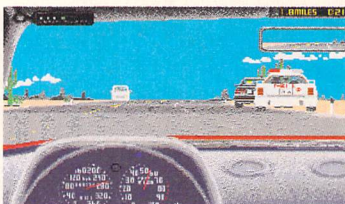
Addressed to drive



I think my copy of *Test Drive 2* is corrupt, but Accolade haven't put an address on the box. Do you know it?

Stuart Dunn, Dorset

CB: Of course. Accolade can be contacted at Bowling House, Point Pleasant, Wandsworth, London SW18 1PE ☎ 081 877 0880.



■ Ever been picked up by the fuzz? No, but I've been swung around by the (snip - Ed.)

Tempting problems



In *Lure of the Temptress* I've reached the dragon through the caves, but every time I try to return through the Blue and Green caves the game bombs out. Please help.

C Rowsell, Coventry

CB: Your game disks are obviously corrupted in some way. I suggest you send the game back to Virgin Interactive Entertainment, 338a Ladbroke Grove, London W10 5AH with a brief note explaining exactly what the problem is and they can send you a replacement.

Cover Disk blues



Why does *ST FORMAT* make its Cover Disks so you have to copy the best games onto a separate disk? How do I copy games from the disk?

Louis Akindele, Streatham

CB: You should always play Cover Disk games from a copy of the original disk. That way, you're not going to lose your precious Cover Disk should things go wrong. The other reason is that a lot of game demos take up precious space on the disk and we compress them so we can fit even more games and utilities on the disk. Unfortunately this means you have to copy the game to another disk to play it.

To copy a game you must first format a new disk and call it Disk B. Now write-protect your Cover Disk and insert it into the drive. Your Cover Disk is called Disk A. Open the Drive A window and select the file you want to copy by clicking on it. Hold down the Left Mouse Button and drag the file across to the Disk B icon. An alert box pops up telling you you're copying a file to Disk B. Click on OK and your *ST* asks you to insert Disk B. Put in the formatted disk and click on OK again. The file has now copied to the disk. It's as simple as that.

Doodle bother



Have you got any cheats for *Doodle Bug*? I really need a level select because I can't get any further than the Fortress of Fear. How do I make the FIRE WALK WITH ME cheat work?

James Woods, Northern Ireland

CB: The cheat can be activated at any stage on the title screen or during



■ After *Eraserhead*, Lynch hit the "cute" scene with a snuff movie...

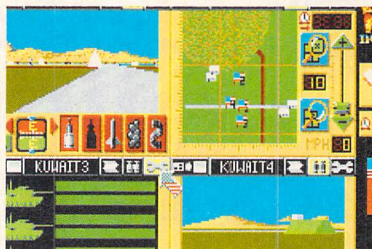
play by typing FIRE WALK WITH ME including spaces. It doesn't make any difference whether you use upper or lower case letters. Press <Return> and you're presented with a menu telling you the cheat mode has been acti-

vated. Press <F1> to <F5> to skip the main levels and then <1> to <3> to access the sub-levels. Press <4> to go to the boss stages.

War of the disks



I've recently bought *Empire's War in the Gulf*, but cannot make a backup copy. When I try to copy the disk I get the message "destination disk is not the same type as source disk." Since I can't make a backup I can't play the



■ This is Kuwait? It looks more like a bloody campsite. See that tent?

game because it saves to disk. I've contacted Empire but haven't received a reply. Can you help?

Andrew Beard, Essex

CB: The reason for this is that the disks have been configured differently - you can't just move the Disk A icon over the Disk B icon on the GEM Desktop to copy a game disk. However, you can copy War in the Gulf folders across individually, or use the Backup program from the *STF 50* Cover Disk.

See page 47 if you missed it.

Obliterated



I'm trying to track down a game called *Obliterator*. It was published by Psygnosis around 1987/88 and has apparently vanished from the face of the earth. Is it still available, and if so, where can I buy it?

John Anderson, Durham

CB: Most games only have a shelf-life of one or two years and *Obliterator* is no exception.

Psygnosis stopped producing copies of the game years ago, so it's no wonder you've been unable to find a copy. Perhaps someone would like to send in an unwanted copy to *ST FORMAT* which we could pass on? (OK, it's pretty doubtful, but worth a try.)

Viking cheats



Have you got any cheats for *Viking Child*?

Luke Lawrence, Suffolk

CB: I can't find any cheats, but here are a few level codes

CODE	LEVEL
DENIS<E>	forest
BLIZ	landbridge
SHARKMAN	labyrinth
NYMHARSW	desert

If anyone has any cheats for *Viking Child*, send them to Captain Blunder at the address at the bottom of the page. You could win yourself £25.

Yo! It's Ivanhoe



I've a problem loading my copy of *Ivanhoe*. Halfway through loading the last disk, five blobs appear on the screen. I think it's got a virus on it. Can you tell me the address of the company that makes *Ivanhoe* so I can get another copy of the game?

Tommy Spencer, Mid-Glamorgan

CB: The five blobs are system bombs, so your game disks are probably corrupted. You can get another copy of *Ivanhoe* from Ocean, 6 Central Street, Manchester M2 5NS ☎ 061 832 6633. **stf**

Ask me anything...

Send in your *ST* gaming 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.

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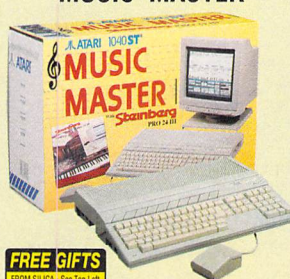
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System Architecture:
CPU: Motorola 68030 operating at 16MHz
BUS: 32-bit data, 32-bit address
FPU: Optional Motorola 68881/2 - 16MHz
RAM: 1, 4, 14MB configurations
ROM: 512K
Digital Signal Processor: Motorola 55001 DSP running at 32MHz
16MBPS performance at 32MHz
32K Words Static RAM
Interfaces, Ports & Expansion Slots:
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SCSI 2 Port with Direct Memory Access
High-speed LocalTalk/AppleTalk compatible LAN port
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8-directional parallel printer port
Cartridge port (128K) MIDI IN / MIDI OUT
Stereo microphone/Stereo audio out - 32mm
Two 8-pin joystick connectors
Two 15-pin enhanced digital audio connectors
Data Storage:
1.44Mb Floppy Disk Drive
Internal IDE Hard Drive Option
MS-DOS format compatibility

Graphics:
VGA: 640 x 480 256 colour
True colour 16-bit mode display up to 65,536 colours
Accepts ext. video sync signal for interlocking - up to 65,536 horizontal lines
Hardware-assisted horizontal fine scrolling
BUTTER graphics processor

Sound:
Eight 16-bit digital audio DMA record and playback channels (up to 50kHz sampling)
Stereo 16-bit DMA input & output
3DMA sound/DMA co-processor

System Software:
Multiple window user interface with icons and drop down menus
Icon-based graphics user interface with self-explanatory command functions
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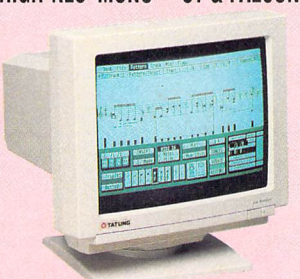
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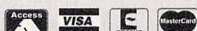
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Add animated titles and graphics quickly and easily to your home videos using *Video Supreme*. *Supreme* is one of the best video titling packages around, and it's bursting with features and effects. There are

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You can display a screen in 270 different ways and dissolve a screen in another 184 ways. Adding sound samples to complement your graphic screens gives them added impact when you display them, a crash of thunder as your main title comes up makes the opening sequence of your video very dramatic. The main program is the sequence editor, although

there are several other utilities supplied, all the main functions of *Video Supreme* are found in the editor. Everything is operated by the mouse using point and click options, the only time you use the keyboard is when you enter file names. A special runner program is provided so you can distribute demo disks as PD and there is a special screen compactor program that compresses *Degas* and *Neochrome* screens enabling you to create larger sequences.

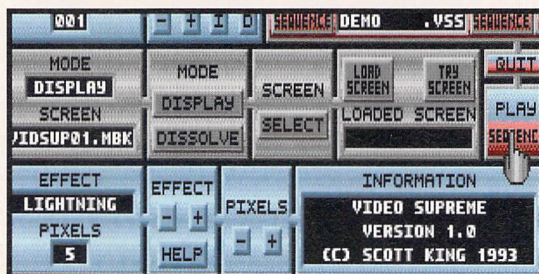
You can design sequences up to 200 frames in length and use sound samples up to 100K in size. Apart from creating title sequences for video tapes, you can use *Video Supreme* to design intro sequences for software, display instructions for software or create a rolling advertising sequence for shop windows. You are only limited by your imagination. Recording sequences on to video

■ You can display pictures in 270 different ways. Here we zoom in from the four corners of the screen to crunch together in the middle.

tape isn't as hard as you might think. All that you need is an ST to SCART composite video lead, you can get one from Meedmore for about £15 depending on the make and model of your VCR. If you give them a call on ☎ 051 521 2202 they can sort out a lead for you – make sure that you know the exact details of your video recorder and ST when you call them.

Video Supreme is very well presented, with a professionally printed manual and a useful demo on the disk to show you exactly how to construct a sequence. Written in STOS, the program reeks of professionalism and is certainly a well designed utility.

Video Supreme is an asset and is worth adding to any software collection. **stf**



■ The main editing screen gives you complete control over the construction of your sequence. Everything from individual frames to complete sequences can be loaded and saved to disk.

UTOPOS

PRICE: £6

FROM: CHRONICLE

CONTACT: JANI PENTTINEN, LÄHDEKUJA 2B5, 16300 ORIMATTILA, FINLAND

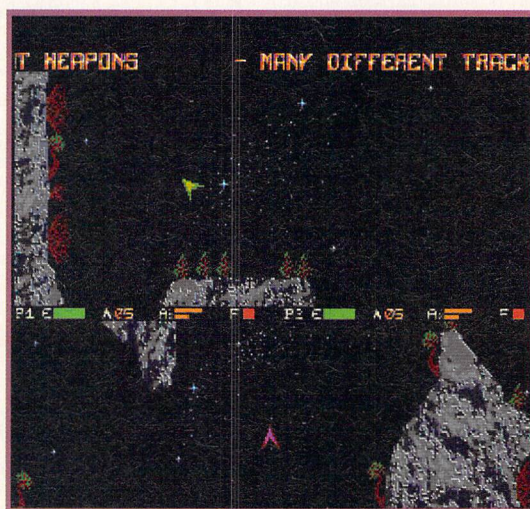
Utopos is the only game ever written especially to take advantage of the STE's enhanced graphics and sound hardware to bring you a 32-colour, stereo soundtrack, multi-player shoot-'em-up. And it's Shareware!

Utopos is loosely designed around the classics *Oids* and *Grav*. Each player controls a small spaceship you have to guide around a series of caverns to seek and destroy each other. There are different levels for combat modes, chase modes and team player modes. The ships are affected by gravity, air resistance (in space?), kinetic energy and a recoil whenever you fire your weapons.

The game is controlled by joystick in the time-honoured left-right-up-down-fire manner, with assorted weaponry such as twin machine guns, buchus and a cloaking device

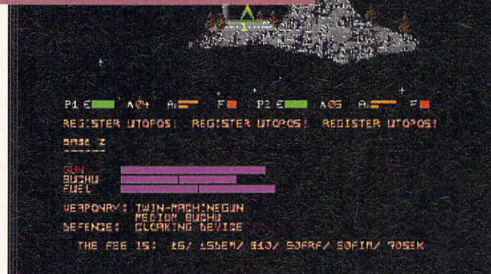
at your disposal. It's cleverly programmed to give a split-screen view of the action, using 32 colours on-screen and a vertical resolution of 256 pixels in low resolution for a greater playing area. Hardware scrolling has been used along with stereo tracker music and sound effects to really enhance the mood and feel of the game. You can link two STEs together using a null modem lead for four-player games, either playing singly or in teams. These Finnish Shareware programmers can certainly show the commercial guys a thing or two!

While the basic concept of the game is simple – shoot down your opponent – the inclusion of the multiple player modes and the various levels ensures an enjoyable game with a different outcome every time. A single player mode against your ST is a good idea for those times when you're short of company. Full instructions are included within the program so you can get down to business as soon as you've loaded *Utopos*. Hard drive installable, you need a 1MByte STE to play it. **stf**



■ On the *Oids*-style level you zoom about looking for your enemy, when you spot his ship dive straight at him with all guns blazing away. Don't forget that your buchus are as powerful as 32 tiny bullets.

■ If you're not happy with the way the quartermaster has allocated the ship's stores then tug back on the joystick when you are parked at base and load up as much ammo as you like.



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GET YOURSELF CONNECTED!



■ A typical office setup using networked STs and a Falcon030. Graphic data files can be shared between all the network nodes for updating and modification. You can be working on a DTP document on your node while someone on another node is making last minute changes to a graphic file to be imported into your document. It happens all the time.

Link hundreds of STs together to play amazing multiple-player games! Well, perhaps not, but you can link STs together using a network. Clive Parker gets hooked into the system

Networking is a wonderful idea – and it could change your whole working life! It's a system for linking lots of STs together so that they can share software and hardware. You may only have one hard drive and printer but using a network you can use them from any ST connected to the system, so you can run any program on the hard drive from any of the STs.

A network is made up from at least two STs, one of them is the main machine on the network and is connected to all of the hardware such as the hard drive and printer. This ST is called the server, or file server. The second ST on the network is only connected to the file

server and its monitor, it has no other hardware connected at all but uses the file server's hardware via the network. This ST is called the client. Every ST connected to the

***"Using a network
you can run any
program from any
of the STs"***

system is called a node, and has its own unique ID number and name so that all the other nodes can tell which machine is which.

So who's going to use a network? Networks are primarily

designed for business use; we use them in the office to link all our computers together so we can produce *ST FORMAT* – and they're also linked to the office laser printer. Any type of business using more than two STs should seriously consider getting them networked together. At the very least you don't have to swap files between machines using floppy disks any more, you can just send it over the network. It certainly saves a great deal of time.

The best reason for investing in a network is because it saves on your hardware costs. If you buy a new ST for your business it works out much cheaper to buy an additional node for your network than to buy a new laser printer, hard drive, modem or any other hard-

ware you may need to use with it. Even if you shared the hardware between all of your STs, plugging and unplugging printers and carting them around is a nuisance at the very least. And what if you dropped the printer? Disaster.

Adding a new node is simple, just plug it in the cartridge port of your ST and you run the installation software. It's as easy as that.

On the negative side, however, data transfer speeds on a network are rather slow compared to normal hard drive transfer rates. While an ST client node loads software or files from the main file server much faster than it would from floppy disk, if you are used to using a hard drive for your work then the network seems slow. Another point to mention is software piracy. If you buy any program and install it on two hard drives on two separate STs you are breaking the law – making the second installation is technically software theft. The same rules apply on a network, legally you have to buy a copy of the software for each node that is going to use it.

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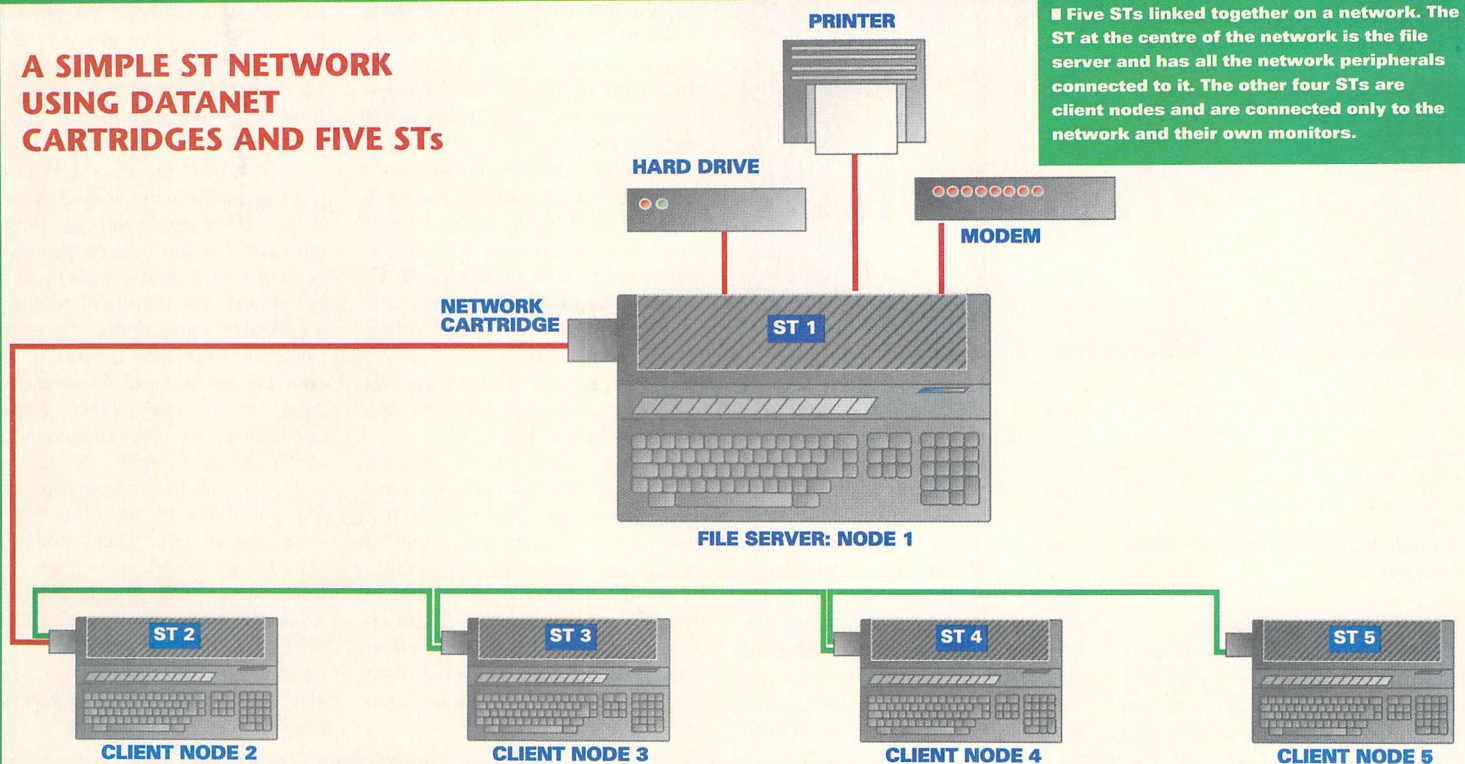
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A SIMPLE ST NETWORK

A SIMPLE ST NETWORK USING DATANET CARTRIDGES AND FIVE STs

Five STs linked together on a network. The ST at the centre of the network is the file server and has all the network peripherals connected to it. The other four STs are client nodes and are connected only to the network and their own monitors.



Setting up your network

If you want to share data between STs, you want to get your network sorted out – and to start you need a minimum of two machines. If your business has a couple of STs that you're using all the time and you only have one printer, modem or hard drive, then a network is a

perfect solution to your device sharing problems.

Before you take the plunge and buy a system think about how much your second ST node is going to use the peripherals connected to your main server. If you only use a second machine with the laser printer or hard drive then

you may not actually need the network. If you are constantly transferring data and files between the two machines for printing, modeming or other processing, then the network quickly becomes a necessity rather than a luxury.

Apart from the two ST minimum, the only other requirement to get up and running is the network software and hardware.

the more usual coaxial cable (TV aerial cable) used with most networks. MIDNet nodes are £49.99 each and also use twisted-pair cables using mini DIN connections. No cables and BNC/mini DIN connections are supplied, you must provide them yourself.

The Bi-Data Network from System Solutions in London is the only other ST networking system. Bi-Net provides a professional network system enabling STs and TTs to be connected to all manner of networks, including mainframes and Sun workstations. Unfortunately it's rather expensive at around £600 per node, with a rec-

NETWORKING JARGON

ALIAS: Client nodes can read data from the hard drive on the server, disk drive icons can be installed on the Desktop of the client node enabling it to access the server by double-clicking on the drive icon and opening a disk window in the usual way. A drive alias can be set to access an entire hard drive partition on the server or just a folder dedicated to the client node.

CLIENT: An ST node on the network that can access files and software from the server, other client nodes cannot access files on a client node ST.

LAN: Acronym for Local Area Network, a series of machines linked together sharing software, data and input/output devices such as hard drives, printers and modems.

MBITS: Data transfer rates on networks are measured in MegaBits per second, a Mbit is 1,048,576 bits of data. Eight Mbits equals 1MByte, so a system running at 80Mbits trans-

fers data over a network at 10MBytes per second.

NODE ID: Each ST node has a unique identifying number, the main file server should always be node one and the highest ID number on the network must not be higher than the total number of nodes.

NODE: Each ST connected on the network is called a node, so a network with one server and three clients would consist of four nodes.

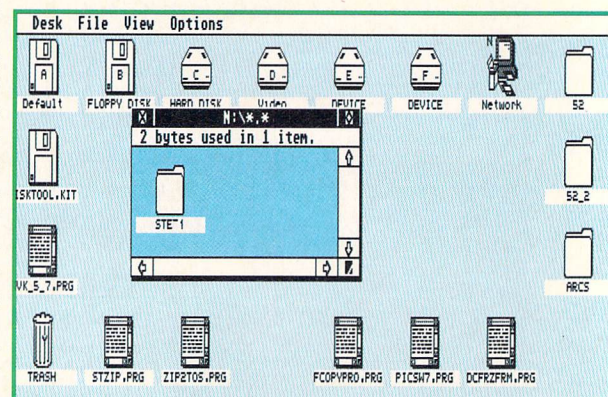
NOS: Network Operating System. The PowerNet network from Ladbroke Computing uses PowerDOS – a multitasking GEMDOS replacement.

SERVER OR FILE SERVER: The hub of the network. The Server is the ST node at the centre of the system containing all the software, data and hardware to be used by the client nodes on the network. The main server is typically connected to a printer, modem and a hard drive.

Where to get your network

Choice of ST networks is limited between two systems and suppliers. PowerNet from Ladbroke Computing is a complete, affordable networking system enabling any ST, TT or Falcon to share data between them at a relatively high speed. There are three types of network cartridge available for the PowerNet system – a standard cartridge port system, a MIDI port system and a LAN port system for the Mega STE, TT and Falcon. All network hardware supplied by Ladbroke includes PowerNet software.

The "starter pack" of a pair of DataNet nodes plus PowerNet software costs £139.98, each additional DataNet node costs another £69.99. LAN net nodes are £59.99 each and use twisted-pair cables rather than



Our MegaSTE Desktop after setting it up as our file server on our PowerNet ST network. The drive "N" icon on the Desktop represents the network, opening the drive "N" window displays all nodes connected on the network. Here there is a single STE client node connected to the server.



■ Using these small cartridges the DataNet Network enables up to 64 STs, TTs and Falcons to share hardware and software between them. This is an inexpensive way of expanding your system.

Recommended minimum of ten nodes on a network.

System requirements

Your main ST – the file server – should have a hard drive and least 4MBytes of RAM installed if you are going to use the system seri-

ously. A printer of some kind is vital in a business setting, the higher the output quality the better. Each subsequent node you add to the network requires a minimum of 1MByte of RAM to operate effectively, and preferably 2MBytes.

Remember that each node has to run the network software alongside any application software being used, serious software almost always needs a minimum of 1MByte and more powerful programs such as Calamus S and

Calamus SL require a minimum of 2MBytes. There is no need for each node to have its own hard drive, the hard drive in the main server acts as storage for the entire system and it should be large enough to cope with the needs of the entire network users.

A minimum hard drive size of 100MBytes is advisable if you have three or more client nodes. If you have more nodes then you should add a hard drive to a second ST and set it up as a new server – hard drive space is quickly eaten up by graphics and Desktop publishing files. The second drive could act simply as a storage drive for the client node data files.

Each node on the system works as if the file server's hard drive is its own personal device; data can be loaded and saved in exactly the same way as it would be if a hard drive is connected to the node. Drive icons can be set up and accessed from the client node's Desktop, files printed, data sent by modem and received from other nodes.

Potential problems

Your ST is one of the most reliable computers available, the chances of it breaking down are very slim although STs in constant use in a business are more likely to suffer from wear and tear than if you're just using your ST at home

That said, the worst thing that can happen on a networked system is for the file server to break down. Because it is the hub of the entire system and provides access to all peripherals for the client nodes, a breakdown can cripple the entire system for the time it takes to get your server repaired. That can be days or it may even weeks, depending on the service your repair people provide.

You can sensibly prepare for this possibility by ensuring that at least one of your client nodes is capable of taking over from the main server. This means that one node should have 4MBytes of RAM installed, besides acting as a backup for the main server it can also tackle larger tasks and applications in everyday use. **stf**

SETTING UP POWERNET

PowerNet is a complete networking system from Ladbroke Computing, available in a selection of hardware formats enabling STs to be networked via the cartridge, MIDI and LAN ports. Although the MegaSTE, TT and Falcon030 have LAN ports, a special LANnet cartridge must be used with these machines because the PowerNet software has been written to use the cartridge hardware.

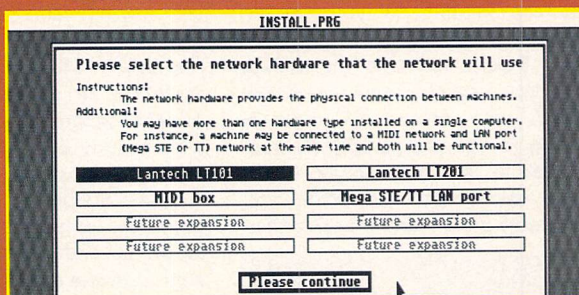
The basic PowerNet setup consists of a minimum of two nodes, an ST with a hard drive and printer to act as the server and another ST to act as the client node. The two DataNet cartridges are connected by standard coaxial cable using BNC twist-on connectors. You have to supply your own cable, PowerNet only comes with the cartridges and software. It's simple to set up – plug the cartridges in your two machines and connect them together using the cable.

Installing a PowerDos network

Each node has its own serialised software drivers, that means you have to enter the serial number of the disk when you run the installation software. Only one machine on a network can use a particular set of drivers.

The installation software is easy to follow, with simple prompts and GEM windows

It's possible to restrict client node's access to the file servers' drives. There's not much point in a node being able to access the floppy drives of the file server, and you may want to limit the software and data files available to your client nodes. If you buy any commercial software it's only legal to run it on one machine at a time unless you purchase a special network version or license it for more than one node.

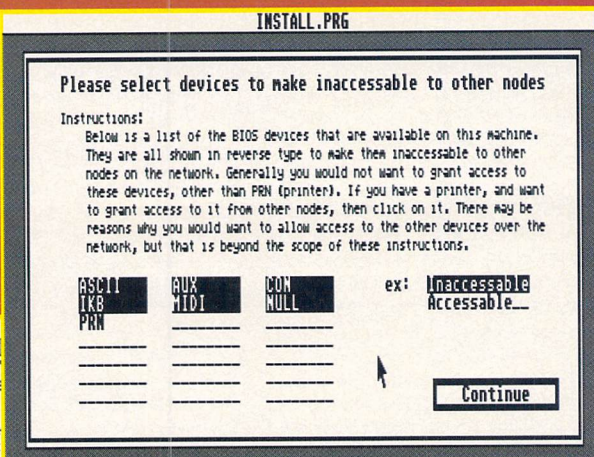
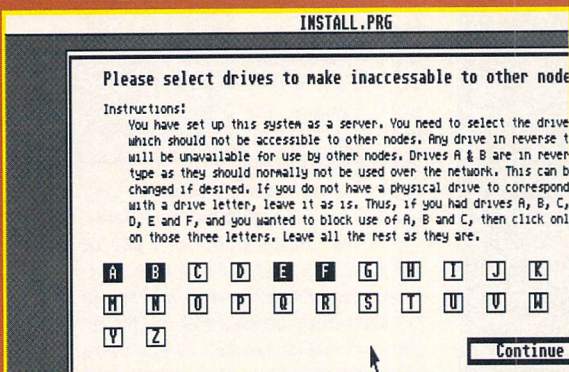


■ The installation program enables you to choose the driver that matches the hardware you have – the DataNet cartridge port hardware uses the Lantech LT101 drivers. If you have the MIDnet or the LANnet hardware then you pick the relevant MIDI box or LAN port drivers. You can have any combination of DataNet, LANnet and MIDnet cartridges connected to your server, and you can install multiple drivers to suit.

to help you get everything right. After choosing the boot drive on the server – drive C if you use a hard drive – you select the hardware driver and enter the drive letter of the network so it can be represented by a drive icon on the Desktop. Other options need to be set up, including whether the node is a file server or a client, the number of nodes on the system and the node ID number. Everything is laid out clearly in the manual and the instructions are very easy to follow.

Once the program is installed you re-boot and PowerDOS is installed, a multi-tasking

replacement for GEMDOS enables files to be shared between network nodes while the file server gets on with other work. Run the configuration program and you're set to network.



■ Any client node can access the devices connected to the file server, this includes the internal BIOS devices of the ST running the network. Normally you would only set up a client node to access the BIOS PRN device, this enables any client node ST to access the printer connected to the file server. Dead handy if you have a DTP or graphics setup with several STs and a single laser printer.

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GET INTO GEM-VIEW

GEM-View is a powerful image conversion tool. Clive Parker takes a look at its capabilities

You've seen all those powerful graphics programs on the PC and the Mac, well, now you can use all those brilliant 256 colour pictures on your ST.

GEM-View is a powerful picture conversion and manipulation tool, enabling you to import picture file formats that you couldn't use before on your ST to be imported into DTP and graphics packages. Of course, you can use it

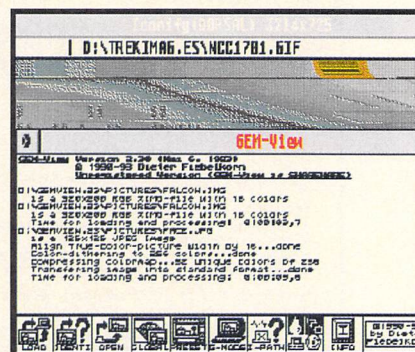
for looking at 256 colour and true colour pictures but it has other more useful functions. If you want to view 256 and true colour images on a standard ST then *Photochrome 3* (supplied with *POV* on *ST FORMAT* Cover Disk 49) shows pictures with more than the standard 16 colour palette, both on STFM and STes.

The great thing about GEM-View is that it makes a huge num-

ber of pictures instantly available to you, there are hundreds of thousands of picture files available on bulletin boards and on-line services across the UK and the world, plus hundreds of PD libraries catering for the ST, PC, Macintosh and Amiga. One point to watch out for, if you get files from Mac and Amiga libraries then you must be able to transfer them to PC disks so that your ST can read them. Perhaps a friend with an Amiga or a Mac can help you out.

It's self-installing

The latest version of GEM-View is so big that it's archived in a 600K ZIP file. You have to unpack it with ST ZIP and then install it using its own installation program, you can't just copy the files to a floppy or on to your hard drive. You can install the program so that it works from floppy drives, RAM disks or hard



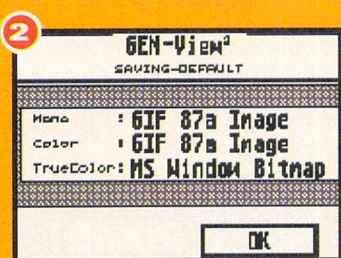
Most good quality pictures use 256 colours and are sometimes much bigger than the screen area, the program holds a "virtual" screen in memory enabling you to scroll around large pictures. This 256 colour GIF is 3214x725 pixels in size, over nine times bigger in area than your ST's high resolution screen and over 36 times larger than the low resolution screen and takes up over 2MBytes of RAM.

drives, but you need at least 1MByte of memory to do this.

At the start of the installation program you are asked to enter a

LOFT CONVERSION

Before you start to convert picture files from a PD library or that you've downloaded from a bulletin board there are a few quick points to make about using GEM-View. Never display a picture on-screen when you are converting it, this slows down the process which takes a while anyway. Use the keyboard short-cut <Control> <N> to start your conversion, when the Picture Options menu appears ensure that the "Do not show" option is highlighted

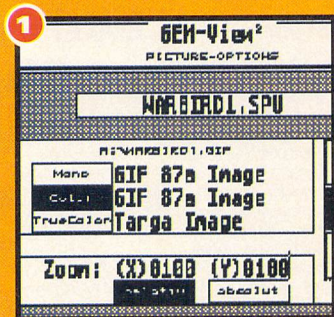


To save you the hassle of having to select the picture file format every time you convert an image, use the Saving Default option from the Extra menu. When you have set your defaults, select the Global menu and save the defaults.

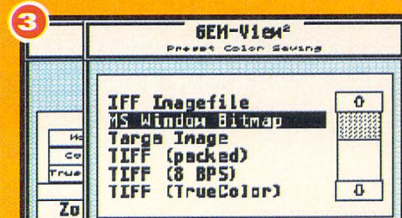
Follow these steps for pain-free picture conversions. Press <CONTROL> <N> to start on your first picture and select the first picture to be converted...

You don't have to display pictures on-screen to convert them, you can convert 256 colour and true colour pictures in memory and save them to disk, even on an ST with a mono monitor. You can also set up batches of pictures to convert instead of going through the whole conversion process. Start a conversion session as normal, and instead of selecting a specific picture to convert, say a PC Paintbrush PCX file called CHEETAH.PCX, type in *.PCX and click on OK. GEM-View now converts all PCX files in the chosen directory, with just a couple of pauses to confirm that the correct destination names are entered.

After a few seconds the Picture Options menu appears, in the Saving Picture window are the default file types to convert to. Clicking on the file type a menu of file options pops up. GIF is the one you use most, and you can repeat the setup.



Click on the Colour option and you are again presented with the file selector, this time you enter the destination filename. This normally defaults to the original name with a new file extender to match the new file type. Clicking on OK converts the picture to its new format and saves it to disk.



THE MAIN MENUS

GEM-View uses a pop-up menu system, the two main menus are the Global and Preset menus which are used to set up most of the options in the program.

The Preset menu determines how the picture looks when it's loaded. The Zoom factor is used to load pictures at their actual size, or at larger or smaller scales. You can disable colour

dithering or dither to various numbers of colours or grey scales. Other options set from here are the brightness, the number of colours and the RGB (red, green and blue) scaling.

A reset button returns everything to GEM-View's default settings, any changes made are saved permanently from the Global menu.

EVEN MORE OPTIONS

1 Colours: Take Colours, Colour Map and Colour Scale. Take Colours uses the colours for one image in another; Colour Map provides sliders to alter colours; Colour Scale enables the RGB factors of the image to be adjusted.

2 Dither: Floyd-Steinberg, JN-Dither, Stucki, Halftone and Quickdither. Various dithers offering a range of results.

3 Export: Save file, Print image or Send xAcc: Save to disk, print a hardcopy if GDOS is loaded or send the file to another application using the xAcc protocol.

4 Options: Global, Raster and Invert. Global enables the save format to be selected, along with the Zoom factor; Raster provides access to dither-



With 256 colours to choose from, it can take a while to get a picture looking just right.

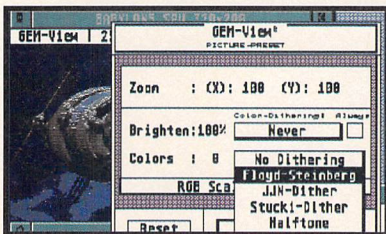
ing, brightening, image crop ping, dithering and rotation; invert gives a negative image.

5 Picture Size: Half, Double or Original. Enlarge or reduce image size on-screen.

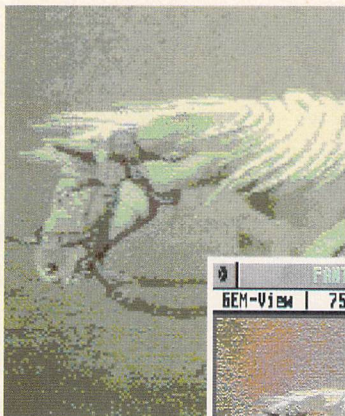
6 Window options: Fullscreen, Iconify image and Reload image. Display the image on the full screen, save the image as a GEM-View icon file or reload from disk.

code number, this is for registered users of the program. With the Shareware version you may ignore the code entry, although after a short time GEM-View stops working if you haven't registered. The toolbox option is disabled in the Shareware version, you need the full registered version to enable you to use all the functions.

After GEM-View is installed you can set about working on some pictures. The program gives better results in either low or high resolutions if you just want to look at them, the dithering patterns in medium resolution are not very good. The most useful function is the conversion routine, almost every file type you've ever heard of is supported by GEM-View. **stf**



■ The preset menu and some of its dithering options. You can display your pictures with all kinds of weird and wonderful dithers.



■ (Above) You can view 256 colour GIFs on a standard ST, but the colour map is reduced to 16 colours...



■ (Left) ...On a Falcon, or an ST with a graphics card, this picture is seen in its full 256 colour glory.

EVERYTHING YOU NEED TO KNOW ABOUT THE WORK WINDOW

Each picture displayed in GEM-View has its own sub-menu. All functions have a keyboard short-cut, these take effect on the image in the top window. Here's a brief rundown of the window functions

1 Information window: attributes of an image such as the path name, resolution, image type and number of colours are displayed here.

2 Load: Load a picture file from disk to be viewed using the file selector.

3 Identi: Selecting a file, using the file selector,

displays its attributes in the log window.

4 Open: Opens and displays an iconified file, stored in GEM-View's own special format.

5 Global: This calls the global menu.

6 Preset: This calls the pre-sets menu.

7 G-Mode: Graphic mode, toggle between Intel and Motorola modes.

8 I-Path: Select the path where pictures are to be stored when iconified.

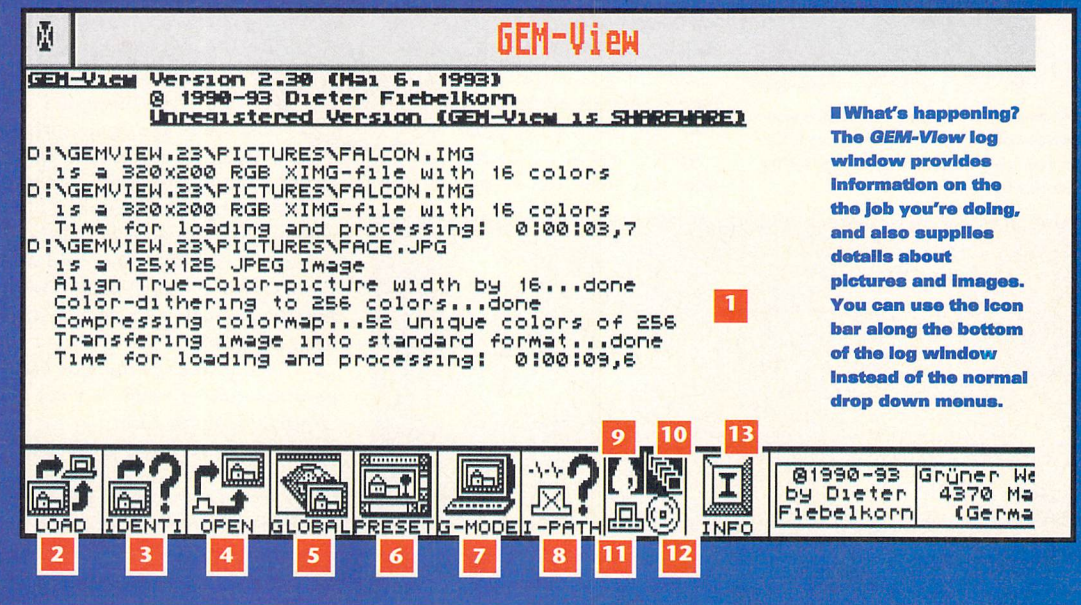
9 Colour reset: Ensures images retain their original palette when selected.

10 Small windows: Windows expand to fill the screen if this option is not selected.

11 Auto Iconify: Saves the last closed window as an iconified file, a kind of undo function.

12 External: Assigns an external path to the iconify function.

13 Info: Displays registration information.



■ What's happening? The GEM-View log window provides information on the job you're doing, and also supplies details about pictures and images. You can use the icon bar along the bottom of the log window instead of the normal drop down menus.

PLEASE REGISTER

If you use Shareware software on a regular basis then you should register your copy with the author of the program. Shareware fees are normally quite low, costing between £5 - £15 on average, and for this small fee it ensures that you receive the latest version of the software as soon as it is com-

pleted. GEM-View 2.3 costs DM 40 to register, that's about £16. It's good value and it's probably one of the most powerful graphics utilities available for the ST, TT and Falcon.

To register GEM-View, send DM 40 in German money to: Dieter Fiebelkorn, GrÄner Weg 29a, 45768 Marl, Germany.

A MULTIPLICITY OF FORMATS

GEM-View can display and convert a staggering 28 different file formats from a wide selection of platforms, including PCs, Macs, UNIX and Sun Sparc workstations. It can also load and view ASCII files and First Word Plus documents, so you can always read any documentation associated with any images you are viewing

File format	File extender
Art-Director Rasterfiles	ART
Degas	PI1, PI2, PI3, PC1, PC2, PC3
Doodle Monochrome Rasters	DOO

Enhanced Simplex	ESM
GEM-Metafiles Vector	GEM
GEM-XImage Files	IMG
GIF Images 87/89	GIF
HAM Hold & Modify	IFF
IFF Imagefiles	IFF
Imagelab Images	B&W
JPEG Images	JPG
Load as Hexdump	no specific extender
MacPaint Image	MAC
MS-Windows Bitmap	BMP, RLE
Neochrome Rasterfiles	NEO
OS/2 Bitmap	BMP
PC Paintbrush	PCX
Portable Bit Map	P[BGP]M

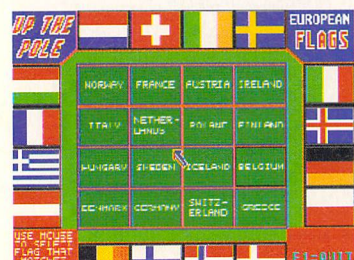
Resource File	RSC
Spectrum 512 Images	SPU, SPC
STAD Images	PAC
Sun Rasterfiles	SUN
Targa Images	TGA
TIFF Format	TIF
Tiny-Compressed Images	TN1, TN2, TN3, TNY
Vidas Image	IMG
Vivid Raytracing	IMG
X Bitmap-File	XBM

As you can see from this extensive list of file formats, GEM-View is an impressive picture converter

MR SMART'S BIG TIME

A massive 25 educational games are included in this package which aims to teach six to 12 year olds a range of different skills and encourages their knowledge in a variety of interesting subjects.

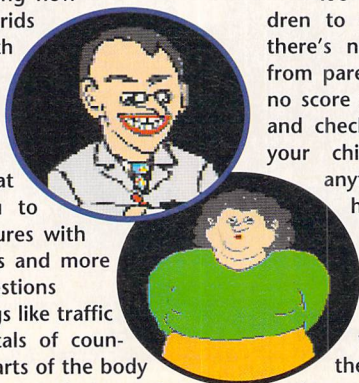
You start off from a main menu where you can choose any of the modules – there are separate instructions so you can get the gen-



■ (Above) This is the perfect program to show off your ignorance – unless you can confidently match each flag with the appropriate country.

eral idea of what you're supposed to be doing before you actually let yourself in for it – just as well since some of the puzzles, particularly on the harder levels, require a combination of quick thinking and rapid mouse movements.

You can choose from telling the time, learning how to use grids along with simple addition and subtraction, games that enable you to match pictures with their names and more real life questions about things like traffic signs, capitals of countries and parts of the body – you're first of all given a lesson and then tested to see how



well you absorbed the information. Telling you whether you got the answers correct or not is a bit haphazard – some of the modules tell you that you made a mistake but the others just ignore you – not really the best way to go about educating people.

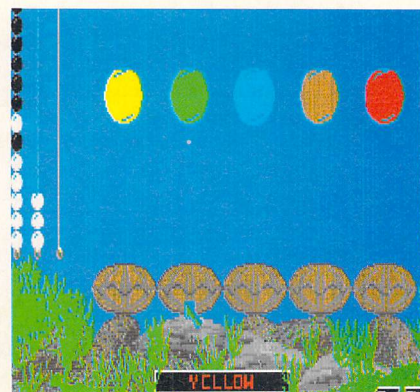
It's really designed for children to use on their own since there's no chance for any input from parents or teachers – there's no score system you can print out and check to see whether or not your child is actually learning anything so you've got to have a pretty motivated kid who's going to sit through all these lessons on their own.

Certainly the games which are designed for the lower age range such as the colour recognition tasks tend to be on the fiddly side and so are perhaps inappropriate. The whole thing's created in STOS and is reasonably bright and bold and there's also a selection of noises that accompany each section that liven things up.

Plenty to keep the kids occupied for quite a while but not in-depth enough for £25.

PAULA RICHARDS

■ All the action starts here – just click on your chosen task and off you go.



■ Quick reflexes are essential to engage brain and mouse together and answer this one fast enough.

Mr Smart's Big Time

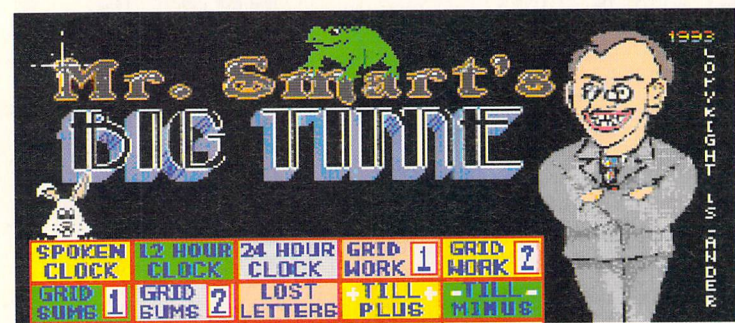
MT Software £24.95
0983 756056

Highs

■ Lots of sections to choose from. Wide range abilities addressed.

Lows

■ No consistent reward systems. No place for parental help, input or control.



JIGSAW

This literally is computerised jigsaw making but, compared to most cardboard-to-software translations, this actually turns out much better than playing the real thing.

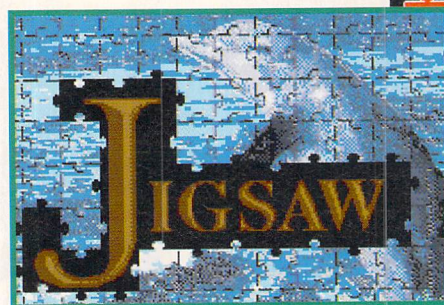
You can choose what picture you want to play and add extra bits to the program so you can swap between jigsaws as you go – you

can save half finished pictures and come back to them later if you come across an especially difficult bit, you don't lose pieces down the back of the settee and fidgety fingers can't pull the picture off the cardboard backing.

The only problem really comes when you want to look at the picture you're trying to create – there's something comforting about being able to clutch hold of the box – clicking on View and attempting to memorise what you see isn't quite the same – or as easy.

To start off you just load in the pic you want to create, choose whether you want it to be created out of 40, 80 or 160 pieces, your ST jumbles it up and you move to the next screen where you can pick up the pieces you want to concentrate on – all the edges, for example. Take the tray to the main screen

■ A quick refresher of what you're supposed to be doing is at your fingertips, hit that View option.



■ Dolphin's logo neatly chopped into little pieces and put back together again. If you can't see the point of this, you'll hate Jigsaw.

Jigsaw

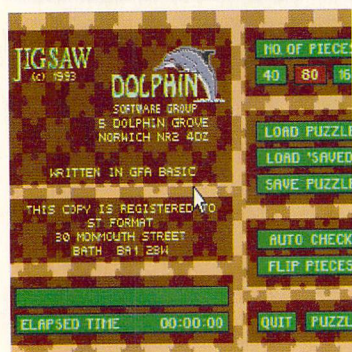
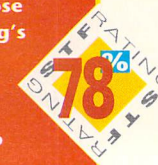
Dolphin Software
£9.99 0603 6117602

Highs

■ Plenty of different pictures to choose from. Everything's kept together conveniently.

Lows

■ No handy box so you can refer to the picture.



■ Start everything off from here, including the timer, enabling you to test your powers of observation.

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Hundreds of chances to play all the latest games and see the big Christmas titles before they even get released... **Dexter Fletcher** and **Gamesmaster TV** broadcasting live to millions on Thursday... **Radio 1 FM** roadshow broadcasting to the nation... your first chance to see next year's consoles and make your own mind up about all the hype... see and play all the hot stuff on **CD32, Mega CD, Mega Drive, Super Nintendo, Amiga, PC, Game Boy** and more... see what **Commodore, Sega, Nintendo, Acorn** and **Philips** have to offer... free ticket to see Disney's superhit **Aladdin** movie before its UK premiere if you come to the show Friday... **Dexter Fletcher** and the **GamesMaster Show** live and direct every day... see what's hot (and what's not!) from the likes of **Electronic Arts, US Gold, Konami, Domark, Core Design, Gremlin, Accolade** and dozens more... meet the people who bring you this very magazine... like, you want a reason why you should be there?... check out loads of dealers selling all the latest gear at the lowest prices... meet the **programmers** who make the games and find out how (and why) they do it... be a witness to the finals of the **National Computer Games Championships** - with a cheque for **£10,000** to the winner at stake!... **be at the UK's most massive games event of 1993**... Enter the incredible **Pinball Challenge** and win a trip to Chicago! Just turn up at the 21st Century stand... so what else are you doing on a weekend in November anyway?... games challenges, competitions and **1000s** of chances to win... **flight simulators, virtual reality, Lazer Force**... we're not saying it won't be busy, because it'll be very busy indeed... hot new live bands, very - very - **loud music** blaring out at top volume on three massive state-of-the-art video walls... goats: sorry, no goats... **dodgems, fairground rides**... are you big enough to take on the **Typhoon**? It's the only one in the country and pulls a hairy **6G** (whatever that might mean)... oh yeah, and there's the **World's Largest Games Arena** sponsored by Rumbelows...



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FEEDBACK

Is something bothering you? Then get it off your chest and down on paper. We want to hear what you have to say

Just pass the buck

In reply to Darryl Still's letter in *STF* 50, I must say that it is time that he (and the whole industry) stopped passing the buck. The problem seems to stem from the bad marketing that seems to be so prevalent on the ST and Falcon scene. Take the £159 STFM, Atari drop the price, but do they bother to tell anybody? Atari release the Falcon but again there is no advertising apart from a few ads in specialist Atari magazines.

I would say that Mr Still is a very good marketing manager but he seems to have a lot of problems putting his strategies into practice. It's about time that Atari pulled their fingers out and launched an aggressive ad campaign – not in time for Christams but now! There is just enough time for Atari to push their ST range and drum up

interest, perhaps even commission some STE and Falcon only games.

So what have Atari ever given us apart from the ST and Falcon? Well, they have given us launch dates that were not met or how about an undersupported STE! Mr Still may think the Falcon is the best thing since sliced bread, but it can't sell itself so I think it should be advertised as all things to all men – even as a games machine.

Mark Brill, Kent

stf: Sorry to disappoint you Mark, but the chances of the Falcon being "sold" as all things to all men are pretty remote. Atari are adamant that they're not going to position it in the market as a games machine – Paul Welsh of the company said in no uncertain terms at the dealer days that it was "not the A1200

basher" and shouldn't be considered as such. The Falcon's capabilities far outweigh those of the A1200, but at the same time as its abilities in other areas there is no doubt at all that it makes a very fine games machine as well. We shall be considering this issue in more depth next month – that issue's due to come out on Tuesday 9 November, so make sure you order a copy now.

What have you given us?

Reading the "Sorry we can't create support for our customers but it isn't our fault" reply from Darryl Still this month made me jealous that somebody else has found a way of being paid for pathetic performance. Boo hoo, so people won't sign forms so you can't give



them computers. What a pathetic excuse! Go to Kev Bulmer's house and give him a Falcon, get him to sign any necessary paperwork on the spot where you can talk to him in person and then go and tell US Gold about it. Am I being naive? Wouldn't at least a phone call be easier than sending a form and leaving Kev to sort it out?

It's good to see that Darryl at least does something at work, that is reading *ST FORMAT* for all the latest praise of the ST, but what can we expect from a magazine that naturally depends on its subject's existence and popularity? Although unbiassed, you are hardly going to report on the significantly higher profile of consoles – how much my schoolfriends laugh in contempt when I finally

KEEP THE JAPANESE (SIC) AT BAY

I will no longer be reading *ST FORMAT* as a result of the racial slur printed therein. *STF* now advertises itself as "The world's best selling ST magazine." When you go global you have to take into consideration the sensibilities of your cosmopolitan readership. The reason that statement raises my ire is that the racial epitome, "Jap," has never been used in my presence in anything but a derisive manner. I recently met a British gentleman who used the ethnic slang with venom and vehemence. He was one of the survivors of the torpedoing of the HMS Prince Of Wales, the cruiser that encountered the German pocket battleship, Bismark, and had observed the sinking of the Hood. The cruiser was sent from the North Atlantic to the Pacific to help in the defence of Singapore. The British gentleman survived the Imperial air attack only to spend three years in a POW camp in Malay suffering degradation and deprivation at the hands of his Imperial Japanese captors, so I suspect there are a number of British males at retirement age who fully embrace the *STF* statement with enthusiasm. They may even engage with *STF* to win the program that is listed in the number one slot.

The second thought is that if Andy Hutchinson was Editor I would have thought this was a veiled editorial statement, but with Paula Richards as Editor I

am uncertain. I remember when the rallying cry around the world was that the Japanese were coming to take over the home computer market. MSX was the system that was going to make total networking of home appliances possible and was going to make the home appliance automation envisioned in the '50s by Ray Bradbury a reality. Well, these days keeping the Japanese industrial might at bay is a real or imagined thing of concern for many. If you want to read about the fear that the Japanese and MSX instilled in the home computer industry, just pick up a copy of *BYTE* or *Compute!* from around ten years ago. Fear of Japan's competition in world markets and Japan bashing is nothing new.

Incidentally, the civil rights organisation, JACL, of which I am a member, is fighting a legal and media battle in a township in Texas. The city council there saw fit to name an avenue, Jap Avenue. The council maintains that it is only an abbreviation used on the street signs. The mayor of the town has confided to reporters that he considers it an ethnic slur. That this happened in Texas is an affront to history. In the Black Forest on Germany a battalion of Germans was encircled. The Japanese 442nd regiment was sent in to save less than 600 Texans at a loss of 1,200 killed and wounded and

over 900 more were reported missing – mostly captured. This comment in *STF* comes at a time when this is still an issue. Well, this is one American of Japanese ancestry who will be "kept at bay" from reading another issue of *ST FORMAT*.
George Yamataga via Compuserve

stf: George, I'm very sorry that you were so sensitive to the caption for *Battlehawks 1942*. The word in question was not intended to be used offensively – merely as an abbreviation. You can see for yourself that had we used the whole word "Japanese" in the caption some of the text would have run on, the caption would have been incomplete and made no sense. None of the members of the *ST FORMAT* team is of the age to remember any of the war, although I appreciate that some of our readers may do, and so the word certainly doesn't hold the connotations for us that it does for you. As for it being a "veiled editorial comment" if Andy Hutchinson had been Editor, I doubt very much if that is the case.

As far as I'm concerned, I have nothing against the Japanese at all – my brother is married to a Japanese girl and has lived very happily in Japan for nearly two and a half years. I do not consider the word "Jap" to be insulting, and neither did I intend to cause any offence.

I'VE GOT A TALENT...

For budding programmers who want to share graphical and music talents, get in touch with either of these

I'd like to do my bit to boost the standard of Shareware in the form of any graphics that anyone might want to complement their games, educational programs - or anything else in need of a visual boost. I'll send a demonstration of my work to anyone who is interested - if they are pleased with what I can do I'll offer my services for free - yes! I won't charge a penny! Just write to me at the

address below and we can take it from there.

Colin Harris, 154 Bethune Rd, Flat K, London N16 5DS

I am a professional soundtrack musician who caters mainly for corporate video companies. I have my own studio at the heart of which lies two 1040 STs, one running Cubase and the other Replay 16. If there are any programmers interested, I would be more than willing to put time aside for creating both music and sound effects for games.
Dean Towey, 18 Maltby Court, Whitkirk, Leeds LS15 9BB

admit to owning my trusty ST. Yes, schoolfriends, us 15 year olds aren't all Nintendo-addicted morons, as you may think.

I am fed up with Mr Still's continual claims of imminent releases, expected support (it didn't come for the STE and it won't magically appear for the Falcon or Jaguar) and Atari's efforts and high profile. None of these exist apart from some efforts which are directed into sending forms and not development machines. And as for advertising,

well, I have yet to see any of the massive campaigns that are planned by Atari.

Mr Still, I have tried to cover all possible loopholes in this letter but I expect you are already thinking of "infallible" answers to my criticisms and of how disappointed you are that I blame you for other people's lack of cooperation and how Atari are doing their best etc, etc. Apart from the marketing lead, no competition and bigger sales, what have Atari ever given Commodore? Don't make me laugh, I am neither impressed nor amused.

Mark Harold, Kent

stf: This was just one of several letters I received on the same subject of Atari's claims to support for their machines. You might be sceptical, but there is possibly some truth in their claims - this time at least for the Jaguar. Atari are even holding meetings for the specialist press ensuring the best coverage possible for the machine and generally holding a much greater profile in the specialist computer press. Peter Walker of Atari's public relations company said that the Jaguar was "the most significant Atari launch for the last four or five years." Even Computer Trade Weekly, the industry's trade paper who are normally less than patient with Atari were being positive saying "Whilst it's clear that the machine has an advantage with its ultra aggressive pricing, it also boasts an impressive array of technical features."

Just show me, OK?!

Before deciding to buy a Falcon, I'd like to see a demonstration that shows me all aspects of the machine - and since I am in the printing industry I am particularly curious to see how it performs on colour separation using true colour files with programs like Calamus SL or Pagestream 2.2. I visited my local dealer which is the Silica Systems in Sidcup. I expected to be shown the Falcon with great enthusiasm - but was disappointed. The

Falcon was not visible or on show, it was stuck between two PCs and disconnected sitting on top of a bundle of wires. To be shown the machine it had to be connected which appeared to be a task in itself. I was only shown True Paint which the assistant said was the only fully installed program.

The assistant did not speak favourably about the Falcon and implied that it was a waste of money. I appreciate that everyone is entitled to their opinion but I feel that he did not really know how to obtain the best results from the computer. I am not satisfied with the demonstration I have been given - and I am sure this is the case for many Atari customers. I can see why the Falcon is not selling as well as it ought to, it's because of the total lack of interest I have seen by the people who are selling the machine.

Stephen Rackley, Kent

stf: Atari are in the process of addressing this very problem through their sessions of dealer training, which have only just commenced. Get in touch with Atari on who should be able to tell you the best people to go and see in your area. Also watch out for our next issue where we'll be examining the Falcon in much more detail than we have done previously - you can then go and tell the slack dealers a thing or two!

BUT WHAT ABOUT US BUSINESS USERS?

I am becoming increasingly concerned about the future of Atari. Both my ST and TT run without problem and in general appear to be more stable than the Macs and PCs at work and the total cost of hardware and software remains cheaper. I use my machine for business and scientific purposes but I feel that Atari have little interest in users like me. To raise the image of Atari in business and science arenas, consider these problems and possible solutions.

1. Operating system enhancements. I have invested in MultiTOS and SpeedoGDOS. Both seem to answer long-standing deficiencies with the ST series and approach the facilities offered by Window 3.1 and System 7. Software developers, however, suggest they do not see these enhancements as being central to the future of Atari. In other words they may not adjust or develop their software to make full use of these programs. Without proper multi-tasking and font handling, Atari as a business tool is dead. Furthermore, Atari need to develop these systems to include dynamic data exchange and networking. My TT has an integral Apple compatible LAN port, as do Mega STEs and Falcons, but I can't connect it to the network at work and use common resources such as printers as Macs and PCs can. The hardware is in the TT but no software is available.

2. Whatever the merits of software like Calamus and Didot, little Atari software is industry standard. To offer effective competition these machines need to be able to run stan-

dard software like Microsoft Word and Page-maker as run on IBM compatibles and Macs. Because the companies supporting this software are unlikely to voluntarily port their products over, Atari would probably have to contribute some cash themselves.

3. Hardware enhancements. To compete with Macs and PCs today, the top end TT and Falcons should offer built-in PC and preferably Mac compatibility.

4. The next machines. Atari need to develop more powerful machines. While the Falcon is novel with its DSP chip, it is based on a 16MHz 68030 which, by the standards of the 50MHz 80486 or 68040 based computers, is not fast. We need a 33MHz 68030 Falcon this year costing about £1,200 including monitor, 4MBytes RAM and 80MByte hard drive.

I believe that Atari should decide now their plans for the future and pass them on - something they have never done. This would give us the feeling that they have plans for surviving beyond the end of the current year.

Philip Bath, Surrey

stf: I understand what you're saying, Philip, but you're expecting a huge amount of investment from Atari that from their track record at least suggests they won't even consider. However, there are several third party companies who are currently providing the services you suggest. For example both Ladbroke Computing and System Solutions sell networking options which enables you to connect it to the networking system at work

- but that does assume you have an ST-only set-up there. In practical terms, though, how many businesses actually use a combination of STs and Macs? We're probably the most likely candidate with our ST/Mac system, but even we don't have that a need to link up the different sorts of machines. See the feature on page 89 for more details.

Furthermore, I'm not too sure which software developers you've been talking to but certainly the major players in the ST world do see SpeedoGDOS and MultiTOS as absolutely essential to the future of the Falcon. Hisoft, for example, are upgrading many of their programs to work under both these systems. Wordflair 2, the upgrade to the program we're giving away on the Cover Disk this month, is SpeedoGDOS-compatible.

To compete with PCs Compo are offering PC emulation in the form of Falcon Speed which costs only £229. Put that into your machine and you've got a PC and Falcon in the same case. Not everybody wants to use their Falcons for business use and for programs like Microsoft Word so it would seem unnecessary to include a PC and/or Mac emulator as a matter of course. As regards faster machines, accelerators are available from Gasteiner and from System Solutions (soon!) enabling you to take your machine to faster speeds. The standard hard drives that are supplied are 80MBytes - and at no extra cost. There are no details yet as to other members of the Falcon family, but it is likely that their speed is a development consideration.

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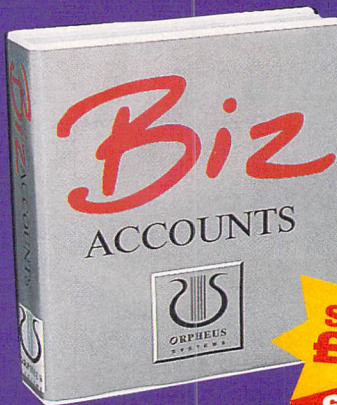
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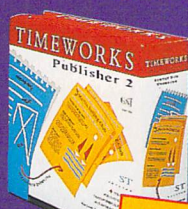
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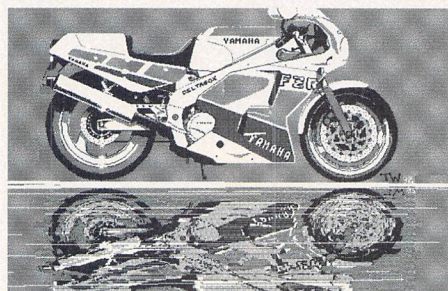
STF RATING

PIXEL PAINTING

It doesn't matter whether you use Degas, Crack Art or POV to create your pictures, the best image submitted each month gets the cash

This fantastic 24-bit Targa picture takes the £25 prize this month. *Glass Balls on a Sandy Plain* is a raytraced picture created by **John Grundy** of

Llantrisant using the *Persistence Of Vision* raytracer we gave you on Cover Disk 49, and shows the high quality results that you can achieve with the program even using a



YAMAHA

■ A Wright of London drew this picture of his motorbike over several weeks using *Degas Elite*. He told us that the hardest part was getting the proportions right until the details were correct in every way. Don't know about you, but the whole thing looks pretty complicated to us!

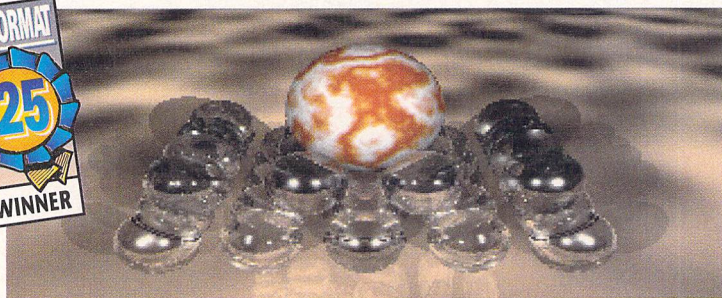
standard 1MByte ST. You don't need to use an ST to create your pictures, if you have a TT or a Falcon030 then we still want to see what you can create.

If you've got the talent to produce pictures as good as these – or

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GLASS BALLS ON A SANDY PLAIN

■ John wrote a long and complex POV script file to create his picture, over 6K in length. Because of the many elements included in the picture, it took over two days to raytrace. Unfortunately, John doesn't go into detail about creating the picture, but you can see he's used the textures, shading and colour options of POV.



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Editor Paula Richards
Art Editor Helen Hayward
Production Editor Deborah Cook
Technical Editor Clive Parker
Staff Writers Rob Mead, Andy Nuttall
Art Assistant Sarah Sherley-Price

Contributors Billy Allan, Frank Charlton, Peter Crush, Andy Curtis, James Leach, Chris Lloyd, Mac Marsden, Steve McGill, Tony Wagstaff

Photography Rob Scott

Illustration Barry McCulloch

PRODUCTION (fax 0225 337530)

Group Production Manager Judith Middleton
Production Coordinator Laurie Van Huss
Ad design Louise Cockcroft
Production Controller Claire Thomas
Production Control Assistant Megan Doole
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Administration Assistant

Suzannah Angelo-Sparling
Printed in the UK by Garnett Dickinson Print Ltd of Rotherham

ADVERTISING (☎ 061 474 7333)

Advertising Manager Gail Blincow

Publisher Colin Campbell

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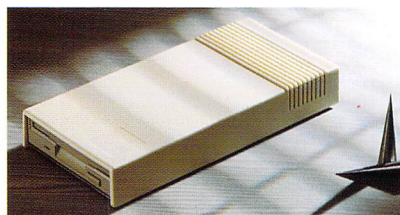
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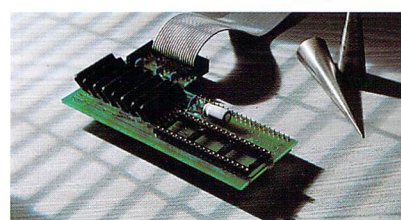
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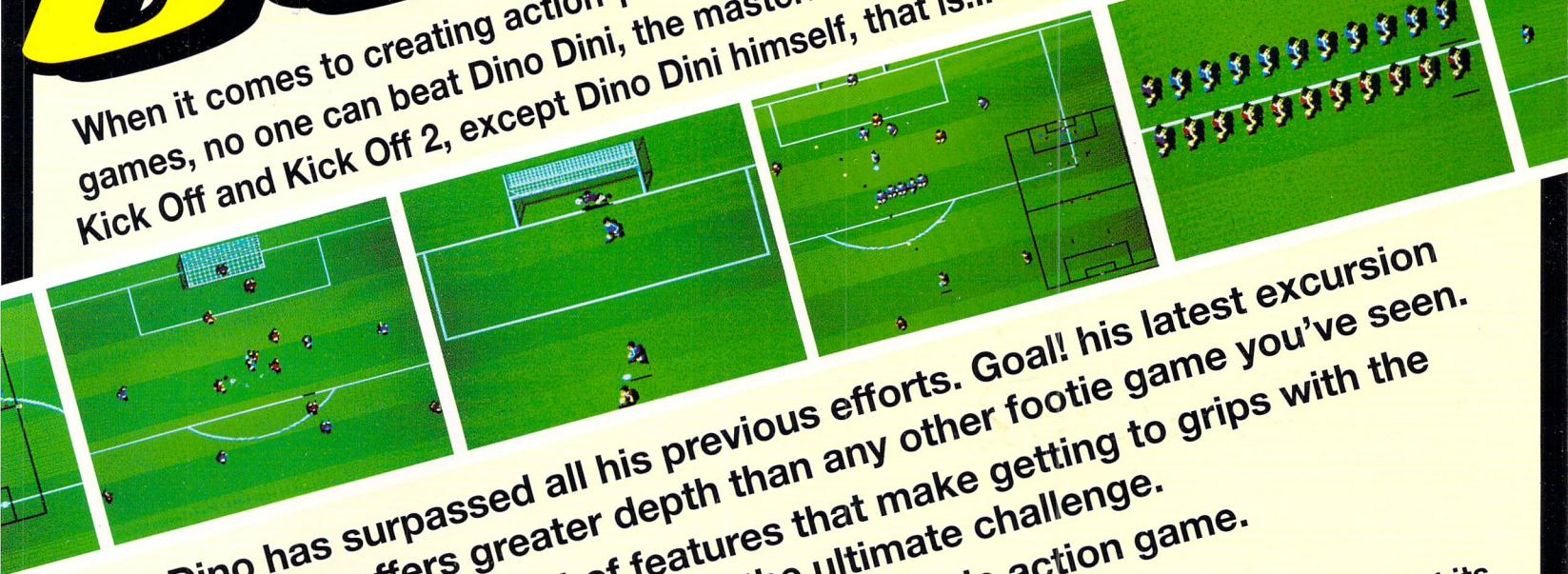
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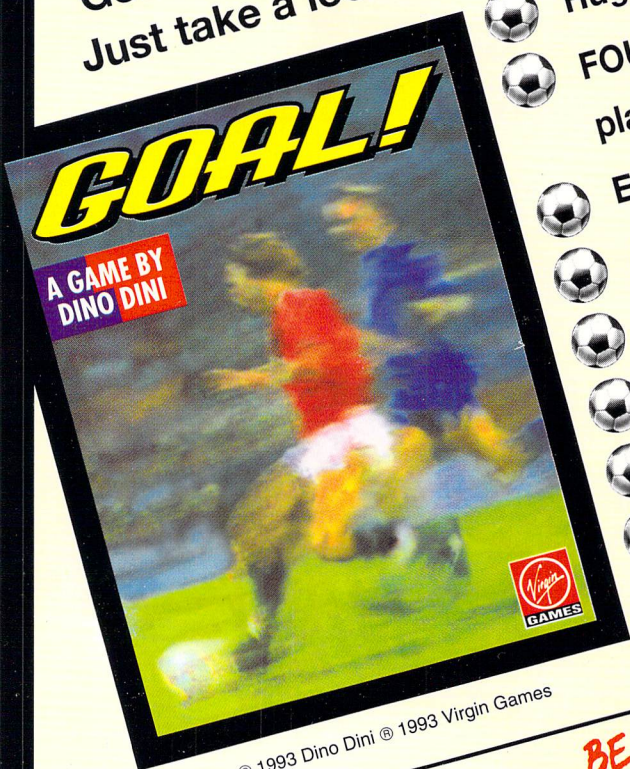
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