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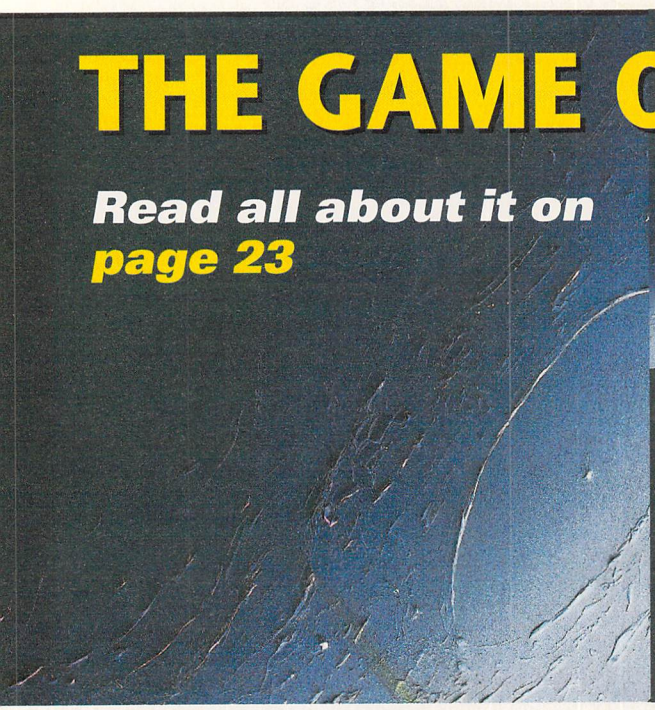
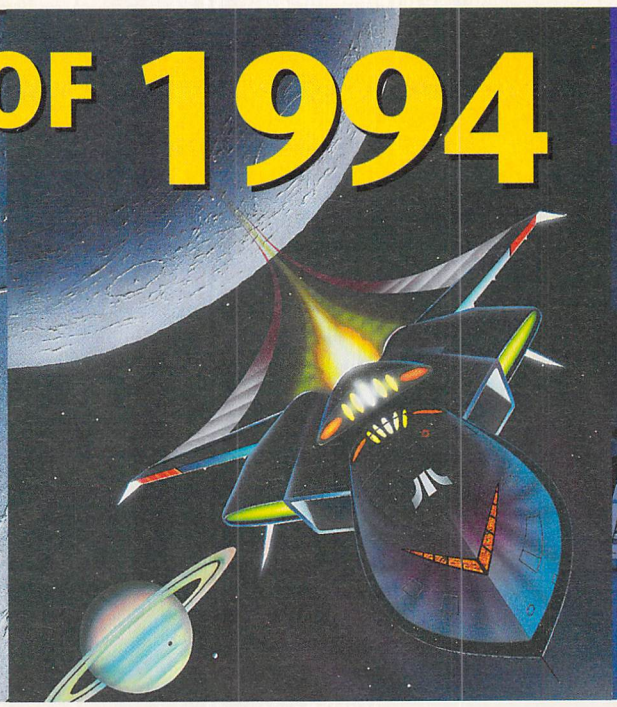
THE GAME OF 1994

Read all about it on page 23





TREAT

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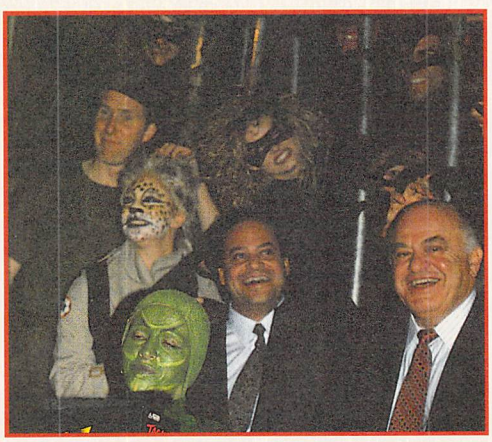
Who are these people and what are they doing? Find out on page 7



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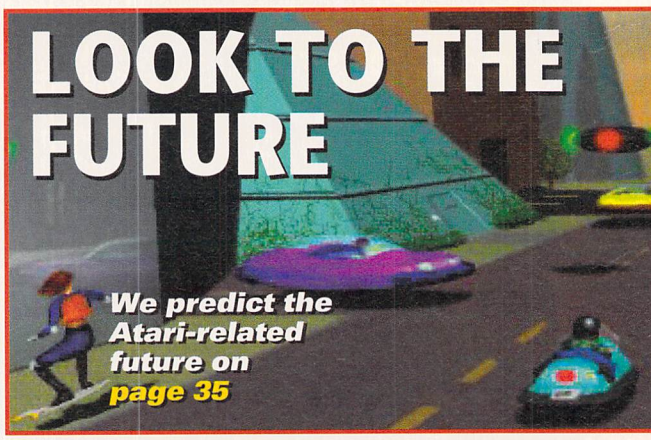
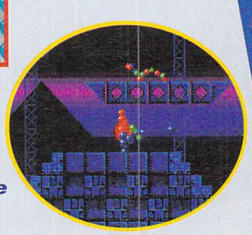


We predict the Atari-related future on page 35

COVER DISKS 54

Hyperpaint 2 the full version of this powerful paint program from Atari



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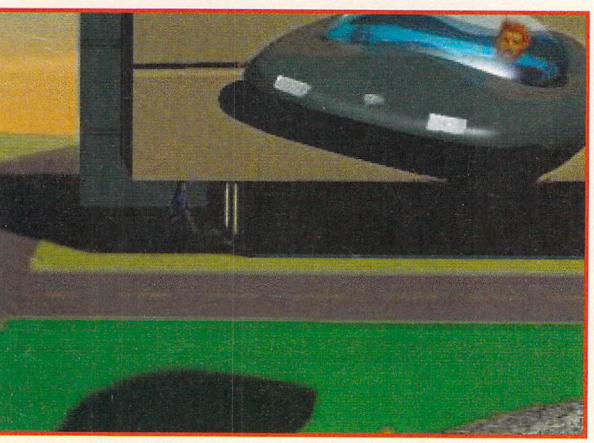
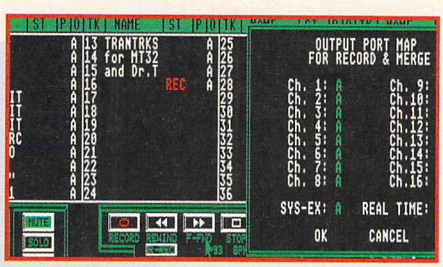
YOUR ST

Over 30 stunning seasonal ideas to suit every budget - turn to page 29





***KCS Omega* - make beautiful music with this fully featured sequencer**

TURN TO PAGE 19 FOR YOUR DETAILED COVER DISK GUIDES

Paula Richards, EDITOR

WELCOME TO *ST FORMAT*

Although the games scene isn't, sadly, the most upbeat part of the ST world at the moment, things are about to change with the release of David Braben's *Elite 2*. If you know anything about ST games, you may know that the original *Elite* was one of the biggest games ever, making its author legendary among game players everywhere. *Elite 2* is undoubtedly going to be the biggest game of 1994, it's been in the making for over five years and looks absolutely stunning. Turn to page 23 for the latest news on 1994's sure-fire hit.

This month's big game release, however, is *Magic Boy*, so turn to our definitive review starting on page 70. We also look ahead to what else is going to be happenning in the Atari-related world next year – and there's absolutely loads to be getting excited about – check out the news on page 7 and the feature starting on page 35.

With the third of our two disk special issues we're giving you over £300 worth of software, what with Atari's *Hyperpaint 2* as well as the music package *KCS Omega*. You'd be hard-pressed to find that sort of value on any other magazine anywhere. In closing this month, I'd like to wish you a merry Christmas, a happy 1994 and great issue enjoyment.

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MONEY BACK 10 DAY GUARANTEE

JAGUAR COMPUTER PLANNED

by Paula Richards

Atari are developing the existing Jaguar technology so that they can use it in a computer, Sam Tramiel, President of the company, revealed this month amidst other exciting Jaguar-related plans.

If everything goes according to plan, and by this Atari must mean assuming they sell many millions of Jaguars, they are definitely planning a Jaguar computer, although they are very wary of talking about release dates. Tramiel commented: "We still believe in the home computer business very much; we have had some great successes in the past and we hope to bring it back again in some format – possibly with Jaguar; there may be an integrated Jaguar CD or something.

"Because technology is where it is with true colour and CD quality sound, we have a strong base to move on from"
Sam Tramiel

Richard Miller is the man behind the Jaguar's technology. And he's been friends with Jeff Minter since Jeff was 12 years old. Useless information really, but it's true.

The Jaguar is just the start of a family of machines based on the 64-bit technology. If everything goes according to plan.

"We've studied the TOS relative to the Jaguar's hardware very very carefully – not only have we studied it, but we've laid out the architecture already. Richard [Miller] has done some plans, we've thought about the software and we've done some preliminary work. We've laid the foundations but we've no plans yet as to how we will do it, but it's definitely in our thought processes."

More consoles

They're also developing the Jaguar as it stands now, but to take advantage of new technological developments it's going to be the first in a line of 64-bit consoles. Tramiel explained: "Our plan with the Jaguar is to have Jaguar 1, 2, 3 – sort of like what Intel has done in the PC business – we want to keep adding on more power to the chipset but always keeping it upwardly compatible. Because of technology being where it is with true colour and CD quality sound, we have a very strong base to move on from." By doing this they can ensure that they always stay ahead of new technology – something that Atari have always been very good at.

"We're really the only machine in the world that can do Virtual Reality and real-time graphics"
Sam Tramiel

On from the Lynx

As well as this, they are also attempting to develop a Jaguar hand-held machine. It seems generally accepted within the computer industry that, for its capabilities, the Jaguar is physically very compact and therefore that there should be the potential to develop it further... that day isn't here yet, however. Tramiel explains "The chipset takes a lot of power and the chips themselves get quite hot, but maybe in a couple of years if things really progress..." Richard Miller expands: "The main problem is to do with the battery life; if you used the same batteries as a Lynx, their life would be about 20 minutes."

Virtual Reality

Getting into the world of Virtual Reality is also definitely on the Atari agenda, although at the moment there are a couple of difficulties that are to do with liability and safety issues – and until all those problems are sorted out they're not going to be making any firm decisions.

Sam Tramiel reckons that "Because of the power of the system there are any number of options... we're really the only machine in the world that can do Virtual Reality and real-time graphics." Positive talk indeed, as is their ambition to become involved in the music video publishing business, believing, as they do, that because of their history in the computer business with Falcons and STs that the contacts they've developed with musicians means that they'll be happy to write music videos of their game machines.

All this is very much in the future and assumes that everything goes according to plan – for more details of how they intend to achieve these plans, turn the page.

ATARI LAUNCH

by Paula Richards

It's official – the Jaguar is now launched in the States. There was actually a real getting-off-the-ground party held on the jungle-themed 48th floor of the Time Life building in New York amid plenty of greenery and catsuit-clad women crawling around the floor and dancing in cages.

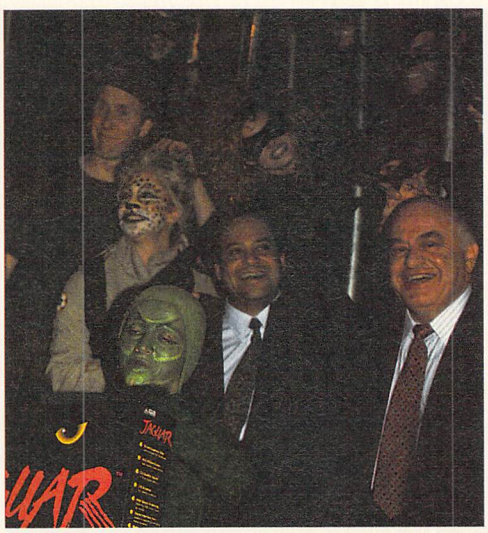
Lots of Jaguars (the machines not the creatures) were there and leading the guests was a selection of children Atari had presumably dragged off the streets to show just how absorbing the games are and how good the machine is.

Sam Tramiel, the president of Atari, also put in an appearance to jolly the assembled stockbrokers, press people and retailers into a state of euphoria about the machine and its potential, and judging from the positive feedback in terms of the increase in Atari's stock market price, the acceptance of the machine by leading toy stores like Toys R Us and the positive press coverage that's emerged from it, it has certainly worked.

"I'd love the price [of the cartridges] to be cheaper, but you have to make money somewhere"
Sam Tramiel

The machine comes bundled with a joypad controller and *CyberMorph* and is going to be stocked by virtually all the big chains – talks are happening at the moment in the UK between Atari's European marketing department and leading chains like Woolworth's, Dixons and Rumbelows to ensure country-wide distribution. Getting the machine into as many stores as possible, as well as creating a huge user base – is great for Atari, software houses and software developers – but it also means that there'll be loads of competition so the price should come down quite quickly.

The other pricing point is the fact that Atari are letting whoever wants to develop software get on with it. In some cases they are giving softies financial inducements to develop particular games – for example they are funding Activision to develop *Return to Zork* and Atari are going to publish it – and earn a royalty from each copy they sell.



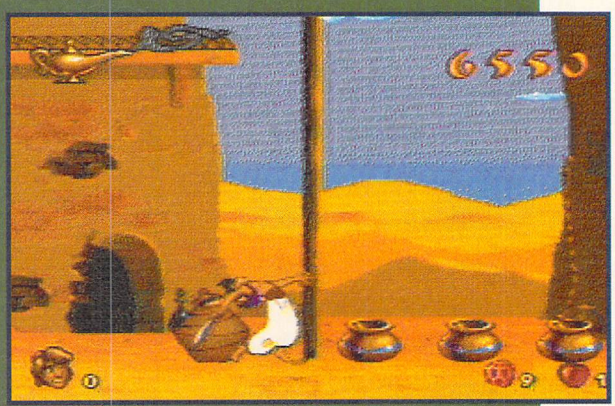
Characters from the first Jaguar games joined Sam Tramiel (left) and father Jack (right) at the launch.

For companies who want to publish their own games, however, Atari are helping them out in practical ways like giving them approved sources for the ROMs and CDs and generally make it very easy for them. As the system gets more established the chances are that more developers are going to opt to publish games themselves and charge lower prices to try and sell more units. As it is, the expected price for most of the games is between $39 and $69 with most at $49. Tramiel commented generously: "I'd love the price to be cheaper... but you have to make money somewhere." This

"Atari are letting whoever wants to develop software for the Jaguar get on with it"

Who are all these publishers then?

21st Century Software, Accolade (*Hardball 3, Brett Hull Hockey, Bubsy, Charles Barkley Basketball, Jack Nicklaus' Power Challenge Golf*) Activision (*Return to Zork*), Anco Software, Argonaut, Beyond Games, Brainstorm, Broderbund, Cross Product, Dimension Technologies, Elite, Eurosoft, Gremlin Graphics (*Zool 2*), High Voltage Software, Interplay (four titles including *Battlechess*), Krisalis Software, Loriciel, Maxis Software, Microids, MicroProse, Midnight Software, Millennium, Ocean (*Jurassic Park* is hotly rumoured), Retour 2048, Silmarils, Spectrum Holobyte, Sunsoft, Telgames Inc, Tiertex Ltd, Titus, Tradewest, Trimark Interactive, UbiSoft (*Jimmy Connor's Tennis*), US Gold, Virgin (*Aladdin* and *Dragon – The Bruce Lee Story*), William/Midway.



***Aladdin* from Virgin is strongly rumoured to be among the Jaguar's software base.**

HURRAH! ATARI HAVE DISCOVERED

In recent years Atari have shunned advertising and marketing as if it's some sort of unpleasant highly contagious disease – probably because they felt they didn't have a product that was potentially mass market enough to warrant any sort of effort in that direction. Things have changed radically and Atari have discovered things like launch parties, press packs, TV and magazine advertising, promotional items like t-shirts and jackets, smart packaging of the hardware and the external wrapping – not to mention the importance of having someone dedicated to the job of marketing.

Wow! A press pack and a really attractive logo and it's black and as exciting-looking as any of the other consoles you can get.

They're even doing quite well at it – the TV ads look very impressive. The first set that have been shown in the fortnight since the launch are memorably humorous teaser ads – 15 seconds at both the start and end of the ad break, concluding with a satisfying belch from the animated Jaguar – the whole thing concentrates on the quality of 64-bit com-

JAGUAR

What's the Lynx got to do with it?

Lynx ads are going to be "piggy-backed" onto Jaguar ads, so you can expect to see more of the machines around. It seems strange that at this late stage they're actually going to advertise the thing. If you were cynical (or close to Atari) you would say that they've got loads of 'em sitting in the warehouse, it won't cost much to mention the Lynx in a Jaguar ad since they're doing them anyway, so they might as well... but the official line is different.

First, they didn't advertise the Lynx originally because of bad planning – the 32-bit Panther was supposed to come out at the same time as the Lynx and they were going to do a double act.

They decided they weren't going to release the Panther because they wanted to be very far ahead of the competition so the Lynx was left there all alone. Atari perceive the hand-held market as being a tenth of the size of the table top market and the table top machines drag the hand-helds along with them.

Consequently without a table top machine it wasn't economic to throw money at it and advertise the thing. Expect to see around one Lynx ad to ten Jaguar ads.

is especially true with the low price of the Jaguar which he describes as a "low profit leader." The combined Jaguar and CD – when it is released in January 1994 – is expected to retail for $400 total, or around £350.

It's only "sort of" launched over here in the UK with a few thousand tantalising machines lurking in about 50 HMVs and Virgin Megastores and it's not expected to be seriously pushed until Easter 1994 with the start of the TV ads.

Backing up the ads are around 35 software publishers who are developing games for the machine – Atari bods variously reckon there are going to be between 28 and 100 titles available by next Christmas. ***stf***

MARKETING

pared to 16-bit. Following this series there's another 30 second advert called the Elevator Spot which highlights the differences between the Jaguar and the competition – kids open lift doors on 16 bits of Sega and Nintendo, then go all the way up in the lift, past the 32nd floor without bothering to stop, then all the way to the 64th floor which announces "Jaguar by Atari."

There are also going to be ads supporting the software for each of the games that are released. The ads are going to be shown in the New York and San Francisco on spot TV and cable networks at a cost of around $3 million before Christmas – and next year all over the States and in Europe.

FIRST IMPRESSIONS

Evolution Dino Dudes in all its multi-coloured glory. Pretty, undoubtedly, but a suitable showcase game? We still need convincing.

There are four games out at the launch of the Jaguar including *Cybermorph* which is bundled with the machine, *Crescent Galaxy, Evolution Dino Dudes* and *Raiden*. There were consoles peppered around the room in which the launch was held and in general first impressions are favourable, although it was hardly the time nor the place to conduct full in-depth reviews.

Crescent Galaxy

Criticised for lacking originality, Crescent Galaxy is *ST FORMAT's* favourite, going on evidence we've seen so far. A horizontally-scrolling shoot-'em-up but absolutely heaving with wonderful colours and textures, frightening end-of-level beasties and it's incredibly fast. Excellent stuff.

Cybermorph

Programmed by Midlands-based Attention to Detail, *Cybermorph* sends you into space on a rescue mission. It's very fast and smooth and the addition of a holographic face, very reminiscent of Holly out of *Red Dwarf*, who talks to you and helps you out on your mission. Looking good...

Evolution Dino-Dudes

Or otherwise known as *Humans*, this seems a strange choice to show off the best of the Jaguar's capabilities. The addition of true colour does, however, enhance this platform game featuring cavemen.

Raiden

A conversion from the classic arcade game, this is a frantic vertically-scrolling shoot-'em-up, although again a slightly off-beat choice for a first platform release.

Raiden's here now – and there are expected to be ten Jaguar titles available before the end of the year.

SNIPPETS

Beat the clock

You no longer have to hunt through your sequencer for details of your MIDI file parameters, you can call the *BeatCalc* Accessory from the Desk menu and instantly look up the details on-screen.

BeatCalc provides info on everything from delay time on your effects unit to the tempo of your current track. It costs £13.95 from the Realfeel Groove Library, call ☎ 071 241 0621.

Vector *ETP*

A SpeedoGDOS version of *Easy Text* is now available. *Easy Text Professional Vector DTP* is an updated version of the DTP program and brings the flexibility of SpeedoGDOS vector fonts to your ST for £39.95 – you have to get SpeedoGDOS separately from Hisoft. You need at least 2MBytes of RAM and a hard drive to use them effectively. If you have an earlier version of *Easy Text*, upgrades are available, call zzSoft on ☎ 0254 386192 for details.

Gajits change their name

Gajits have changed their name to Software Technology Limited, so all trading now takes place under one company name. New music titles are planned including updates to the *Breakthru* range, the *Patchking* series of voice editors and librarians and a score printing package. Software Technology Ltd can be contacted at 40 Princess Street, Manchester M1 6DE or call ☎ 061 236 2515.

Lonely Falconers club

Got a spiffing new Falcon but don't have anyone to talk to about it? You need to get a copy of the Falcon Fact File, a database of Falcon owners across the UK. Send an SAE to the Falcon Fact File and they send you a detailed questionnaire. Fill it in and return to FFF with a blank HD disk and they send you a NameNet database of all registered Falcon owners in the group. The database is updated monthly and includes the latest Falcon software. Send your SAE to FFF, 11 Pound Meadow, Whitchurch, Hampshire G28 7LG.

It's a kind of Emagic

Emagic are having a New Year sale with up to 30% off some of their ST MIDI software. *Notator Logic v1.7* is down to £349, *Notator SL* to £269, *Creator SL* to £199 and *Notator Alpha* to £165. If you already have *Notator* you can upgrade to *Notator Logic* for £99. Emagic's offer runs from 31 December 1993 to 31 January 1994, ring ☎ 0462 480000.

New technologies

Gasteiner Technologies are opening a new showroom at 126 Fore Street, Edmonton, London L18.

THE FUTURE OF ENTERTAINMENT

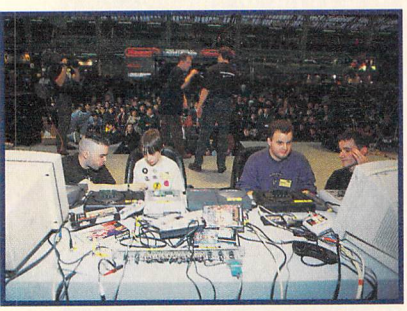
The second Future Entertainment Show

by Andy Nuttall

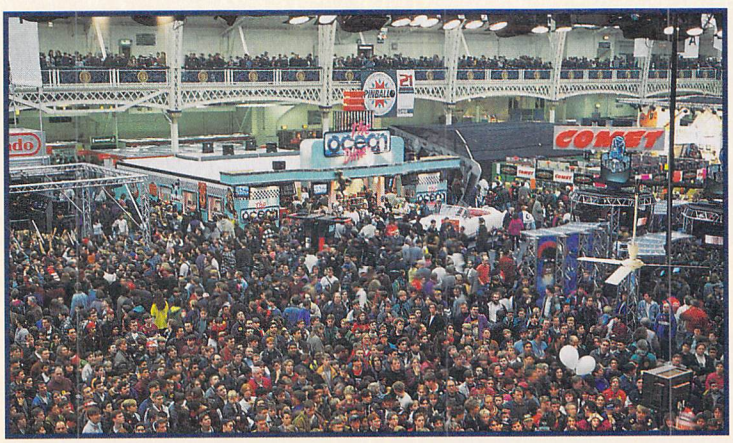
"I've spent the best part of £600 today, and you're not having any more." A weary-faced father, four carrier bags in his hands filled with all kinds of games and hardware, admonishes his burger-eating son who enquired innocently if his parent would mind buying him a £20 software pack containing *Zool*. This was the Second Future Entertainment Show, held in London's Olympia in early November.

"Dodgems, a flight sim and the Typhoon were turning adults and kiddies into green-faced zombies"

ST FORMAT were well-represented on the impressive Future stand, with a sizeable number of ST owners asking questions about all things Atari – mostly the Jaguar, of course. Elsewhere in the vast hall ST favourites Gasteiner, 16/32 PDL, First Computer Centre and Power Computing sold their wares, with some excellent bargains to be picked up. 16/32 was also the place to go and meet Lexicor, who were demonstrating their new graphics software *Xenomorph 2, Prism Paint 2* and *Chronos 3D*. Damned impressive they were, too.



CHAMPS: With £10,000 at stake, the Computer Games Championships were hotly contested by over 10,000 people.



CROWDS: Er, well, the picture speaks for itself, really. Bloody thousands of them, most of them hanging around to catch a glimpse of Dexter Fletcher from out of GamesMaster.

Just about all the major games companies were represented in some way. Ocean's presence was felt all around the hall – they organised a huge '50s-style American diner selling burgers, fries and milkshakes, the smell drifting to all corners of Olympia. US Gold built a huge Winter Olympics slide which constantly attracted people of all ages – sliding down a nightmare ramp into a vast pool filled with small plastic balls. Of course, as you'd expect, there were computer games to play – literally hundreds of them – with free-play consoles and computers lined up just about everywhere you looked. Electronic Arts had an indescribably large stand with four-player head-to-head play on their new – yes, console-based – football game attached to an immense video wall. And the queues; well, they made Alton Towers look like a penny arcade.

Moving away from the screams, lights and noise of the games area, under the steps into the rear of the hall, you met with the, er, screams, lights and noise of the funfair. Dodgems, a flight-simulator, a sick-making twirly thing called the Typhoon (which spins you round, impressing a force of about 6Gs on your fizzog) – they were all there, turning well-meaning adults and their excited kiddies into green-faced ill-looking zombies. Lurking in the corner was the Radio One Roadshow, kicking out mega Watts of music both live (in the form of "teen-hit band" Bad Boys Inc) and on record, and broadcasting live from the show on the Thursday.

THRILLS: A huge slippy-slidey slope was the figurehead of US Gold's gigantic Winter Olympic stand.

Back in the main hall, the weekend saw the finals of the National Computer Games Championships 1993. Winning through from over 10,000 hopefuls in heats all around the country, the two finalists battled it out head-to-head in three games: *Zool, Overkill* and *Aladdin*. The champion Tony Brown, 14, from Newcastle-Upon-Tyne, emerged from the contest a massive £10,000 richer; while runner-up David Collins, 12, from Belfast, consoled himself with a cheque for "just" £4,000. Tony summed up both player's feelings about what to do with the money: "Spend it all on computer games."

One of the lesser crowd-pullers (but amusing anyway) was the Gunge Plunge, organised by the NSPCC charity and Smiley Miley (out of the Radio One Roadshow). This pitted *ST FORMAT's* very own Andy Nuttall against the lovely Marcus from sister magazine *Amiga Format*. People from all around threw money in to get their least-favourite chappie gunged, and poor Marcus lost (only by 50 pence, though). Anyway, it seems he thought Smiley had said "grunge," so Marcus turned up in his best Mudhoney t-shirt ready for some moshing, and at the first poke-in-the-ribs from Mr Blobby he made his excuses and left. Nutts, being the only contender remaining, took the Plunge instead. What a sport, eh? *(Or was that "what a fool, eh?" – Ed)*

MAGS: Loads of them, all our sister magazines (oh, how proud we are). Look closely in the bottom right, behind the counter, in the suit. That's Colin The Publisher that is, our, er, Publisher.

Finally, *ST FORMAT's* baby sister magazine *Edge* had a small stand all of its own, displaying "machines of the future" 3DO and Neo-Geo but, sadly, no Jaguar. Atari deliberately steered clear of the event, hinting that they would need "huge video walls" to show off the games properly, and that the games weren't available at the time anyway. Mistake? Let's just say the 3DO spent all of its time in demonstration mode, which didn't exactly show off its capabilities – so any presence from Jaguar with even a couple of games could have been very positive... ***stf***

POPULAR MEGALOMANIA

■ Mindscape pulled out of ST market some time ago, but now they're back with *Genesia*.

Mindscape are to return to the ST in early 1994 with a new title by German developers Microïds.

Genesia is a strategy game in which you play a leader of a small land with a great passion for building and expanding (his land, that is, not himself). Your people (that is the populace of your land) are many and varied, with lots of different real-life skills including farmers, hunters, architects and inventors.

It seems, then, that much of the hard preparation work has been done for you, and all you need to do is keep your race alive and well, and transform your land into a heaving metropolis. Lots of cosmetic niceties abound, such as hard disk installation, "context-linked sounds" which change the atmosphere depending on the location, and changing seasons.

Er, this all sounds a bit like Bullfrog's *Populous* really, doesn't it? Mindscape, who have published a string of ST hits including *Captive* (93%, *STF* 16) and *Legend* (89%, *STF* 36), reckon that it's going to be "much better" and all that. Given their previous record, they seem to know what they're talking about so we are going to believe them for now, but you'll have to wait for the review in the March issue of *ST FORMAT* to find out for sure.

THIS YEAR'S CHAMPION

Domark's *Championship Manager '93* (80%, *STF* 49) is to receive a face-lift in the form of the *Championship Manager '94* data disk, retailing at £9.99. Domark say the new disk will update your existing game with all the pre-season transfers, management changes, promotions and relegations, and it's out now. Call Domark on ☎ 081 780 2222.

DON'T MISS OUT ON *ST FORMAT*

MAG*SAVE

Banish those I-can't-find-my-copy-of-*ST FORMAT* blues by ordering your copy of the magazine direct from your newsagent. As well as ensuring that you get your copy without the fuss of having to search all over town for it, you get a completely pristine copy – nobody's going to have had the chance to get their grubby fingers all over it. All you have to do is what thousands of other people are already doing – just fill out the coupon below and give it to your newsagent who's happy to keep hold of *ST FORMAT* for you. You could even have it delivered to your front door, making life even easier for you.

So go on, fill out the form and take it to your newsagent today. Alternatively, you could always take the even better option of subscribing – see page 92 for details.

Cut out this form or a photocopy and hand it to your newsagent
Please reserve/deliver *ST FORMAT* magazine each month, beginning with the February issue, which is on sale Tuesday 11 January 1994.

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To the newsagent: *ST FORMAT* is published by Future Publishing ☎ 0225 442244

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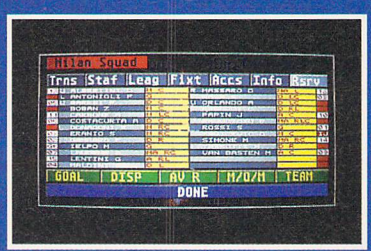

- This detailed simulation of both Serie-A an Serie-B of the Italian Football League, includes all the correct rules of Italian football, featuring the correct play-off systems and 2 points for a win .
- All major competitions including the Italia Cup, European Cup, Cup Winners Cup, UEFA Cup, and Anglo-Italian Cup are fully implemented.
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- Details on players in Serie-C. Pool of the world's best foreign players.
- Realistic transfer system which conforms to the Italian method.
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COVER DISK

FOR YOUR DELECTATION

Hyperpaint 2
Atari's versatile painting program complete with GDOS set up and ready to use.
Uncompressed size: 234K
Page 12

GDOS high res fonts and drivers
For use with *Hyperpaint 2.*
Uncompressed size: 444K
Page 13

GDOS medium res fonts and drivers
For use with *Hyperpaint 2.*
Uncompressed size: 390K
Page 13

Nova
A traditional old-fashioned shoot-'em-up, a classically brilliant oldie but goodie.
Size: 66K
Page 17

Spherical
A weird platform shoot-'em-up.
Uncompressed size: 372K
Page 14

Hickory Dickory Dock
A useful clock Accessory to grace your ST's Desktop.
Size: 55K
Page 16

Bubble
Mouse cursor disappeared? *Bubble* finds it for you.
Size: 5K
Page 16

LED Panel
Put an active display of drive reads and writes on-screen.
Size: 2K
Page 14

Cover Disk Back-Up
Protect your Cover Disks with our easy-to-use *Back-Up* program.
Size: 13K
Page 17

Atari Glossary
Everything you need to know about your ST complete with a handy text viewer.
Uncompressed size: 198K
Page 16

HYPERPAINT 2

BY: DIMITRI KOVEOS AND ATARI CORPORATION
RESOLUTION: LOW, MEDIUM AND HIGH
MACHINE: ALL STs
MINIMUM MEMORY: 512K, BUT 1MBYTE RECOMMENDED; HARD DRIVE INSTALLABLE
FILES: HYPERPNT.TOS, GDOS_HI.TOS, GDOS_MED.TOS
UNCOMPRESSED SIZE: 1,068K
GET STARTED WITH: SEE BELOW

We've managed to get hold of Atari's own official art package for the ST, *Hyperpaint 2,* and we've included it for you on this month's jam-packed Cover Disk.

Hyperpaint 2 works in all three ST resolutions and also uses GDOS fonts for text output both on-screen and on printouts; don't worry if you're not sure about using GDOS because we've also got complete setups on the Disk for you ready to decompact and use – see the box on the bottom right.

Installation time

We've compacted the larger programs so we can fit more software on the Cover Disk, so all you have to do is copy HYPERPNT.TOS to a blank disk to install the program. Once you've copied the program to your blank work disk put your Cover Disk away and run HYPERPNT.TOS by double-clicking on its icon, *Hyperpaint 2* decompacts itself and all its files. When the program stops decompacting, you can delete HYPERPNT.TOS from your work disk.

If you want to install GDOS on your *Hyperpaint* work disk, copy either GDOS_HI.TOS or GDOS_MED.TOS to your work disk and

The zoom function is particularly good; you can enlarge areas by up to 16 times for really detailed work and even choose a different drawing colour without leaving the zoom workscreen. Very convenient.

THE MAIN WORKSCREEN

Most of Hyperpaint's functions are accessed from the icon bar down the left edge of the screen. Clicking on an icon activates the function, a double-click activates a menu or dialog box giving you access to more parameters

1 PEN: for freehand drawing on-screen using the colour that you have currently selected.

2 BRUSH: for covering larger areas with the current colour.

3 SPRAYCAN: sprays an area with the current paint colour.

4 FILL: fills an area with the current fill pattern.

5 BLOCK: cut, paste and resize areas of the screen.

6 TEXT: you can use either the system font or GDOS fonts to add text.

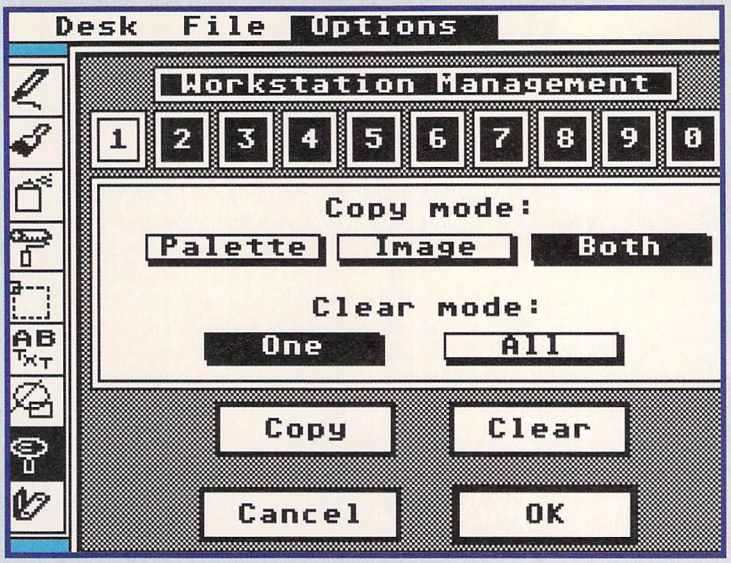
7 SHAPES: choose boxes, circles lines, rays and arcs.

8 ZOOM: magnify area at up to x 16 for detailed work.

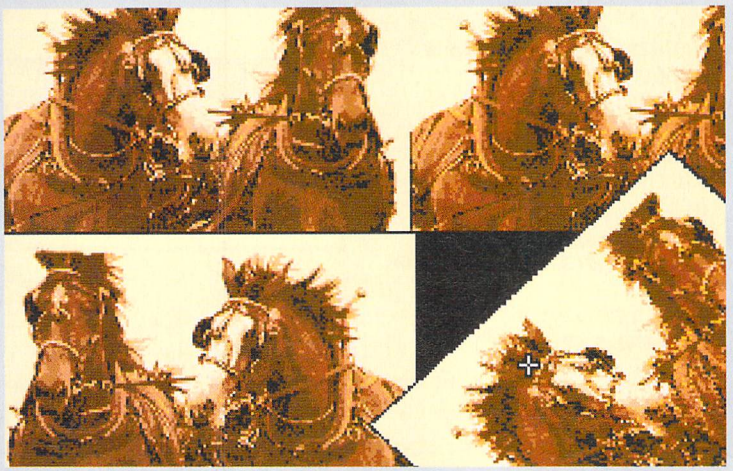
9 PENKNIFE: cut and paste irregular areas of screen.

10 COLOUR BAR: choose colour you want to paint with, double-click to edit.

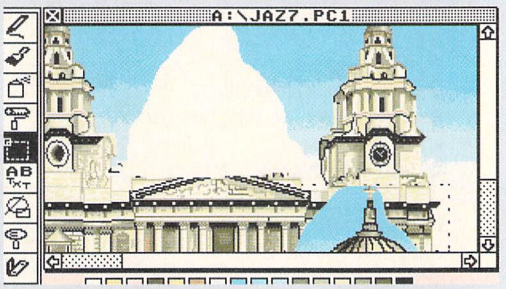
11 WORK WINDOW: work in a GEM window or right-click for full screen.



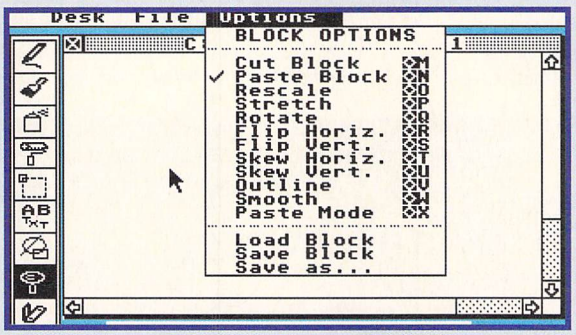
On a 1MByte ST you can work on up to ten pictures at once, whereas on a 512K ST you are restricted to two screens - not as good but quite adequate for most of us. You can easily copy images from one screen to another.



Using the block options you can rotate, resize, flip, distort and duplicate areas of the screen with consumate ease. As they say.



***Hyperpaint's* knife option enables you to cut out odd shaped sections of the screen and use as blocks.**



Once you've grabbed an area of the screen as a block you can manipulate it in a variety of different ways or save the block to disk in either *Degas*, *Neochrome* or Image format.

decompact it, which version you use depends on your system. See the GDOS box for details of installing and using GDOS.

OK, you have *Hyperpaint 2* sitting neatly on your work disk, all you have to do now is double-click on PAINT.PRG to run the program. The screen looks almost exactly the same in all resolutions, the main difference being the number of colours available to use in your pictures.

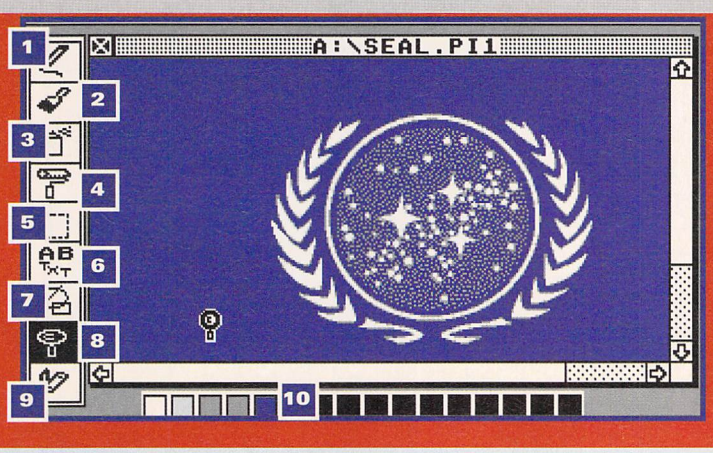
All the main drawing options and functions in *Hyperpaint* are available from the icon menu and from the menu bar at the top of the screen. All of the file functions and image formats are controlled from the File and Option menus while there are other excellent features hidden in the Miscell function of the Options menu.

Try messing about with the Smear, Cycling and Mirror functions to create some brilliant effects. *Hyperpaint* is just about the only ST art package that enables you to save GEM Image (IMG) files in all three resolutions – normally you are restricted to remaining in high resolution when you're using Image (IMG) files. One advantage of this is the fact that you can load high resolution Images into medium or low resolution, now you can use high res clip-art in your colour drawings.

Once you are up and running with *Hyperpaint* you are only limited by your imagination – so have a good play with the program and see what you can come up with.

HYPERPAINT 2 MANUAL OFFER

If you want to get the *Hyperpaint 2* for more details manual, it's available from Atari UK for the bargain price of £5.99 including postage and packing. Make your cheque or postal order payable to Atari Corp UK Ltd and send it to: *Hyperpaint 2* Manual Offer, PO Box 555, Slough, Berkshire SL2 5BZ.



THE JOY OF GDOS

We have supplied two different GDOS setups on the Cover Disk, GDOS_HI.TOS and GDOS_MED.TOS. You must install GDOS_HI.TOS if you use a high resolution monitor or if you want to use GDOS fonts in low resolution colour. The fonts and drivers included in GDOS_MED.TOS only work in medium resolution colour, so if you want to use GDOS on a colour system in both low and medium resolutions, you have to set up a separate GDOS boot disk for each resolution.

High and low resolutions

Because the GDOS files take up so much room you have to format your work disks to ten sectors and 80 tracks to make sure you can fit everything on. Copy GDOS_HI.TOS to your work disk and decompress it, once it's decompacted delete GDOS_HI.TOS from your work disk. Now copy HYPERPNT.TOS to the disk and run it, when all the files have decompacted delete HYPERPNT.TOS from the work disk. To install GDOS press the reset button of your ST, GDOS installs itself in memory automatically when your ST boots up.

Medium resolution

The medium resolution installation procedure is exactly the same as the high and low resolution installation except you copy the GDOS_MED file instead of the GDOS_HI file on to your work disk.

Memory constraints

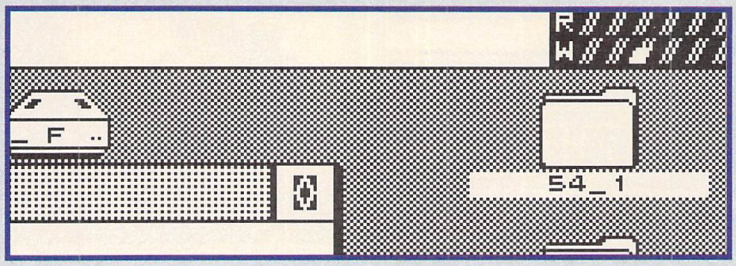
If you have a 512K ST then you may have to disable some of the fonts. The easiest way to do this is to edit the ASSIGN.SYS file using a text editor, load the ASSIGN.SYS file and make the following changes.

You can disable a specific font by placing a <;> before the name of the font listed in the ASSIGN.SYS file. This changes the line from a GDOS command to a GDOS comment and the program doesn't try to find the font and load it. In the same way, you can disable any of the other fonts by inserting a <;> before the font name in the ASSIGN.SYS file. When you have edited out the fonts, save the ASSIGN.SYS file in ASCII format.

To add extra fonts from a PD library simply add their names to the ASSIGN.SYS file and place the fonts in the GDOS.SYS folder.

LED PANEL

BY: CHRISTOPH ZWERSCHKE
RESOLUTION:
HIGH RESOLUTION ONLY
MACHINE: ALL STs
MINIMUM MEMORY: 512K;
HARD DRIVE INSTALLABLE
FOLDER: LEDPANEL.1_0
FILES: LEDPANEL.DOC,
LEDPANEL.PRG, LEDPANEL.TXT
SIZE: 2K
GET STARTED WITH:
LEDPANEL.TXT, SEE BELOW



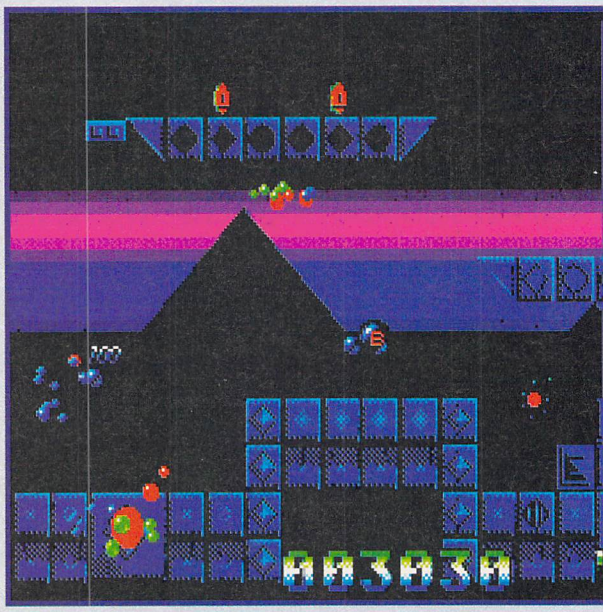
The LED panel plonked in the top right corner of your screen, the top row of lights indicate reads and the bottom row indicates writes. Each LED from left to right indicates a drive, the first is drive A, the second is drive B and so on.

***LED Panel* is designed to** provide hard drive owners with an on-screen display of the hard drive's reading and writing activity. Why? We don't know really, but it's the kind of utility that anyone who's got a hard drive seems to absolutely adore. Actually we do understand this obsession – it can be extremely useful to keep track of what your hard drive is up to – if it starts writing when it's supposed to be reading, for example, you can do something about it rather than just sit there despairingly groaning a lot and irritating everyone else. *LED Panel* is an AUTO folder program taking up just 512 bytes of memory; just copy LEDPANEL.PRG into the AUTO folder of your boot drive and reset. Now every time a drive is accessed the relevant LED flashes on the LED panel.

SPHERICAL

BY: FUSION DESIGNS
RESOLUTIONS:
LOW RESOLUTION ONLY
MACHINE: STFM, STE, MEGAST,
NOT TOS 2.06
MINIMUM MEMORY: 512K;
FLOPPY DISK ONLY;
JOYSTICK REQUIRED
FILES: SPHERE.TOS
UNCOMPRESSED SIZE: 372K
GET STARTED WITH: SEE BELOW

You can be sure of MAD (Mutually Assured Destruction) if you're careless enough to let one of the beasties walk all over you. You've got to dodge them, OK?



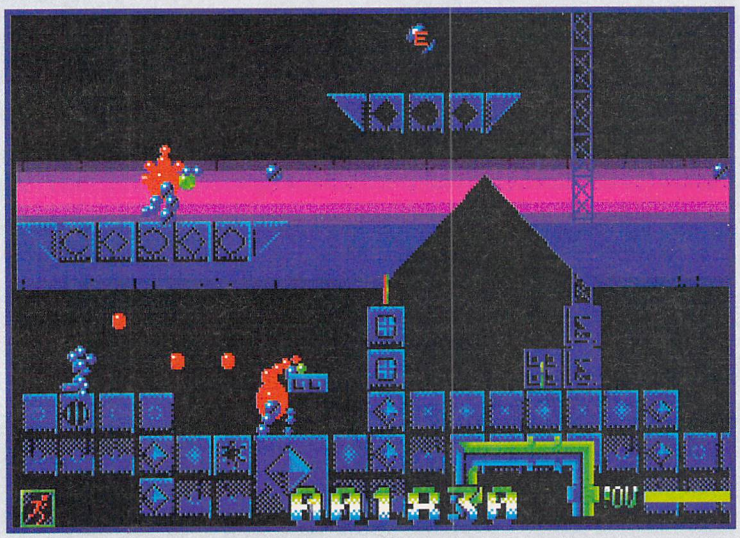
If you like strange games then you're going to like this – you can't get much stranger than *Spherical*, not the gameplay itself but the weird and wonderful sprites used in the game. The game itself is a platform and collection game with a bit of shooting thrown in for good measure. *Spherical* is a demo of Worlds One and Three of a new game being coded by a Dutch team of programmers who are looking for a UK software house to support them. When finished the final version of the game is to consist of four worlds, each with 256 screens to get through.

To get *Spherical* up and running you must copy SPHERE.TOS to a blank disk and run the program to decompress it, once the files have decompacted you can safely delete SPHERE.TOS from the blank disk.

Spherical runs automatically, all you have to do is press the reset button on your ST with the *Spherical* disk in the drive and wait for the game to load.

Although this version of *Spherical* is a demo, it's difficult to master with very precise jumps required to get onto the elevators and platforms. If you take too long to clear a screen a flying nasty appears that's impossible to kill, but if it touches you, you're dead.

You can fire bullets with a limited range while standing or crouching down, the bullets fired while standing travel in a straight line while bullets fired while crouching fall and bounce, so they're good for firing towards a nasty who's on a lower platform. See how many levels you can get through, it's not easy.

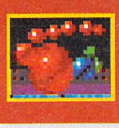


Crouching down on a higher level enables you to fire bombs at a baddie with impunity while he just blunders back and forth shooting futilely at the walls.

GET TO KNOW THE LOCALS

There are loads of weird and wonderful creatures lurking in Spherical for you to discover. Most of them are easily overcome, but beware especially of the dangers of the nasty bee!

FLEXIMORPH: Most of the aliens like this in *Spherical* follow fixed paths firing at random, although some can climb up to higher platforms.



FLEXER: This is a relatively dumb alien, it just goes back and forth making silly little "meep meep" noises until it dies or kills you.

BEE OF DEATH: take too long to get through a level and this manky looking bee follows you about - one touch and you die.

POWER UP: This is a pickup ball and gives you a special sort of bonus, the type of bonus it is depends on the letter on the pickup.

ENERGISER: Various objects around the screen give you extra points if you manage to get to them, they can be any shape...

BONUS POINTS: ... although most collectable bonuses seem to be shaped like coins with numbers on them.

THAT'S YOU THAT IS: To shoot a baddie on a lower (or higher) level you have to squat down and fire, this sends a stream of bouncing bombs on its way.

ARMED AND DANGEROUS: If you are standing up and you press Fire, a stream of green missiles fly in a straight line towards your enemy.

So there you have it – ignore our advice at your peril

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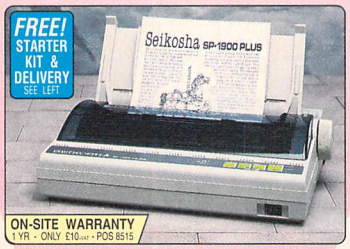

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180 CPS 80 COLUMN

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- *Windows Driver Standard*
- *Semi Automatic Single Sheet Feeder*
- *Optional Automatic Sheet Feeder - 70 Sheets (£35 + VAT)*
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300 CPS 80 COLUMN

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Opening Hours:	Mon-Fri 9.30am-5.30pm (Sat 9.00am-6.00pm)	Late Night: Thursday - 7pm	Fax No: 0702 468039
IPSWICH SHOP:	Debenhams (2nd Floor), Waterloo House, Westgate St, Ipswich, IP1 3EH	**Tel: 0473 287092**	
Opening Hours:	Mon-Fri 9.30am-5.30pm (Sat 9.00am-6.00pm)	Late Night: Thursday - 9pm	Fax No: 0473 287092
LONDON SHOP:	52 Tottenham Court Road, London, W1P 0BA	**Tel: 071-580 4000**	
Opening Hours:	Mon-Sat 9.30am-6.00pm	No Late Night Opening	Fax No: 071-323 4737
LONDON SHOP:	Selfridges (Basement Arena), Oxford Street, London, W1A 1AB	**Tel: 071-629 1234**	
Opening Hours:	Mon-Sat 9.30am-7.00pm	Late Night: Thursday - 8pm	Extension: 3914
SIDCUP SHOP:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	**Tel: 081-302 8811**	
Opening Hours:	Mon-Sat 9.00am-5.30pm	Late Night: Friday - 7pm	Fax No: 081-309 0017

To: Silica, STFOR-0194-84, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

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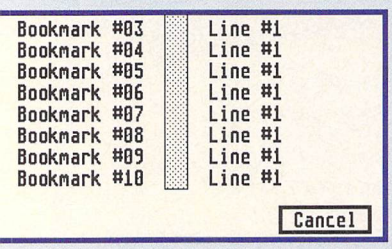
Which computer(s), if any, do you own? 84P

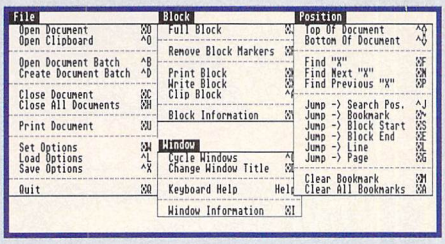
E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

ATARI GLOSSARY

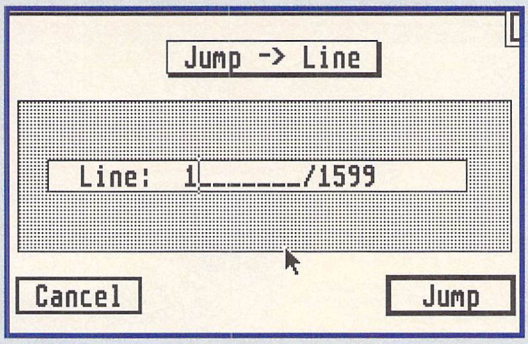
BY: HOWARD E CARSON
RESOLUTION: LOW AND MEDIUM RESOLUTION
MACHINE: ALL STS
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FILES: GLOSS.TOS
UNCOMPRESSED SIZE: 198K
GET STARTED WITH: SEE BELOW



■ *Master Browse* enables you to place "bookmarks" into text so you can quickly jump to a particular area of the document.



■ Loads of options are available from the *Master Browse* viewer. If there's a text block or print function missing, we can't think of it.



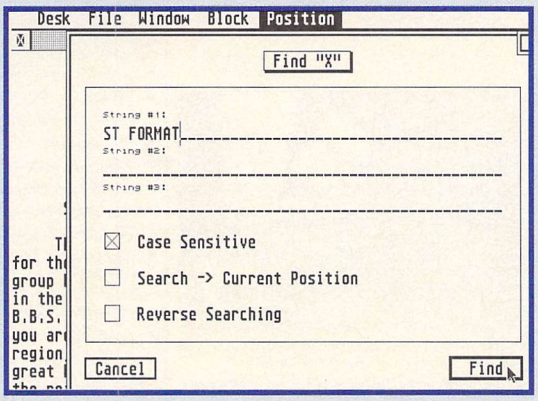
■ You can also search through text by line numbers, input the line number and jump to wherever it is you want to go.

The Atari Glossary is a large text file in ASCII format containing information on the ST in particular and computers in general. Don't worry if you don't have a text editor or word processor, we've generously included the *Master Browse* text viewer and printer program on the disk so you can get your hands on the glossary straight away with the minimum of fuss.

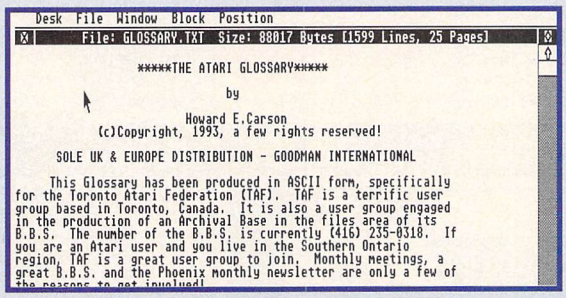
The glossary is on the Cover Disk in compressed form, copy GLOSS.TOS to a blank disk and run it to decompact the glossary and the viewer program. After it's decompacted you can erase GLOSS.TOS from the disk.

To run *Master Browse* double-click on MBROWSE.PRG, when it loads, a file selector appears asking for the name of the text file to load. Select GLOSSARY.TXT and wait while *Master Browse* loads the file, it's nearly 90K long so it takes a while. Once it's loaded you can use *Master Browse* to scroll back and forth through the text, print out the complete text, cut blocks, print blocks, save blocks to disk and even use the Atari Clipboard CPX to store text. You can use *Master Browse* to read and print any text file, it's not just restricted to the Atari Glossary.

■ *Master Browse* has a pretty good search facility built in, it's even better than some "professional" word processors search options.



■ The main window of *Master Browse*; you can use the slider bar or the functions in the Position menu to scroll through text.

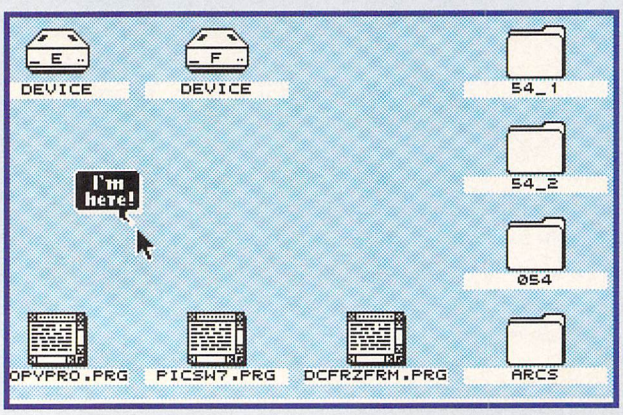


BUBBLEBOOK

BY: A HIERSTETTER
RESOLUTION: ALL RESOLUTIONS
MACHINE: ALL STs
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FOLDER: BUBBLE
FILES: BUBBLE.ACC, README
SIZE: 5K
GET STARTED WITH: README, SEE BELOW

BubbleBook was originally written for use with the ST Book because the mouse pointer has the irritating habit of disappearing from the LCD display. With *BubbleBook* installed a simple press of the right mouse button displays a small speech bubble with "I'm here" written inside. So what's this got to do with you? Well, the mouse pointer has a habit of disappearing on the ST as well, usually when you have to click on the unhighlighted option in an alert box. Normally you have to move the mouse about clicking frantically and hope you get the mouse in the right position, now you can just click the right button to see exactly where you are.

BubbleBook is a Desk Accessory so it can only be installed in memory when you turn your ST on. Copy BUBBLE.ACC to the root directory of your boot disk, not in a folder, and reset your ST. *BubbleBook* loads into memory and is turned on and off by selecting *BubbleBook* from the Desk menu.



■ Yes, "I'm here" is the message and it's got nothing to do with *Poltergeist 1, 2 or 3.*

HICKORY DICKORY CLOCK

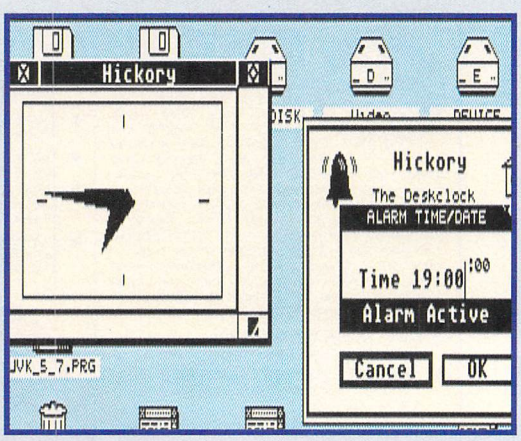
BY: S J MORLEY
RESOLUTION:
ALL RESOLUTIONS
MACHINE: ALL STs
MINIMUM MEMORY: 512K
HARD DRIVE INSTALLABLE
FOLDER: HICKRY10
FILES: HICKORY.ACC, HICKORY.RSC, HICKORY.TXT, READ.ME, REGISTER.TXT, REPORT.TXT
SIZE: 55K
GET STARTED WITH: HICKORY.TXT, SEE BELOW

***Hickory* is a handy** little Desk Accessory that takes up about 45K of memory and provides an analog on-screen clock and alarm clock rolled into one. To install *Hickory* copy HICKORY.ACC and HICKORY.RSC to the root directory of your boot disk, that is, not in a folder. When you reset your ST, *Hickory* is loaded into memory and can be called by selecting *Hickory* from the Desk menu of any GEM program.

The on-screen clock can be resized by clicking once on the clock face, this brings up a GEM window around the clock enabling the clock to be moved, sized and closed as you want it.

To call up the alarm function double-click on the face of the clock and then select Set-Up from the alert box, you can now set the alarm and the system time from within *Hickory*.

■ Use *Hickory's* alarm clock function and you need never miss *The Smell of Reeves and Mortimer* again. Oh, the series has finished.



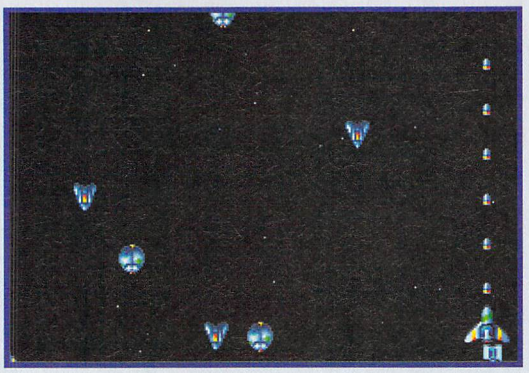
NOVA

BY: ARUNAN THEYA-PARAN
RESOLUTION:
LOW RESOLUTION ONLY
MACHINE: ALL STs
MINIMUM MEMORY: 512K;
HARD DRIVE INSTALLABLE;
JOYSTICK REQUIRED
FILE: NOVA.TOS
SIZE: 66K
GET STARTED WITH: SEE RIGHT

At last, an uncomplicated good old-fashioned shoot-'em-up reminiscent of *Space Invaders* and *Galaxians*. There's no need to mess about decompressing *Nova*, it's on the Cover Disk and ready to run. Don't run it from your original disk though, ensure you make a backup copy of your Cover Disk and run it from there.

To run *Nova* you just have to double-click on NOVA.TOS and stand well back. After a few moments the game is ready for action. All you have to do now is press the fire button on your joystick and start blasting away at the aliens as they appear on-screen.

■ Just a moment! We've seen these ships somewhere before, haven't we? If you can't get this far then you're not really a games player, you're just sad.



■ The levels gradually get harder and harder, if you miss a ship in either row here you may as well give up.

The aliens generally stick to fixed attack patterns for the first few levels so after a few goes you can zip through to the harder levels without any problems. Still, it's all mindless addictive stuff so get stuck in!

COVER DISK BACKUP

BY: BRIAN TILLEY
RESOLUTIONS:
ALL RESOLUTIONS
MACHINE: ALL STs
MINIMUM MEMORY: 512K;
HARD DRIVE INSTALLABLE
FOLDER: BACK_UP
FILES: BACK_UP.TOS
SIZE: 13K

"Back up your Cover Disk" we cry every month, and we mean it! You just can't take the risk of losing any data, let alone your *STF* Cover Disks, so it makes perfect sense to make a backup copy. That's what our specially written backup program is for.

Get yourself a couple of blank disks and run BACK_UP.TOS, then press <1> to start the backup. Your Cover Disk is your source disk, and a blank disk is the destination disk. Follow the on-screen prompts and make backup copies of both of your Cover Disks, in fact, make two backup copies of each just to be sure. Put your original Cover Disks away in a safe place and only use the backups from now on.

EXTRACTING COMPRESSED PROGRAMS

The following instructions assume a single drive setup set to medium resolution

1 Format a blank disk and mark it as Disk B. This is your destination disk.

2 Get your backup copy of your Cover Disk, mark it as Disk A then put it into the disk drive. This is your source disk.

3 Click on the Drive A icon and a window opens with the folders on the Cover Disk displayed within it. If you can't see the Drive B icon, just move the window so you can see it.

4 Double-click on the folder containing the file you want to copy so you can see the contents. Click on the file you are going to copy and keep the mouse button pressed, now drag the file over the top of the Drive B icon.

5 When the Drive B icon turns black release the mouse button. The Copy Files dialog box appears, then just click on OK to start the copy.

6 An alert box appears telling you to put Disk B into Drive A. Do so, and click on OK. Your ST now tells you when to swap disks. It's easy – all you have to do is follow the instructions on-screen and don't mix up the disks.

7 When the file is copied put the Cover Disk away and close all windows that are on-screen. Put Disk B into the drive and click on the Drive A icon.

8 When the window opens, double-click on the TOS file to start the extraction process, after a few minutes a message tells you to press <Return>.

9 You can now delete the TOS file from disk B. Follow the instructions in the magazine for the particular program you are using and read all the doc files on the disk.

10 Repeat as necessary for any other self-extracting TOS files on the Cover Disk.

TEN ESSENTIAL TIPS FOR COVER DISK SATISFACTION

1 Write-protect your Cover Disk by sliding the black tab so you can see through the hole; this prevents you from accidentally erasing data.

2 Make a backup copy using the *ST FORMAT Back-Up* program, see the instructions on above.

3 Always read the instructions for the program you are using on the Cover Disk pages and in any document file that's on the disk.

4 Never run software directly from the Cover Disk except the *Back-Up* program, and always use your backup disk.

5 Never try to decompress self-extracting TOS files on the Cover Disk, always copy them to a blank disk.

6 If you have any general problems with your ST, consult your manual. If you are still stuck then write to ST Answers, 30 Monmouth Street, Bath BA1 2BW.

7 If you can't load, copy or back up your Cover Disk programs then you may have a faulty disk – it happens sometimes. Send the disk and a padded self-addressed envelope to:
ST FORMAT January Disk Returns,
PO Box 21, Daventry, NN1 5BU

We pay the return postage. Don't send faulty disks to our Bath or Somerton offices because we don't keep stocks of Cover Disks there.

8 If you are having problems with a Cover Disk program go back and read the Cover Disk pages and any DOC files on the disk. If you still can't get the program running, call the *ST FORMAT* Cover Disk Hotline on ☎ 0225 442244 on Wednesdays between 2pm and 6pm only – we can't accept calls at any other time.

9 If you have other hardware or software queries, contact the manufacturer or publisher. Alternatively, ring the official Atari Helpline on ☎ 031 332 93233 between 6pm and 11pm Monday to Saturday and 8pm and 11pm on Sundays.

10 *ST FORMAT* Cover Disks are double-sided, if you have an old STFM and cannot read the Cover Disk then you should upgrade your ST to a double-sided drive.

WE WANT YOUR PROGRAMS!

We pay for your software – so if you've got anything that's good, original and preferably short that you think really deserves to go on *STF's* Cover Disk, send it with this form and full documentation to Clive Parker, *ST FORMAT*, Cover Disk, 30 Monmouth Street, Bath, Avon BA1 2BW.

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 we can't return any programs

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

Signed _____

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Citizen

Citizen Swift 240 Colour	**£270.00**
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Hewlett Packard

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HP Deskjet 310	**£239.99**

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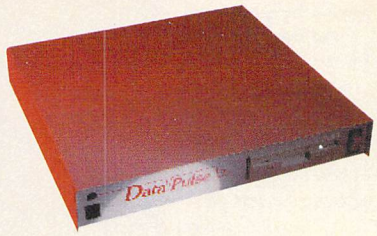
- 2Mb RAM
- 400 Dpi
- 12 months on site warranty

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

Data Pulse Plus



Hard Drives

- All Data-Pulse Plus Hard Drives are fully Auto booting/Autoparking and are formatted, partitioned and tested before despatch, ready to 'plug in and go'.
- Full metal case measuring 300mm x 285mm x 51mm (wdh), ideal for monitor stand.
- Only brand new, highest quality mechanisms used (we do not use refurbished or second-hand mechanisms).
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- 1 Letter mode, 3 photo modes.
- 105mm scanning head.
- Includes Cartridge through port with switch box.
- Compatible with Touch Up 1.8.
- Supplied with Scanlite Accessory. Compatible with any graphics package which supports accessories. Allows scanning directly into compatible packages, such as Silhouette and Megapaint II.

Hand Scanner + Scanlite £99.99

Hand scanner. Supplied with Silhouette v1.4, Autotracing vector package (mono monitor only). Scan directly into Silhouette via Scanlite or import IMG, DEGAS, TINY, MacPaint, GEM and SGF bit image files. Exports IMG, GEM (13), SGF, bit image files. Exports IMG, GEM (13), SGF, DXF, EPS (Postscript) vector files.

Hand Scanner/ Scanlite/Silhouette £119.99

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Zydec 3.5" External Floppy drive. Includes own external power supply.

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High quality 300 dpi mouse with microswitched buttons ST/AM.

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Marpet upgrades for the ST are 'plug in' and require no soldering. They are compatible with most motherboard layouts and come with full fitting instructions. These boards accept SIMM boards and are upgradeable at a later date. Please check that MMU and Shifter are 'socketed' before ordering.

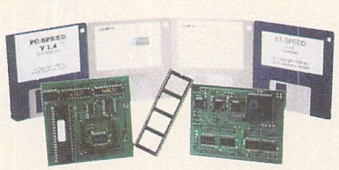
Unpopulated Marpet board **£24.00**
See SIMM prices below.
Forget Me Clock II **£13.99**

STE Packs

1Mb RAM STE	**£199.99**
2Mb RAM STE	**£259.99**
4Mb RAM STE	**£319.99**

Phone for pack details.

PC Emulators



- Full installation instructions.
- XT or AT Emulation
- Check configuration before ordering.

PC Speed STFM (XT)	**£49.99**
PC Speed STE (XT)	**£49.99**
AT Speed STFM (8MHz)	**£139.00**
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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.

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TOS 2.06 + Switch STE	£65.00
Courier Pickup	£11.00
Courier return	£7.00

Phone for price and availability of ST spares.

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Philips 8833 MKII **£199.99**
Includes 12 months on-site warranty (mainland UK).

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High quality 14" SVGA Monitor with ST adaptor (includes sound). Fully compatible with all ST Hi-Res Programmes with tilt/swivel.

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Includes cable **£189.99**

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Fully remote control 14" TV with Scart input for near monitor quality display.

Colour SVGA Monitor **£239.99**
High quality colour SVGA Monitor, .28 dot pitch includes Falcon adaptor.

Microvitec 1440 MultiSync **£399.99**
The Microvitec Multi-Sync displays ST Low, Medium, High resolutions using ST switch box, compatible with FALCON & FALCON screen blaster using FALCON VGA adaptor.

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Falcon ST monitor Adptr	£9.99
Philips SCART to ST/STE	£9.99
8833 MKII to ST/STE	£9.99

KCS OMEGA

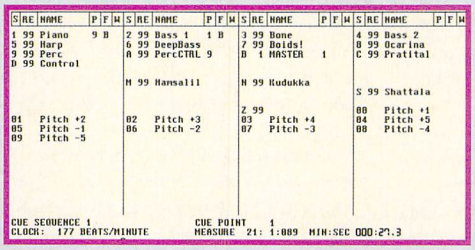
Is there life after *Cubase*? We guide you through the Cover Disk and find out

The *Keyboard Controlled Sequencer* has been around since the days when the ST was a just twinkle in Jack Tramiel's eye and was one of the very first MIDI sequencers for any computer. Emile Tobenfeld, the eponymous Dr T, wrote the first version back in 1984. Now the latest, *KCS Omega 2*, has hit our shores and to give you a flavour of its capabilities, we have put an earlier incarnation of *KCS Omega* on this month's Cover Disk. *Omega* has achieved cult status with some musicians and not a little notoriety for being idiosyncratic and tricky to use. While that was true, to a certain extent, with earlier versions, using it today is quite a different proposition. *KCS Omega* actually refers to a series of programs; *KCS* itself and a number of real-time graphic editors which are managed by *KCS's* Multi-Program Environment. Tiger acts as the graphic extension to one of *KCS's* two main operating modes, Track Mode. The other, Open Mode, uses the Song Editor while The Mixer works in either. The Cover Disk contains *KCS* v4.0 and Tiger with some example files for you to try.

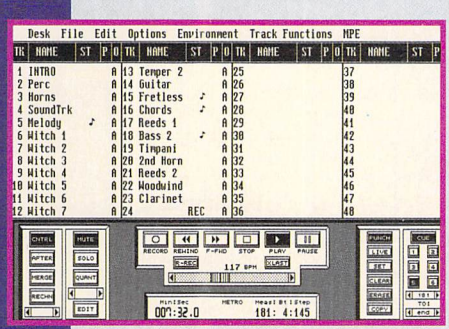
> ***"KCS Omega has achieved cult status with some musicians"***

University of Toronto

So why is it that users as diverse as Madonna, Courtney Pine, UB40 and the University of Toronto, among others, have been attracted by the program? Part of the answer lies in *Omega's* ability to deal with a considerably wide range of musical styles. Unlike other systems, *Omega* makes no assumptions about the form that your music takes; this means that the program is just as happy dealing with a conventional pop song or house track as it is with any other kind of music. Because of this general-purpose approach, serious composers have found that



The Open Mode Play screen. Different sequences created in Track Mode can be put together here.



The Track Mode Play screen. Most people usually start with this one.

PLAYING AROUND

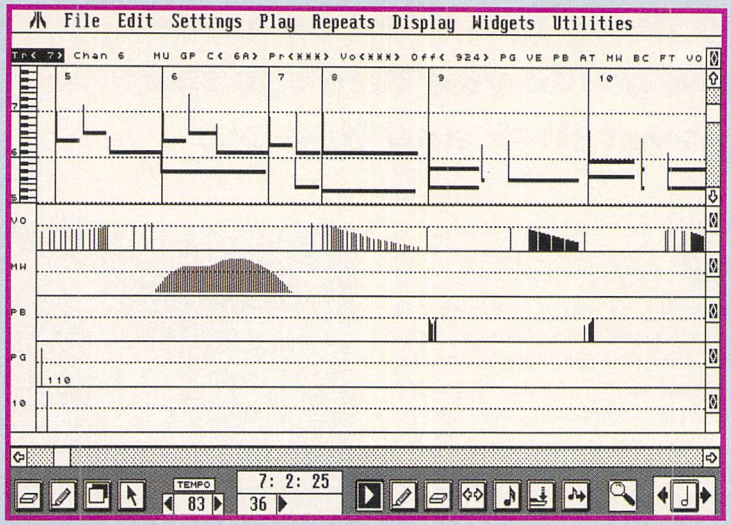
Play can be started in a number of ways; pressing the Spacebar starts from the beginning and with the Play icon lit, clicking the right button anywhere in the track display starts playing from that point. The keys on the numeric keypad set up different sized loops – for example, placing the mouse anywhere in bar 4 and typing "2" plays bars 4 and 5 in a loop. While it's playing select some notes and then try pressing "1" and "0" on the main keyboard – the pitch of the notes is altered up and down an octave.

Similarly, the other keys on the top row change pitch by different values; the next row down moves selected notes forwards or backwards, the third row shifts velocity or controller values up and down and the last row scales them. Also the "-" and "=" keys change durations – try this with the left Shift key held down and see the difference. Editing controllers can be performed in a similar manner; to select a controller curve for editing, hold the left Shift key down and "draw" over the controller with the left button down – the bottom few pixels of the controller upstrokes are temporarily erased to indicate the data can be edited. You can apply the keys of the main keyboard to move, shift or scale data as before but if you have an idea of what shape it should be, just draw over the curve with the left button and it alters as you move the mouse. To draw a new curve, use the right button and to erase it, hold down <Control> while you draw over it.

For a guide to the menu entries for both programs, refer to the MENU.TXT file on the Cover Disk. Next month, we take a look at Open Mode and how it can be used to create music; enjoy the programs and don't be afraid to experiment.

KCS vs LEVEL 2

There are actually two versions of *KCS*. The advanced Level 2 version is identical to *KCS* but has two additional tools, the Programmable Variations Generator and the Master Editor. The PVG is arguably the most powerful Boolean logic editor and although very complex, is capable of some extraordinary transformations. Several composers have written entire pieces in the PVG and, while you may not want to go quite so far, you can still work up some interesting variations to your own music or develop your own sophisticated editing tools.



■ **Tiger with a single track and a variety of controller sub-windows.**

they can deal with the kind of musical requirements present in modern 20th Century music, something which conventional sequencers can find difficult to handle. *Omega* can also be used as a "performance" instrument – sequences can be triggered off in real-time from the computer's console; these sequences can not only contain normal MIDI data but also instructions to alter various musical parameters on the fly – this is a great way to impress your friends although your better half might start looking at you with a curious expression. Finally, *KCS* has many functions which can be employed as pure compositional processes rather than just editing tools. This makes it possible to describe complex transformations to *Omega* using simple building blocks – these create and modify musical data according to your wishes.

So, where to start? Let's begin by starting up the program and learning to navigate around the system. Boot your ST with a copy of the Cover Disk and then double-click on the KCS40.PRG icon. As the program loads and before you get to the opening copyright screen, you can automatically load Tiger as well by holding down either <Shift> key. After a few seconds, the program displays the Track Mode Play screen: this is one of the two principal operating modes of the program.

The screen is divided into three main sections; a standard GEM menu bar at the top, the tracks status display in the centre and the transport and recording controls at the bottom. Notice that the Record button is lit and if you play your keyboard, *Omega* starts to record immediately and continues until you press the Spacebar – which restarts play – or <F10>.

Pressing the right buttons

How and what *Omega* records is governed by the buttons at the bottom left of the screen: CNTRL enables you to record continuous controllers and AFTER does the same for Aftertouch – if your synths support these features, you should turn these on. The next two buttons in this column control MIDI channelisation: with MERGE on, *Omega* records on the MIDI channel that the keyboard transmits on – this is most useful with a master keyboard controlling a number of modules. Turning RECH on overrides MERGE and re-channelises the incoming data to the channel specified in the box beneath – you can change the destination channel by clicking on the little arrows either side of this box or by using the "<" or ">" keys. The MUTE and SOLO buttons are used to control the tracks play status: with MUTE on, clicking on any track in the display mutes it and SOLO (surprise, surprise) solos the track. The QUANT button turns on quantise during the record process; the box beneath is used to specify the quantise value and can be changed by using the little arrows as before. Finally, EDIT exits the Play screen and takes you to Track Mode Edit from where you can also access Open Mode – you can toggle between Play and Edit in both modes using the <F1> key.

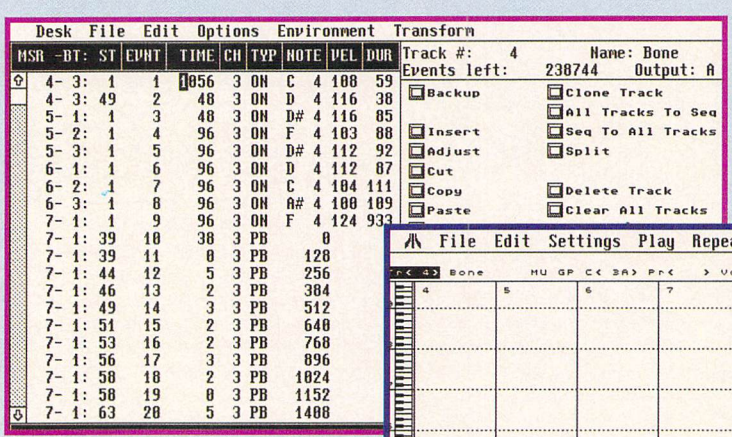
> ***"KCS Omega is just as happy dealing with a conventional pop song or house track as with any other music"***

At the bottom right are the six programmable Cue locators. You can play a Cue by pressing the Tab key and select different ones by clicking on the boxes or pressing <Alt > <1> to <Alt> <6>. To the left of this is the Punch In/Out and Live Edit controls. Separate punch points can be defined for each track while Live Edit can be used to inject material from one track across another or to add velocity information via the modulation wheel for those keyboards not supporting velocity information.

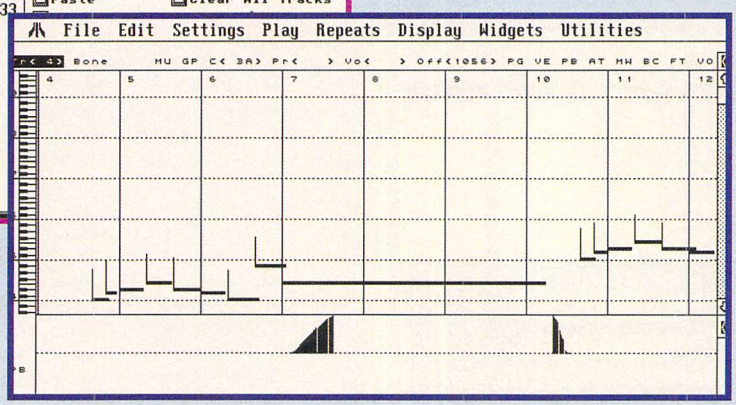
On the right track

Setting up *Omega* to record requires a little thought. For a start, Track 1 is used as the conductor track and the length of this track controls the length of all others. When learning to use *Omega,* it's probably best to start with some short pieces so let's set up to record 32 bars of music – don't worry, you can change your mind about the length at any point. Begin by selecting Clear All Tracks from the Options menu; here you can set the length of Track 1. You can either type the number of bars in directly or by holding down the right mouse button and moving the mouse left or right, the values scroll through their allowable range – all data fields in *Omega* can be altered in this fashion. You should now check out the settings in the main Environment page; press "0" on the main keyboard or select Full Environment from the Environment menu. These paramters are described more fully in the MENU.TXT file, which you can find elsewhere on this disk, but for now make sure that the Audible, Visual and Play Metronomes are switched on (I always thought that a metronome was a vertically-challenged Parisian but then...).

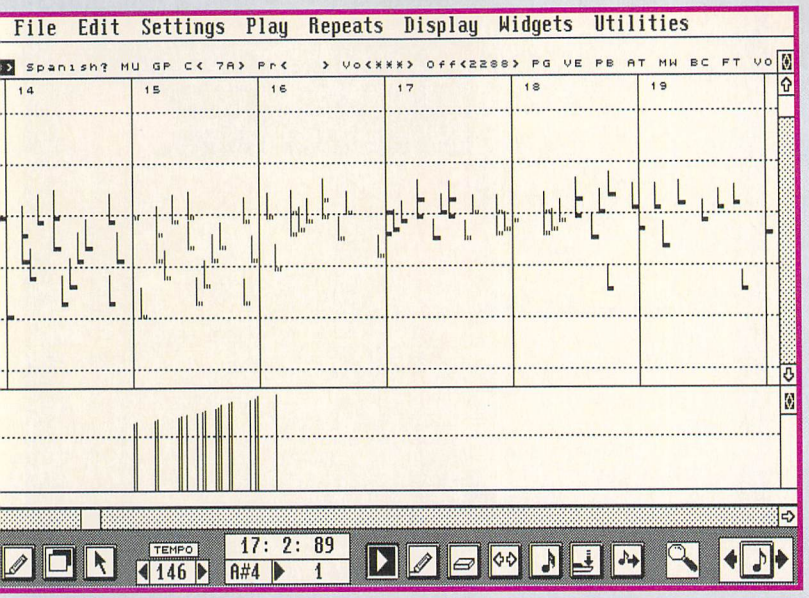
Notice that *Omega* defines things like Quantise, Count-In and the various Step parameters in terms of clocksteps rather than notation values. The Steps/Beat setting controls *Omega's* recording resolution and is currently set to 240 ppqn – you can use any resolution you wish from 12 to 384 ppqn by changing this number. If you want a Count-In, turn Count-In on and dial up an appropriate value – at this resolution, a bar of 4/4 is 960 clock, 3/4 is 720 and so on. If you're planning to use drums, turning on Drum Channels locks the specified channels, defined in the Set Drum



■ **The Track Mode Edit screen. The Event List is showing some notes and pitchbend data.**



■ **Tiger displaying the same data as the previous image.**



Some notes selected for editing. Note that the selected notes are non-contiguous.

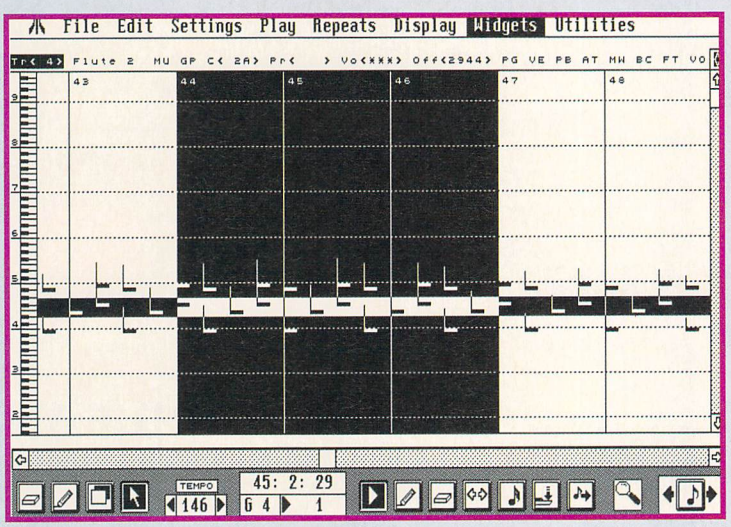
Channels option bottom left of the Environment page, and prevents any pitch transpositions from having an effect. When you've finished, click on OK: now set up the MIDI channel you want to record on either by turning on MERGE and transmitting the appropriate channel from your keyboard or using RECH to set up the destination channel. If you want to audition a sound or channel from your setup without recording, press <Esc>, which toggles the Pause function on and off. Move the Tempo bar to taste, turn up the monitor volume and click on Play or press the Spacebar. *Omega* counts off and then starts recording. As soon as you play a note or move any controller, *Omega* starts to record and continues until you reach the end of Track 1.

If you make a mistake and want to start again, press the Undo key and if you want to finish recording before the end of Track 1 is reached, press <F10>.

Editing data

You can continue recording as many tracks as you want but at some point, you may want to do a little editing. Press <F1> to go to Track Mode Edit – here the screen is split into two halves; on the left is the Event List, to the right are the more common editing tools. At the bottom are the Track Select boxes – clicking on one of these takes you to the appropriate track. There are loads of ways that you can edit in these Edit pages but the most fun is to use Tiger. Just above the Track Select boxes is the Multi-Program Environment's control panel. If you loaded *KCS* with the Shift key held down, Tiger appears in this panel as "Tig" (you can also get to Tiger from the MPE menu entry in Track Mode Play). Click here and Tiger appears – depending on where you called it from, either a single track is displayed or a track plus the conductor.

Tiger can show you up to three tracks or one track and five



Two ranges are being defined here. Notes selected in the horizontal pitch range are limited to the area of the vertical one.

controller windows at once and these setups can be preserved for later recall. There are various controls above and below the tracks' display. Just beneath the menu bar is the Track Information Line. The current track is shown highlighted in black and with more than one track visible indicates the track to which editing functions can be applied – the track can be changed by clicking on the small "<" and ">" icons that surround it.

Next to this is the track's name and two items marked MU and GP; MU means mute and duplicates the mute function in Track Mode; GP, short for Group, is like Solo but any track whose GP button is on is played in preference to unGrouped tracks.

The next four items, C, Pr, Vo and Off, control the current channel, initial program, initial volume and the track's offset, in clocksteps, from the start of the track – values can be altered by clicking with the mouse on the "<" and ">", the left button changes values by 1 and the right by 4. The last seven items,

"Users as diverse as Madonna, Courtney Pine and UB40 are attracted to the program"

PG, VE, PB, AT, MW, BC, FT and VO call up a controller sub-window for that track; PG is Program Change, VE is Velocity (more on this one in a second), AT is Aftertouch, BC is Breath Control, FT is Foot Pedal and VO is Volume. Controller information is displayed as a curve which can be modified and shaped as desired. Velocity is not really a controller but the velocity information of the note data displayed as a curve – velocities can thus be edited like any other controller.

Both track and controller windows can be closed or resized using the diamond-shaped resize gadget in the top right of the relevant window – a left click on a track window sizes the window full if more than one track is shown. A right-click closes both track and controller windows while dragging with the left button in a track window changes its size. When you first open a controller window, it's opened at its double-height setting; further clicks toggle between triple-height and single-height.

The right tools

The bottom of the screen holds the Mouse Editing Tools. Either side of the Mouse Info Box are some icons; the ones on the left are for the left button and the ones to the right, the right! The four left ones are Erase, Draw, Paste and Range; the others, which act only on individual selected notes are Play, Draw, Erase, Time, Pitch, Velocity and Duration. The last two icons are Zoom Display, use the left button to zoom in and the right to zoom out, and Draw Quantise; when lit, all note Drawing is quantised to the selected value.

By now you're probably dying to try out some of these tools so start by either recording some music or loading up one of the examples. You can't do anything to the data until it has been selected for editing so make sure that none of the Left Mouse Tools is highlighted and that the Play icon is lit. To select notes for editing drag a rubber-band around the notes you want to affect – non-contiguous notes can be selected by holding down the left Shift key while banding the notes.

Now the items in the Edit menu "wake up" and you can perform any of the functions available but the most fun begins when you start editing in real-time. ***stf***

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Avalon Music Developments are also offering readers access to their Technical Support line – if you're having difficulty with the programs, you can contact Technical Support between the hours of 11 am and 8 pm, Monday to Friday, for help on any aspect of the program.

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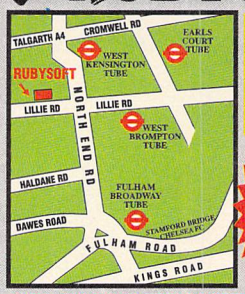

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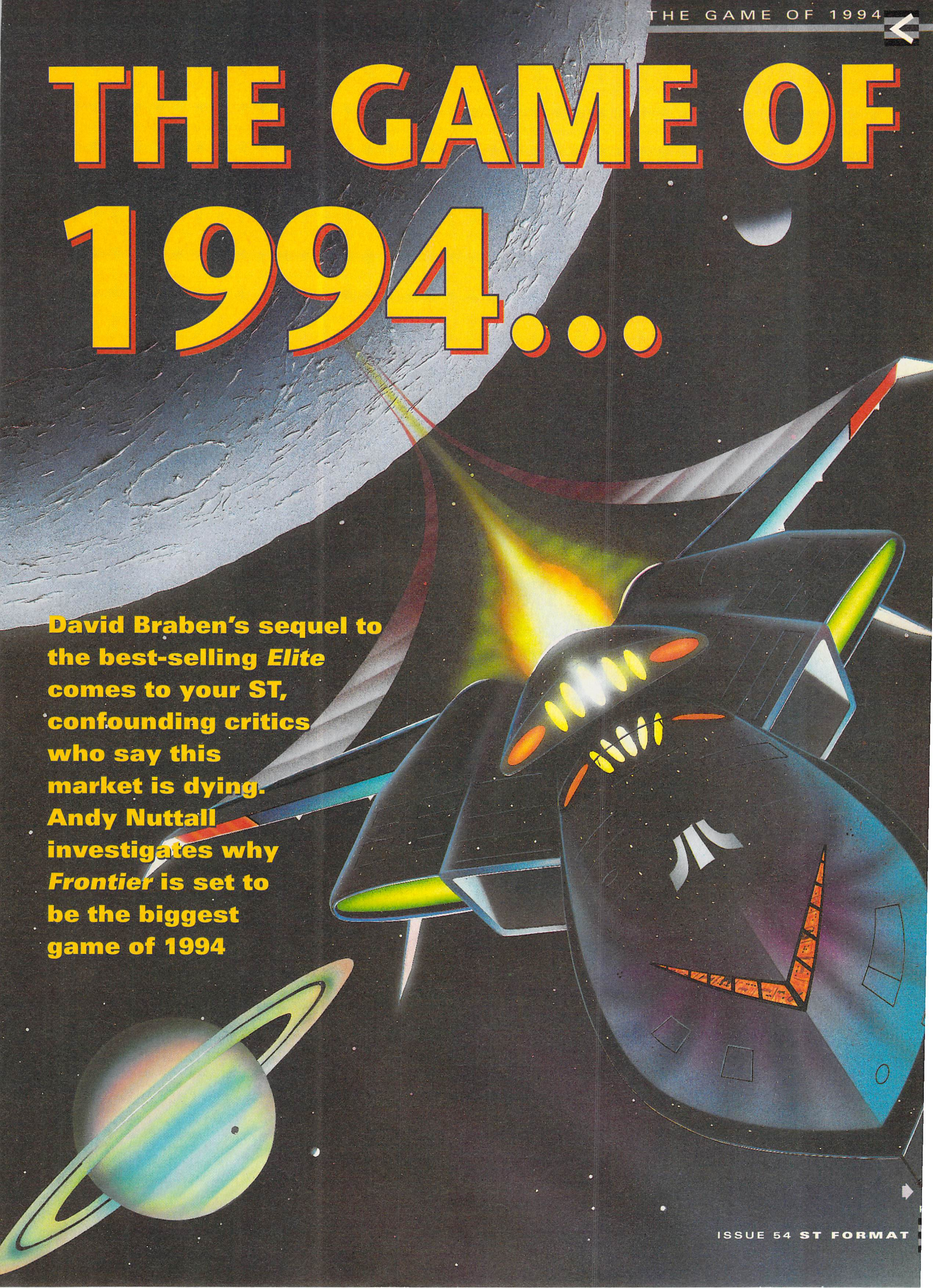
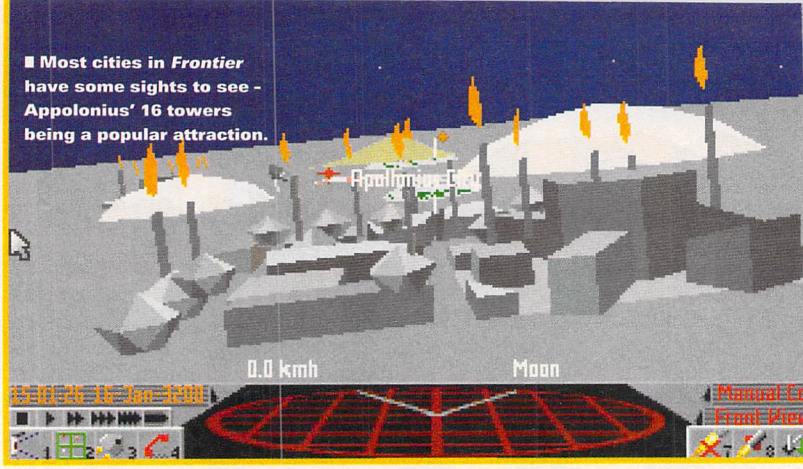


David Braben's sequel to the best-selling *Elite* comes to your ST, confounding critics who say this market is dying. Andy Nuttall investigates why *Frontier* is set to be the biggest game of 1994

ELITE 2

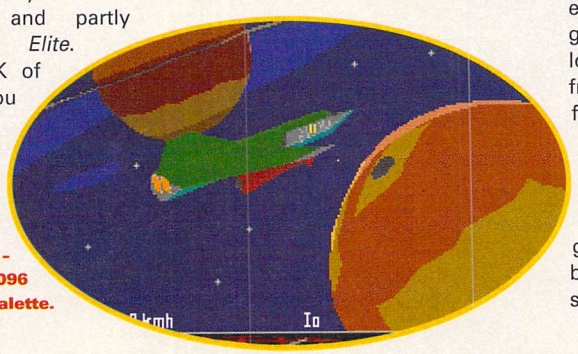


■ Most cities in *Frontier* have some sights to see - Appolonius' 16 towers being a popular attraction.

"Admiral Flaggherty looked into the warm sky, feeling a faint breeze on his cheek. The light of the sun seemed sallow in comparison to the actinic glare of a hot F white like Liaququ, but it felt somehow "right" as if the ancient sun was a memory buried deep in the consciousness of every human, no matter what planet they were brought up on. There was no doubt that Earth was a comfortable planet..."

Elite was arguably the most important home computer game of all time. From the late '70s to the early '80s, arcade games were going through a period of transition from the simple shoot-'em-up of *Space Invaders* to the more complex *Donkey Kong*, *Asteroids*, *Missile Command* and *Defender*. Computer games were pretty swift to follow, but with small amounts of memory and limited graphics, they couldn't follow the customised performance of their coin-op origins.

The BBC Microcomputer was the machine most kids aspired to, partly because it was the one they used at school, partly because it was expensive, and partly because it ran *Elite*. Crammed into 20K of RAM, *Elite* gave you the chance to leave Earth and explore the stars, to trade with other planets and hunt for mercenary bounties in another galaxy. Its 3D environment was a sniff of Virtual Reality, years before the concept really took off.



■ Jupiter and her moons show off *Frontier's* graphics - and the huge 4,096 colour palette.

The next generation...

Since then, technology has helped computer games to reach new heights, so now games running on the ST and other computers can equal the coin-ops in terms of graphics and gameplay. A quick look at games like *Rainbow Islands* from Graftgold, *Street Fighter 2* from US Gold and *Magic Boy* from Empire adds weight to this argument, but also poses the question: where do we go from here?

With present technology, graphics aren't going to get much better than they are at the moment; so perhaps game designers may

BRABEN SPEAKS

■ David Braben: astronomer, earner of large amounts of money, and not a bad programmer.

***ST FORMAT* like David Braben. He hates piracy, he's a good conversationalist, and he's got an ST and everything. Here's what he's got to say...**

Q What was the most time - consuming part of writing *Frontier*?

A There was a whole load of shapes to be defined - everything from houses to rivers. Peter Irvin and Jonathan Griffiths helped with some extra shapes. There were just so many to be done. Just taking the spaceships; there are just so many of them, and you haven't only got to define them, but also how the undercarriage works, the collision information - because all the hit checks are done properly, it's not just using a sphere. It does proper mathematical hit checks, so you can fly though gaps in space stations and things. That amount of information has all got to be prepared, and life's too short, to be honest.

"On the ST, even on the original 520, the game simulates 4,096 colours on the screen"

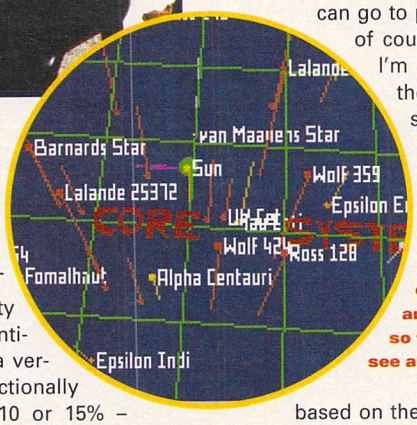
Q Some of the 3D objects in the game are curvy - such as curved wings on spaceships. Was that a particularly difficult routine to write?

A Really, yes. Especially getting the speed up on less powerful machines. However, the ST version is pretty much pixel-identical to the Amiga version. It's fractionally faster - about 10 or 15% - than the Amiga 500, but otherwise it plays in exactly the same way. It's based on very similar code - so ironically because the ST version's coming out later we have the chance to fix the odd bug we've found in the Amiga version.

On the ST, even on an original 520, the game simulates 4096 colours on the screen. It regenerates the palette every cycle, to get the best use of the palette. For every frame it shows the best 16 colours it can for that particular screen mode, so it actually works in 4,096 colours all the time.

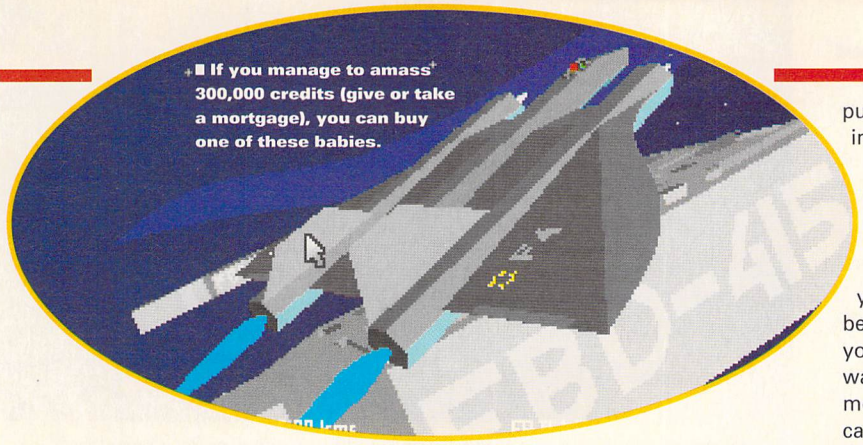
Q Have you got an ST version up and running at the moment?

A Yes. All the missions work and everything. The only things to finish are saving to disk routines, and the music. It should be about a fortnight before we can go to print. And test, of course - but then I'm hoping that the testing should be a lot less problematic because the code is based on the same code as the Amiga, so all the intricate bugs won't be there. The only bugs I might expect are the glaringly obvious ones, like the mouse pointer not updating properly or something like that.



■ The 3D galaxy map can be rotated and magnified so that you can see all the stars.

At the moment the version is great, because I assembled it on the ST and it worked first time!



If you manage to amass 300,000 credits (give or take a mortgage), you can buy one of these babies.

have to go back to the drawing board, as it were, and concentrate more on the game itself. David Braben wrote *Elite*. It has to be said, *Elite* didn't have the most spectacular graphics ever. Using simple wire-frame 3D, Braben created the aforementioned universe where travellers could go and get lost forever.

Frontier, his sequel to *Elite,* took five years to write. It contains over one hundred million different planets, each differently named. *Frontier* is crammed into one file contained on one ST disk. The known universe is accurately mapped – Braben is an amateur astronomer – and the bits he doesn't know about are mapped according to strong astronomical predictions. Over 1,200 of the planets contain intelligent life. You can do anything you want. You can trade; you can become a bounty hunter, a mercenary, a pirate; you can get lost...

Frontier is the game that Braben wanted to create with *Elite,* but given the constraints of computer technology at the time it was impossible. Now it's almost complete, we can see that *Frontier* is a fantastic game: certainly the best 3D game on the ST, a contender for the best game ever.

There's no plot as such, all you know is that you've been bequeathed a small spaceship in your grandfather's will. His view was that you would use it to make money, to set yourself up with a career and make a man of yourself. Of course, with *Frontier* being almost entirely open-ended, what you do with your life is entirely up to you. Your ship is pretty basic, but it is equipped with a Hyper drive to move you between star systems. If you get bored with your sluggish ship, you could always buy another, but to upgrade you need money, and to get money you have to trade, steal or borrow.

The game is indescribable: you could literally travel for years, going from planet to planet, and you still wouldn't reach the limits of *Frontier's* universe. We spoke to David Braben about life, the universe and, er, everything...

In space, it seems, everyone looks like a coal miner. This is *Frontier's* photo-fit system in action.

SPACE PIRATES...

Understandably, David Braben has some strong views on piracy. Indeed, many programmers cite piracy as the main reason why they're quitting the ST market - which is such a shame given the quality of the machine

Q What measures are you taking to protect *Frontier* from piracy?

A The files will be unprotected. I'm hoping that with *Frontier,* people will buy it even if they have a hacked version already. There will be manual protection, though.

Q What do you think of the current piracy situation?

A We had a lot of problems with the Amiga version. It went onto a bulletin board slightly before the release, but we don't know how it got leaked yet. It either came from the packers or the duplicators, we haven't pinned it down yet. What was funny, though, was that it went on the bulletin board and it still had the protection in it!

Q Piracy is pretty rife on the ST as well – as bad, if not worse, than the Amiga.

A Well, the magazines should have a crusade to stop it, because it's going to kill the Amiga very soon. I'm in half a mind myself not to produce any more stuff for Amiga and ST, because we've been clobbered so much by piracy there's little point in spending five years of your life doing something for these people to rip you off at the end of it.

Hacking I can understand, because it's like a mathematical challenge – I don't object to that. It's when people put it on bulletin boards, because the only reason for that is either boasting or being malicious; there's no real gain.

Q Surely piracy is bad on every computer platform?

A It's nowhere near as bad on the PC. We were actually considering shipping the game with no protection, because people do tend to actually buy it – certainly in America. Even if they've got a hacked version, if they like it they'll go and buy it.

"You can trade; you can become a bounty hunter, a mercenary, a pirate; you can get lost..."

Q Is it true that you're keen on astronomy, and you used your knowledge to work out the positions of stars in *Frontier's* universe?

A That's right. If you look at our solar system within the game, that is taken from astronomy data books and it's all realistic. All the orbits are right and things. We can't see planets in other solar systems, though, because it's not possible with current telescopes. So, the game has to make up statistically what's there – or guess, if you like.

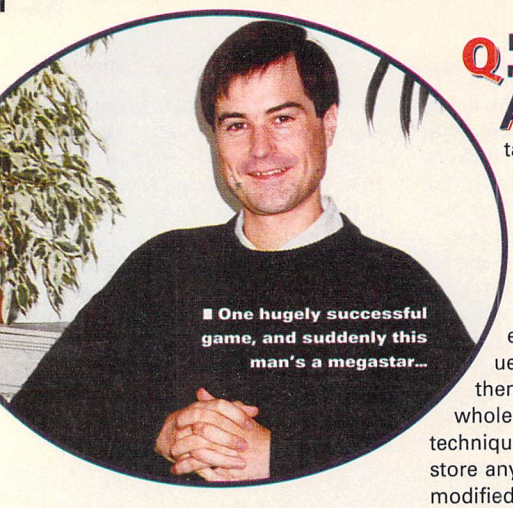
I thought I was going to have to compile a huge database within the game of what planets are in each system, and to write a simulation program which goes through what the process of planet formation is likely to produce. As it happens, that simulation program runs quite quickly, so the game does it on the fly – which is why it manages to fit on one disk. It's actually generating data as and when it needs it.

It works out the masses of dust accretion that's likely to be there, splitting it up into planets, working out their surface temperature, and therefore the likely elements that are there. So we can then determine the likely atmosphere, and we can see how often habitable planets come up. It's done from relatively simple principles, which should apply pretty much to other systems as well as it does ours.

For an out-of-body experience you can zoom out of your ship to watch it take off, land, and, er, other things.

Q On the large map you get with the game, all the star systems have got different names. How many systems are there?

A On the map there are just less than 1,000, but you've got to remember that each star system may have six or more stars in them. And each system may have ten or more places with people living on them. There are

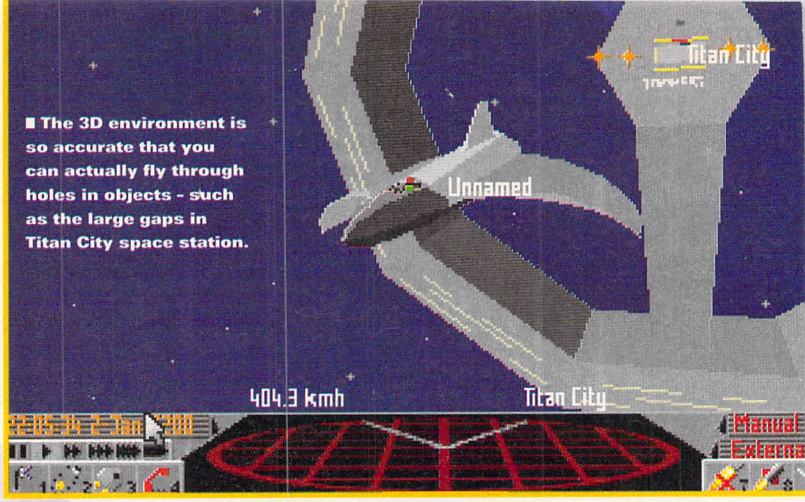


One hugely successful game, and suddenly this man's a megastar...

roughly one hundred million stars in the game, and they all have names, but the further out you go they start to use systematic names more and more, like "CD-39° 13515" or something pretty similar. That naming style is a science fiction convention.

Q Is each planet named randomly?

A Pseudo-randomly. Each system has certain things that define it, and you have a whole sequence of pseudo-random numbers, and for each system it just starts the sequence at a different place, and it always evaluates to the same values. It doesn't need to store them, that's the beauty. The whole game uses a lot of this technique, so you don't need to store any data, only what has been modified. Each system is always the same whenever you visit it – or at least, the same at year zero. It works out the position of the planets for the time you arrive. If you've been there before, it may have some information remembered according to what the player's done there.



The 3D environment is so accurate that you can actually fly through holes in objects - such as the large gaps in Titan City space station.

Q Will *Frontier* run on the Falcon?

A "It should run on the Falcon, but with the state of Atari at the moment... well, let's say it hasn't been fully tested on a Falcon yet. We will do before we release it, though, of course.

It should work fine anyway, because it runs legally with the operating system – at least as far as you can with the Atari machines. I'm sure you know there are a lot of problems with the OS, so much so that you can't actually use certain aspects of it. After a while when you get a bug you start to think 'oh, there's another bug with TOS,' rather than a software bug with your program. Because it's OS legal, it will be hard disk installable – so that's a bonus."

THE CHALLENGERS

So, *Frontier's* going to be the biggest game of 1994. That's a bold statement for *ST FORMAT* to make, so we're going to take a peek at the competition, just for safety's sake. Even though you can count the number of known releases in 1994 (so far) on one hand, they are looking very good. Very very good, in fact. Here are two of them...

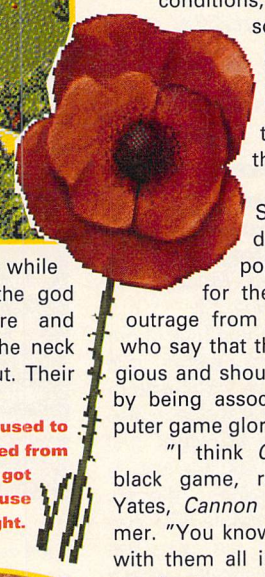
The little soldier in *Cannon Fodder* wander around in groups under your control - or you can split them up, take one group, and leave the others to fend for themselves.

Cannon Fodder

Over 40 soccer games on the ST: one of them really stands out from the rest. *Sensible Soccer* is regarded as the best football game ever, not because of superior graphics, but because of good, solid gameplay that feels close to real football.

The creators, Sensible Software, are renowned for producing games which don't follow the general rules of computer gaming: main character was a wizard in a ball who bounced around collecting paint; Wizkid, his son, knocked bricks out of the sky and visited the Gents a lot; while *Mega lo Mania* grabbed the god game and strategy genre and shook it by the scruff of the neck until the boring bits fell out. Their next foray into the world of ST gaming is *Cannon Fodder*, an arcade-style romp involving a crack squad of troops battling their way through jungle, arctic and desert conditions, shooting at enemy soldiers, tanks and helicopters. Each little guy wears a tiny tin hat, and they fire guns and throw grenades.

This is Sensible Software. 'Nuff said, really. Oh, all right - they all dressed up in soldier gear and went into a field to promote *CF*. Hmmm.



Originally the poppy used to illustrate the game was copied from a British Legion poppy. They got upset, partly, at least, because it infringed their copyright.

Controversially, Sensible have decided to use the poppy as the symbol for the game, provoking outrage from the British Legion who say that the poppy is sacrilegious and shouldn't be cheapened by being associated with a computer game glorifying violence.

"I think *Cannon Fodder's* a black game, really," says Chris Yates, *Cannon Fodder's* programmer. "You know, like *Blackadder 4* with them all in the trenches; it's almost a parody. Some other games take it so seriously, almost glorifying war, really, by using realistic fighter planes and things. We're looking at it from the opposite angle.

"We've changed our logo from the

The boys from Brown battalion try to kill off the enemy quickly so they can see to Dolly on the tarmac.

Q If you have a fast machine, such as a Falcon or a TT, is *Frontier* going to be able to run much faster?

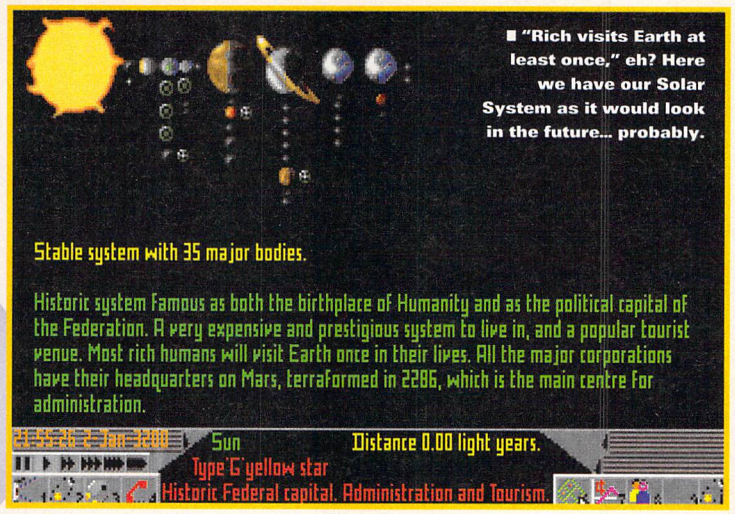
A The game is decoupled from real-time. In other words the ship will always move the same distance in one second, but it might move in smaller steps depending on the power of the machine. So that means it feels the same on all machines, but on a faster machine the screen update is much higher.

"There are roughly one hundred million stars in the game, and they all have names"

Q If you go beyond the boundaries of inhabited systems in *Frontier*, is there a point to the game?

A You can go out and do things like prospecting for gold, or whatever. The systems which haven't been explored much by humans are the ones which contain the most minerals and valuables. That's going to be much later in the game, though, because you need a very large ship for it to be worthwhile. You've got to carry your mining equipment, and you'll be attacked by pirates and things.

But yes, that's one possible goal – people can just go out and explore, if they want.



■ "Rich visits Earth at least once," eh? Here we have our Solar System as it would look in the future... probably.

Q Is there a chance that people playing the game might discover some random life forms in another galaxy?

A Er, no. But this isn't going to be a one-shot thing. I hope to go on supporting this either with mission disks or with other versions – I'm not sure which would be easiest.

"So, just because there isn't anything there yet, it doesn't mean there won't be in the future."

There's likely to come a point where you think you've seen most things – you'll probably never see everything, though...

■ The Blue and Green soldiers pick on one of the Red team... Oh, hang on, that's not Red. Urgh.

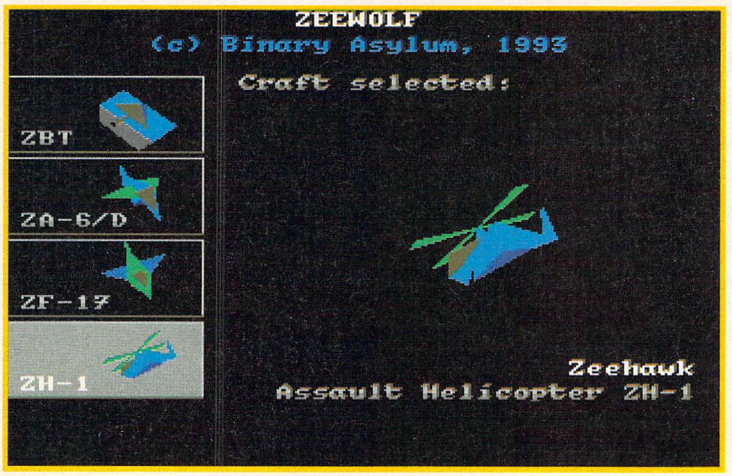
illustrated poppy to a real one, because the British Legion complained about it. They don't really care that our ancestors might have died in the first World War; in fact, Jon's grandfather died on the other side – the German side – but they don't give a damn about him."

Zeewolf

Future Publishing's the name of the company that brings you *ST FORMAT* every month; and Future also happens to be ex-employers of the members of Binary Asylum, a company set up to bring you excellence in computer gaming... at least, that's what the Binary boys would have you believe.

Their first game, *Zeewolf*, is due for release on the ST "sometime in 1994," which at first seems a bit non-committal. Ah, but Asylum have this theory, you see, that if they don't promise definite release dates for their products, then they can't let anybody down. Sensible? *ST FORMAT* think so. We asked Andy Smith, PR person for Asylum, to tell us about *Zeewolf*.

"We've changed our logo from the illustrated poppy to a real one, because the British Legion complained about it"



■ Binary Asylum's *Zeewolf* should look a bit like this. This is only the title page, but we should be in a position to bring you an in-game shot soon.

"It's not a flight simulation, it's a solid 3D action game," he says. "More of a thinking man's shoot-'em-up, if you like. You can control many different craft: a tank, jet fighter or helicopter.

"You use the different craft for different missions – for a quick strike you could use the fast attack chopper, while for a battle you might want something slower and better-armed, such as a tank.

"It's a combat game, but it's not based on any real-life scenario like the Gulf War or the Falklands. It's more of a fantasy experience, really – but it's still realistic."

With some games software companies unwilling to commit themselves to the future of the ST, what makes Andy so sure that *Zeewolf* is going to be a hit?

"Because the amount of effort to get an ST version isn't going to be huge, it makes perfect commercial sense for us to produce it. And the ST is perfectly capable of handling the games.

"There's plenty of life left in the ST yet. It's a wonderful machine, and we intend to support it as long as it's commercially viable – and that will be a good while yet, if you ask me."

That's positive stuff – perhaps other software houses should take note of this attitude. Asylum treated *ST FORMAT* to an early demo of the game – it looks excellent – very fast, with detailed 3D graphics. We promise to print some screen grabs soon. ***stf***

■ This is Binary Asylum, formed by ex-Future employees committed to bringing you top-quality games. They're also committed to the ST, and their first release is out next year.

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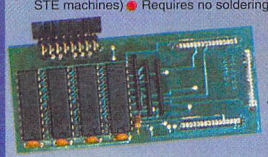

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N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

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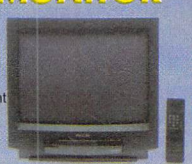

£249.00 Including VAT, delivery & cable

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300dpi RESOLUTION

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

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5¼" External Floppy Drive

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520 STE 1Mb upgrade (2 x 256k SIMMS)	£ 14.95
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ZY-FI Amplified Stereo Speaker System	£ 39.95
VIDI-RGB automatic colour separator add-on for colour input	£ 64.95
Star LC 20 Printer Successor to the LC 10, 4 fonts, 180/44cps	£129.99
Star LC 100 Entry level 9-pin colour, 4 fonts	£ 168.03
Star LC 24-100 24-pin, 5 fonts, 192/64cps	£ 186.83
Star LC 24-20 MkII 24-pin, 210cps high speed draft mode	£ 229.13
Panasonic KXP2123 Colour *Quietprinter* <44dBA, 192/64cps	£210.33
***NEW!* Hewlett-Packard Deskjet 510**	£ 257.33
Hewlett-Packard Deskjet 500C COLOUR	£ 304.33
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3½" FLOPPY DRIVES

Very quiet • Slimline design • Cooling Vents • Sleek, high quality metal casing • Full 1Mb Unformatted Capacity • Quality Panasonic / Citizen Drive Mechanism • Convenient On / Off switch on rear of drive • Long reach connection cable for location either side of computer

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INCLUDES ITS OWN EXTERNAL PLUG-IN PSU

Beware of other makes of drive that take their power from the joystick port!

520 STFM 1Mb Internal Drive Upgrade
Slight case mods required £49.95

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Representing outstanding value for money, this package combines *top quality* scanning hardware with the distinctively powerful ***DAATASCAN PROFESSIONAL*** software.

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

£99.99

ST products are now available from selected
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ALL I WANT FOR CHRISTMAS...

This is the time of year to treat yourself to a little something special for Christmas or perhaps hang on until the January sales. Here are the very best ST things to choose from

How do you fancy this lot in your stocking on Christmas morning then? We've found the best ST and Falcon bargains around, just for you.

You're probably feeling amazingly generous at the moment having splashed out on Christmas presents for family and friends, so what better way to cheer yourself up than to get something for your ST to make your life with it that bit more pleasant? If you don't feel generous then you're either (a) poor, out of work and reading this standing in the newsagents' (in which case put this down immediately if you've no intention of buying it), (b) mean and selfish in which case we don't want to talk to you or (c) hopelessly disorganised and you'd better get out there and get sorted or else there are bound to be floods of tears on Christmas Day. Anyway, assuming you've got the time, money and inclination, take a look through our selection of the most enticing, the most drool-making, the most thrilling bits of software and hardware that you can get for your ST this Christmas – there's something for everyone to suit every interest (well, almost) and every pocket – and remember, a little bit of spending on yourself is just what you need to make the festive season with Great Aunt Doris that bit more bearable.

So browse at your leisure, dream on and have an absolutely brilliant Christmas.

The prices below are the cheapest we've seen them, not the recommended retail prices which may be higher.

UNDER £15

£3.95 – ST FORMAT

The cheapest thing on this list, you need a copy of this magazine. As an ST owner we keep you in touch with everything that's going on in the ST- and Atari-related world, tell you exactly what's worth buying, what's just a heap of old trash and show you how you can make the most of your machine.

You get at least one wonderful Cover Disk packed to the hilt with great programs each month. Don't miss it.

From: your newsagent – or subscribe for £39.95, see page 92 for details

Call all that a shameless plug? Yes, but well-deserved - and completely true.

£9.99 – BOLLISTICK CONTROLLER

Beautifully comfortable to hold and as responsive as anything else you're ever likely to come across, although rather, er black, to look at, this is a joypad that makes you feel as if you're playing a console rather than your ST. Robust and reliable, ST games are never going to play the same again.

From: Cheetah ☎ 061 707 7080

Hard and black and er, quite small really. The Bollistick, for all your game-playing needs.

£9.99 – PARASOL STARS

One of the most excellent platform games of all time is this sequel to *Rainbow Islands* in which Bub and Bob spend all their time doing the usual baddie-bashing but this time with their umbrellas. It's all really bright, chirpy and cheerful – and excellent fun for anyone who just happens to be passing you and your ST. You need it.

From: Hit Squad ☎ 061 832 6633

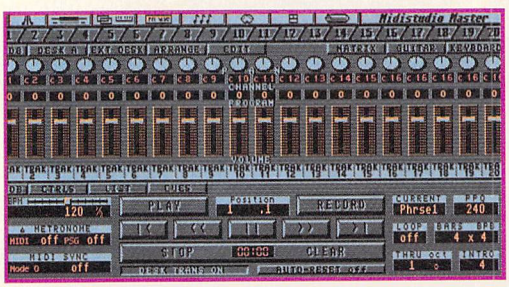
Cute and bouncy, bright and breezy - that's *Parasol Stars*.

UNDER £25

£9.99 – MIDISTUDIO MASTER

Excellent value, this is a professional quality sequencer that never did as well as it deserved because of the more established names like *Cubase* and *Notator*. The price has come down significantly and it's well worth considering if you want to start off making music. Intuitive controls along with speed and flexibility make this a real bargain.

From: Ladbroke Computing ☎ 0772 203166



You want to make music for a special price? You won't do better than this, apart from *KCS Omega* from our Cover Disk.

£17.95 – FORGET ME CLOCK

The first clock with a throughport, so you can use other cartridges at the same time, this enables you to keep track of files, times and dates with the minimum of fuss – and you don't even have to reset it every time you boot up. A very useful investment and amazingly simple to install and set up.

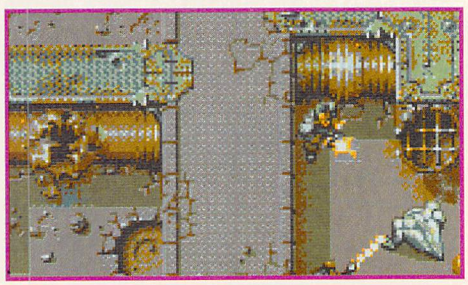
From: First Computer Centre ☎ 0532 319444

Get yourself a Forget Me Clock and you need never lose that essential file again.

£17.95 – CHAOS ENGINE

Huge – and hugely addictive – game from the Bitmaps in which you have to work through four worlds to do your bit to save the world. There's an excellent two-player option and you have to use your brain when you're choosing which character you want to play if you're going to get anywhere. This is going to keep you amused for ever. Probably. Needs 1MByte RAM.

From: Rubysoft ☎ 071 381 8998



When you're completely and utterly stuck in the *Chaos Engine*, turn to our guide that we started months ago and cheat with abandon.

UNDER £50

£36.99 – ZI-FI SPEAKERS

Your monitor's internal speaker could be much better, but it sadly isn't, so just boost it a tad with a pair of external speakers. These give you much more impressive sound – especially important if you're playing a brilliant game and you want to cut yourself off from everybody else around you and just get really into it. You're probably not that sad actually, so let's just say these speakers can greatly enhance a game's atmosphere.

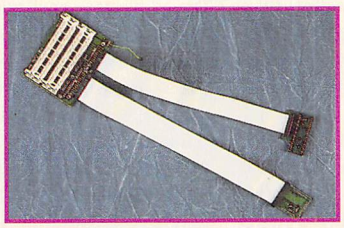
From: First Computer Centre ☎ 0532 319444

Improve your STE's sonic capability with these speakers. Although they don't look much they really are quite impressive.

£39.95 – MARPET 0.5 MBYTE STFM SIMMS BOARD

If you're still stuck with 0.5MByte of RAM in your STFM you really should upgrade to at least 1MByte; nearly all new software needs at least this amount of space to flex its muscles – even games. This board is compact, easy to install and as reliable as *Blue Peter* appearing every Monday and Thursday for the rest of your life. You can always add even more RAM later so you can run the monster-sized software now available.

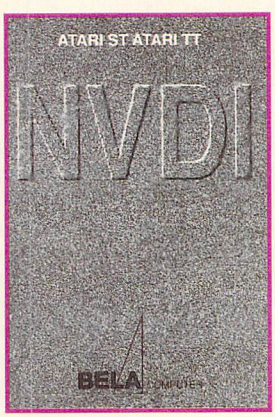
From: First Computer Centre ☎ 0532 319444



All hail the Marpet SIMMs board - the best STFM memory upgrade you're ever going to see installed in your machine.

£49.95 – NVDI ACCELERATOR

The snappily named New Virtual Device Interface enables some functions in some applications to work over 1,000% faster – and everything runs at least 200% faster. It's exciting to see how much faster the scrolling and update rates are – we reckon "it's a dream to install and a pleasure to use." Can't say fairer than that, can you now?



1MByte RAM recommended.

From: System Solutions ☎ 0753 832212

NVDI looks much sexier than this when it's running around inside your ST speeding things up. Honest.

£14.95 – 100 PUBLIC DOMAIN PROGRAMS

Another shameless plug (but we do it because we believe in these things, not because we get commission or anything, because we don't) the best value selection of programs anywhere. These programs are the best of those that have appeared on our Cover Disks – and there's loads of great stuff on there with a handy – and very informative booklet too. Great value.

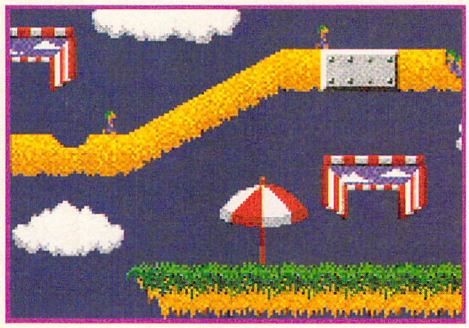
From: Future Publishing Mail Order – see page 103 for details.

■ **Get these programs and you need never look in the Public Domain again.**

£14.99 – LEMMINGS 2

Absolutely brilliant, loads of levels of brain teasing save-the-lemming-style platform fun. Admire the graphics! Wonder how-the-bloody-hell-you're-supposed-to-get-out-of-that-one! Giggle at the humour and get totally and utterly absorbed! Oh yeah! Great fun for everyone – the essential game of the year. Needs 1MByte RAM.

From: Multi Frequency ☎ 0726 68020

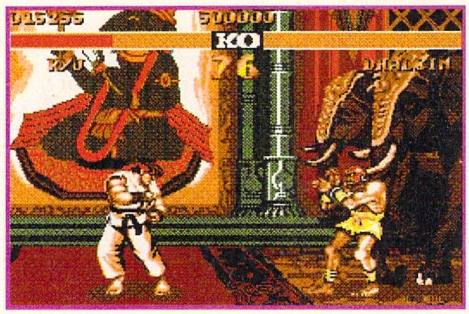


■ **12 different tribes make for loads of variety – this game could never be described as dull.**

£14.99 – STREET FIGHTER 2

The most hyped game of the year – but fortunately it really deserved all the fuss. Huge numbers sold on the ST – and now it's come out on budget, so if you missed this very politically unsound but very well put together beat-'em-up the first time around, now's your chance to make up for it. Needs 1MByte RAM.

From: Kixx XL ☎ 021 625 3388



■ **All the characters have silly names – "Zangieff" pah! Just remember that when you end up flat on your back on the floor.**

£17.95 – MONITOR SWITCHER BOX

So you've got colour and high resolution monitors have you? Show off! To save you the bother of scrabbling around behind your ST swapping plugs you need this simple switchbox. Once connected you can swap between colour and mono monitors at the flip of a switch – it saves wear and tear on the monitor socket of your ST too.

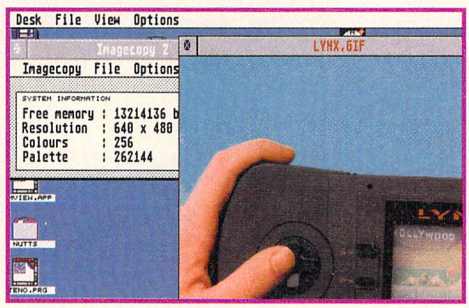
From: First Computer Centre ☎ 0532 319444

■ **No more awkward moments with the new improved switcher, this handy unit banishes those monitor swapping blues.**

£19.95 – IMAGECOPY COLOUR 2

Now you can do virtually everything you ever wanted to to your pictures with this all-round image utility, from grabbing screens to converting graphics between file formats. It supports the Falcon as well as the ST and enables you to print out at any level up to true colour – and it's also incredibly easy to use. A good investment.

From: ST Club ☎ 0602 410241

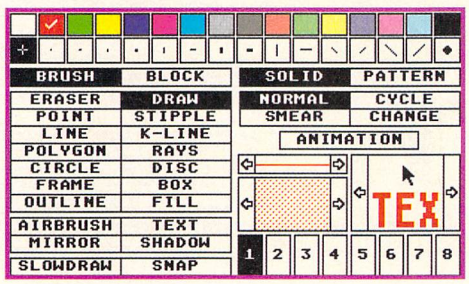


■ **Display your images in glorious true colour... assuming you have a VGA monitor, a true colour pic and a Falcon.... oh! and *Imagecopy Colour 2*.**

£19.95 – DEGAS ELITE

Create excellent 16-colour low resolution pictures if you're a talented computer artist. If you're not, then the quality is likely to be good but the results, well, leaving a little to be desired. *Degas Elite* is GDOS compatible and you can also create graphics in medium and high resolution. Loads of features and deservedly popular. A classic.

From: First Computer Centre ☎ 0532 319444

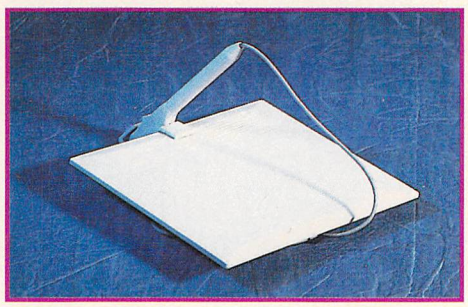


■ **What a masterpiece you could create with all those functions! What potential lies within! Now you just have to exploit it and come up with something not too embarrassing.**

£49.95 – TABBY GRAPHICS TABLET

This is the only reasonably priced graphics tablet available for the ST – and if you do a lot of freehand art work on your machine, the chances are you're going to find this an invaluable complement to your mouse. It's also incredibly easy to set up – which always helps – and intuitive to use.

From: JCA Europe ☎ 0734 452416

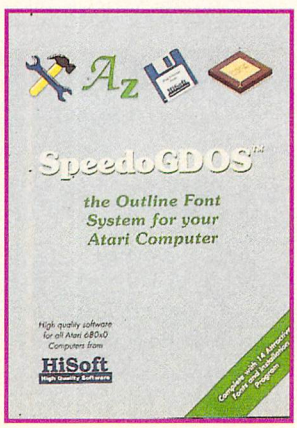


■ **Someone had a sense of humour when they named this after a cat. Cat and mouse, see. Ha ha. See page 48 for the full review.**

£49.95 – SPEEDOGDOS

A somewhat belated, but nonetheless welcome addition now that it's here, this is a very well designed font management system giving you real font scaling for SpeedoGDOS-compatible software, a huge choice of printer drivers and speedy screen updates. To get the most from it, you really need 2MBytes of RAM and a hard drive.

From: Hisoft ☎ 0525 718181



■ **So you're not stranded wondering what it is you've bought, there's a rather tasty manual that comes with SpeedoGDOS.**

£49.99 – VIDEOMASTER

Grab chunks of video and its sound from any source and do exactly what you want with it – like making demos. The only slight problem with the ST version is that everything's in mono – for some really sexy things with colours in them, you need a Falcon and Videomaster Falcon, then you're really rolling. For you if you're creative in any way at all. 1MByte RAM needed.

From: First Computer Centre ☎ 0532 319444

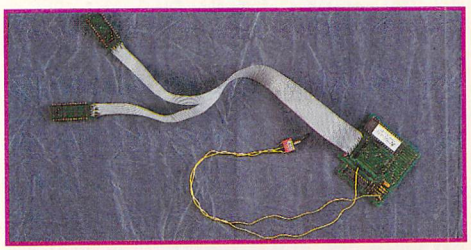
■ **You really need a huge hard drive for this so you can store your creations. Otherwise it would be a real bargain.**

UNDER £100

£59.95 – STFM TOS 2.06 UPGRADE

This is an STFM TOS 2.06 upgrade with a difference – it doesn't need any soldering at all, instead it sneakily plugs into a couple of sockets and over the top of the Glue chip on your STFM's circuit board. Dead simple to install and use, even the uninitiated into upgrading can stick this into their STFMs in under an hour giving you all the advantages of TOS 2.06 at the flick of a switch.

From: Analogic Computers ☎ 081 546 9575

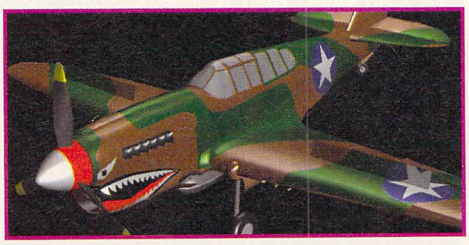


Ho ho ho. Get your STFM TOSsed up with the latest upgrade from the Analogic grotto, it's a bargain and it's easy to fit.

£79 – XENOMORPH

A firm favourite with everyone on the *STF* team, the raytracing program *Xenomorph* stunned us with its capabilities – you can create pictures in as many colours as you like (assuming you don't "like" more than 16 million) and the fact that it is so easy to get to grips with. Supports the entire ST range and also exploits upgrades like graphics cards and maths co-processors. We're awaiting *Xenomorph 2* with great anticipation. Needs 1MByte RAM.

From: 16/32 Systems ☎ 0634 710788

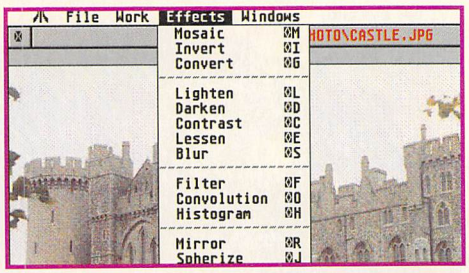


Look at those colours! Look at those textures! What a wonderous program *Xenomorph* is. We love it without reservation.

£79.95 – STUDIO PHOTO

The best value image processing program around, *Studio Photo* works on all STs, TTs and Falcons right up to 24-bit images. It's excellent to tidy up scanned and raytraced pictures and is relatively easy to use, including some very powerful – and unusual – tools. If you have an ST it works much better in greyscales. 2MBytes RAM recommended. Also look out for *Chagall* on the Falcon from CGS.

From: Compo Software ☎ 0480 891819



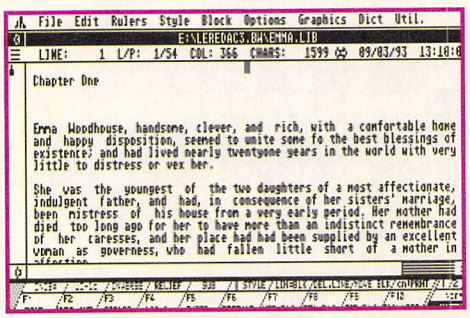
Power without the price. That was once Atari's slogan you know, but now it applies quite well to *Studio Photo*. Brilliant stuff.

UNDER £200

£119 – REDACTEUR 3

An amazingly speedy near-desktop publishing package, this can import 16 different image formats and display graphics on the same lines as text – although it's really just a word processor. Absolutely ideal if you can type faster than your ST can keep up with you. 1MByte RAM needed.

From: ST Club ☎ 0602 410241

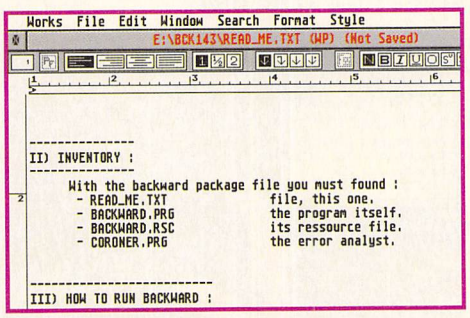


The most amazing thing about *Redacteur 3* is its speed - don't blink or else it'll all be over before you saw it was there.

£129.95 – ATARI WORKS

Designed for the Falcon, but fully downwardly compatible, this is an integrated word processor, database and spreadsheet – just about everything you're ever going to want to use for your day to day working life. Complemented by the thorough Hisoft manual, this is the only remotely business-related program you're ever going to need. Very useful.

From: Hisoft ☎ 0525 718181

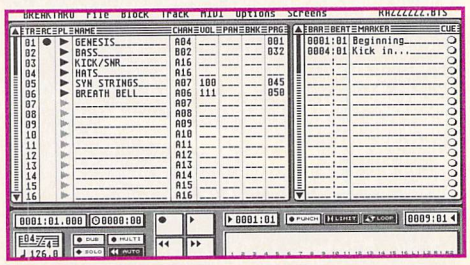


Get into *Atari Works* and you're hooked - perhaps the best thing about it is that even if you upgrade to a Falcon it still works!

£139.95 – BREAKTHRU PLUS

This top quality sequencing package which enables you to use up to 32 MIDI tracks mixes up a simple note editing system with a large selection of features so you can easily produce stunning musical results. You can even load in samples from almost any format and play them out as virtual instruments – combined with Replay 16 the results are amazing. 1MByte RAM recommended.

From: Future Publishing Mail Order – see page 104 for more details



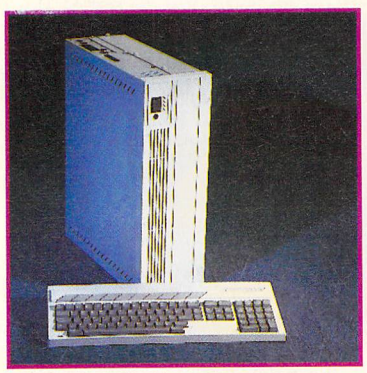
For £20 less you can try a plain and simple *Breakthru* - the only difference is that you can only use 16 MIDI tracks rather than 32.

OVER £200

£219 – LIGHTHOUSE TOWER

If you have the inclination to expand your ST with all sorts of weird and wonderful upgrades, you're a bit limited by the size of the original case – you can't fit much inside. All you have to do is slip your ST's innards into one of these Tower cases and you can upgrade to your heart's content, there's bags of room inside for practically any upgrade you can think of and you can stick the whole lot out of the way under your desk.

From: System Solutions ☎ 0753 832212

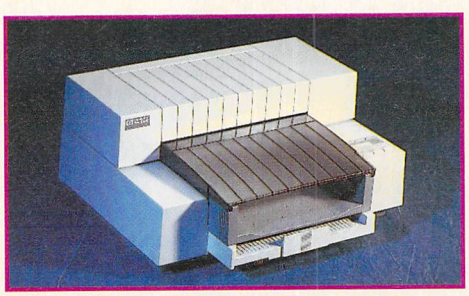


Looking like a particularly chunky PC, the Lighthouse Tower is the answer to all your upgrading problems.

£299 – HP DESKJET 500C

When it comes to inkjet colour printing then the printer you need has to be the HP Deskjet. The 500C is the most affordable of the range and provides oustanding results in glorious colour – even if you are using a mono setup. Using software like *Imagecopy Colour 2* you can print 256 colour and true colour pictures using your just humble ST alongside the Deskjet 500C. All this for 300 quid.

From: WeServe ☎ 0705 647000

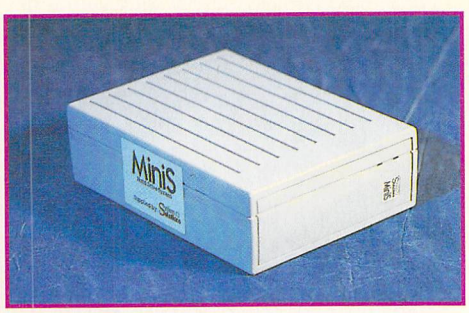


Looking rather like an oddly stacked heap of bricks, the Deskjet 500C isn't going to win a design award, but hey - it works great.

£299 – MINIS 105MB HARD DRIVE

Is this a toaster? No, it's the new MiniS hard drive from System Solutions, one of a new range of physically small hard drives with large capacities. The price of the drive is as tiny as its size – the ST version of the drive is £299 including the Translator host adaptor while the Falcon version is a bargain for just £259. At these prices you can't go wrong.

From: System Solutions ☎ 0753 832212

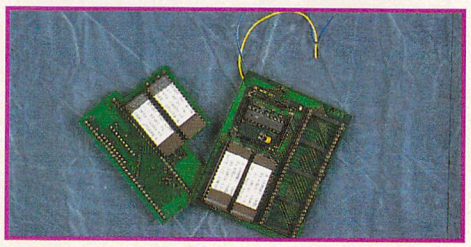


Small is beautiful and, in this case, very affordable. Come on, everyone can afford a hard drive for 300 notes. What do you mean, you can't?

£95 (INCLUDING ROMS, INSTALLATION AND CARRIAGE) – TOS 2.06 UPGRADES FOR STES AND STFMS

Upgrade your operating system to TOS 2.06 for innumerable advantages to your ST like improved disk accessing, the ability to assign and run up to 20 programs from function keys, the chance to define your own background and scroll bar colours and patterns – and loads more. Either get Compo to install it for you or do it yourself – we showed you how in *STF* 47 and you can still get back issues.

From: Compo Software ☎ 0480 891819

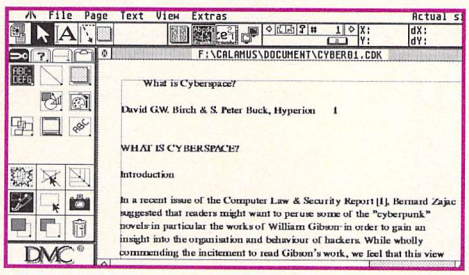


Change your TOS and change your life. It's as simple as that. Dreamland, that's where we live.

£94.99 – CALAMUS 1.09N

For monochrome desktop publishing tasks, this professional level program is absolutely perfect – it's got loads of different functions and, because *Calamus* is the closest you can get to an industry standard, its output is also supported in printshops. If you have a bit more cash to spare, check out *Calamus SL* which is the colour version of the program. 1MByte RAM needed – but preferably more.

From: First Computer Centre ☎ 0532 319444

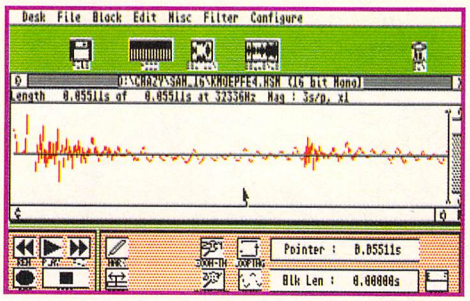


Ideal if you need to create newsletters or just want to jazz up your letters, *Calamus* is the best DTP program you can get for your ST

£99.99 – REPLAY 16

This brilliant 16-bit sound sampler gives you better than CD-quality sampling and reproduction, and also enables you to perform MIDI sample transfers between the program and sampling keyboards. Comprises a cartridge, editor and two fully featured MIDI programs. Definitely for you if you're into making music on your ST.

From: First Computer Centre ☎ 0532 319444

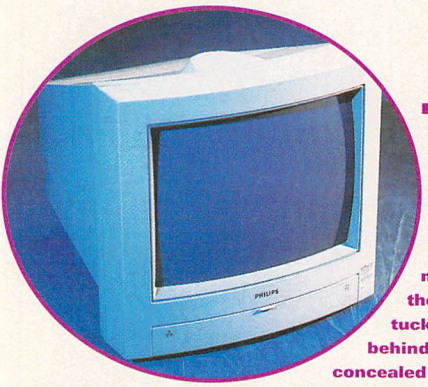


This is Replay 16 for your ST but if you have a Falcon, check out Clarity 16 from Hisoft - the Falcon equivalent.

£194 – PHILIPS CM8833 MONITOR MARK 2

The "must get" colour monitor for your STE or Falcon with its stereo audio inputs enabling you to get the most from your stereo music software or sampler. It's so good that Atari have taken the guts, stuffed them into a new case with an Atari logo and called it the SC1435. It just goes to show that you never know what's lurking inside your hardware.

From: WeServe ☎ 0705 647000



Don't worry if you can't see the controls of the Philips monitor - they're tucked away behind a skilfully concealed flap.

£199 – CANON BJ10EX PRINTER

The superb quality design and construction makes the BJ-10ex just about the best buy when it comes to printers, and you're unlikely to ever get an affordable mono inkjet with better output than from the Canon BJ range. On top of all that it's compatible with standard Epson printer drivers and is so quiet that you have to keep checking it's stil there.

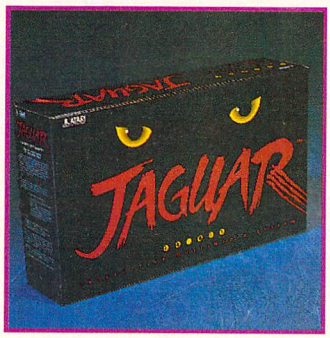
From: WeServe ☎ 0705 647000

It's small, it's neat and it's about the same size as a box of matches. Well, it's a bit bigger than that but you get the idea.

£199 – ATARI JAGUAR

The latest entrant into the console rat race, this 64-bit machine comes complete with the game *Cybermorph* and a joypad controller. We've documented the specs in detail but briefly – the Jaguar's amazingly fast, has stereo 16-bit better than CD quality sound and can display graphics from a palette of 16 million colours. You need one of these machines if you want to lead the world rather than following it.

From: Virgin Megastores and HMVs – call Atari on ☎ 0753 533344 for details

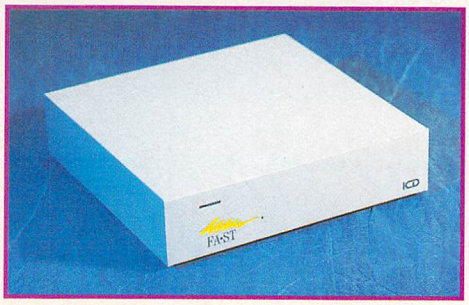


The Jaguar has to be seen to be believed and with over 30 developers for it, this beastie has a bright future.

£349.99 – FA.ST 105DC HARD DRIVE

Big hard drives are great, but the bigger they are the more room you want. The best thing you can do is get a good reliable drive with a pretty large capacity to start with; 105MBytes should be enough to get you under way. FA.ST ICD drives are just about the most reliable kit you can get and come supplied with the ICD hard drive utilities, the best hard drive software there is.

From: First Computer Centre ☎ 0532 319444

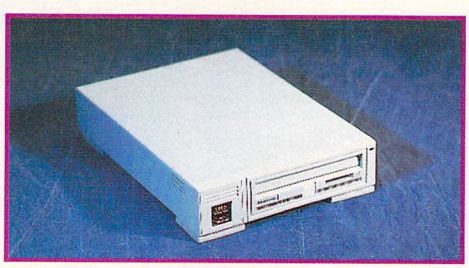


Boxy but brilliant, FA.ST ICD hard drives combine brains and brawn in a chunky case.

£519 – SYQUEST 44MBYTE REMOVEABLE HARD DRIVE AND TRANSLATOR

No, it's not a futuristic submarine but a hard drive system with removeable disks. Ideal for archiving data, SyQuest drives have been around for a few years and are now becoming a bit more affordable. The removeable cartridge has a capacity of 44MBytes and enables you to back up your hard drive quickly and conveniently or simply to store rarely used files. Outstanding.

From: System Solutions ☎ 0753 832212



Looking rather like an overgrown floppy drive, the SyQuest drive is a convenient backup system for your ST or Falcon.

£764.99 – ATARI FALCON030 4MBYTE 85MBYTE HARD DRIVE

How much? Yes, for almost £250 less than its recommended retail price the Falcon is the 32-bit machine that puts all other home computers to shame with its stunning range of abilities. High speed DSP sound and graphics processing, direct to disk recording and sound sampling at better than CD quality, brilliant games, outstanding graphical manipulation in true colour modes, Kodak Photo-CD compatibility and multi-tasking.

From: First Computer Centre ☎ 0532 319444

You've seen it before but here it is again at a slightly different angle: the Atari Falcon030.

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- Dictionary editor *NEW*

Some highlights of Protext 6

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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.
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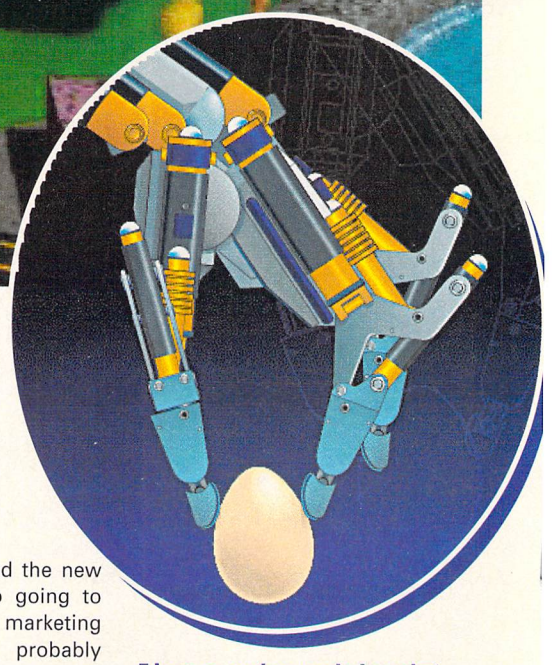
LOOK TO THE FUTURE



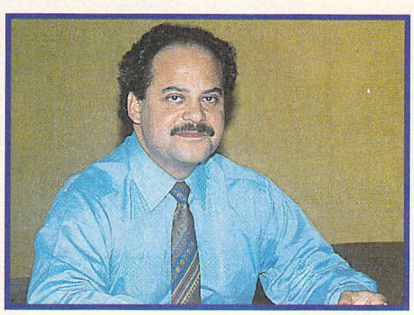
The ST market's been in transition all year and things are finally coming together now. Paula Richards considers what happens next. Strap yourself in...

The end of the year is traditionally the time when you sit back and ruminate on everything that's happened over the past year and think about how much better everything's going to be in the next 12 months. Of course, it rarely happens that way and things troll along just as they always did.

Anyway, we're not going to give you any of that self-indulgent nonsense – if you want to see what's happened over the last few months you'd be best off looking for yourself through the back issues – and if you don't have 'em remember you can always order the particular ones you want from page 91. In anticipation of what is undoubtedly going to be an exciting year for Atari, assuming everything goes as they desperately hope it's going to, we look ahead to the next 12 months and see if we can predict what's going to happen to the Atari-related industry.

Atari

The main event as far as Atari are concerned is the Jaguar – they're going to be attempting to lay a basis to create substantial demand for it at the end of next year and expect to sell at least a million units worldwide during 1994. As well as having developed the new technology, they're also going to be backing it up with marketing and advertising. You probably know that Atari aren't exactly rated on the marketing front, especially compared to the Sega and Nintendo biggies, so it was a pleasure to hear Sam Tramiel's immortal and encouraging words; "we realise that marketing is very important to support the system," and then go on to detail the ad campaigns and strategies they're going to use.



Sam Tramiel's now discovered that marketing's actually quite important. Whoopee!

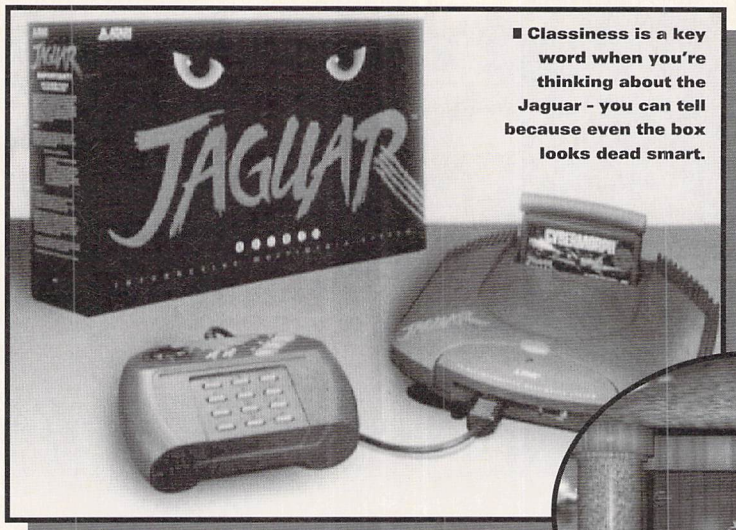
They are also going to be making sure there are plenty of games available to support the machine. Having signed up plenty of publishers to port games over from other formats and also develop more hardware-hungry games, they're also going to be trying to encourage less well-known softies to really get involved with the hardware and try and come up with totally stunning and unique games.

In case you're wondering what relevance these pictures have, well, they're images of the future. OK?

Bob Gleadow, MD of Atari UK, commented; "We're more concerned with developing new types of software – we want to bring games to the Jaguar that you can't get on other platforms – we want to bring new standards of entertainment. We need a new generation of software products... we don't need another platform game

where people are saying 'is it faster than *Sonic*?'"

As far as the Falcon is concerned, Atari claim that they're still supporting it but accept that generally the home computer market is now 95% PC-orientated. Sam Tramiel, President of Atari comments; "We couldn't spend enough money to give the Falcon a significant market share compared to the PC. We're continuing to make computers and we will provide the niche markets that we're in. It was a very important decision for us... to downsize the company, lower our risk in the computer business and put ourselves behind the Jaguar."



■ **Classiness is a key word when you're thinking about the Jaguar - you can tell because even the box looks dead smart.**

■ **Richard Miller's got the technological brains at Atari. And this is him.**

They're not totally giving up on the Falcon, although it seems likely that the family of Falcons that was rumoured to be happening will be put on hold, at least for the time being: "We don't like to give up a market and just leave them stranded. We have a responsibility in some ways, so we are still making Falcons and we will continue making Falcons... there is still a certain demand for these computers." So, as long as you're going to use your Falcon for a specialist high-end application, you should be OK.

> ***"We're continuing to make computers and we will provide the niche markets that we're in"***
> **Sam Tramiel**

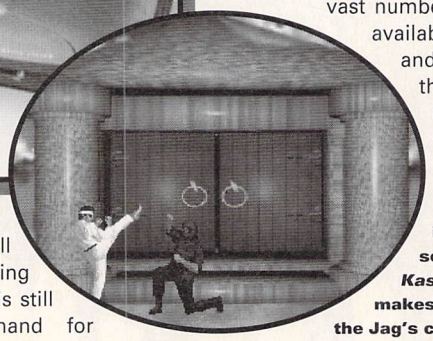
■ **Self-promotion: we analysed the Falcon last ish. Go to page 91 for your copy.**

It may not all be a completely dead end story though as far as Atari are involved in the computer business – Sam Tramiel talks about the possibility of the Jaguar computer (see the News story starting on page 7) and Richard Miller Vice President of Technology at Atari explained: "Right now the computer industry is convinced that the Intel architecture is the way forward and while that philosophy continues it's very difficult for us in the hardware business.

"That philosophy is going to change – it can't carry on in this way because the 8088 was designed 15 years ago – it's not going to continue to be a powerful forward-looking architecture. I think that in the near future people will begin to realise that the industry will have to change and because we're really good at producing powerful hardware, there'll be a new opportunity for us."

Games industry

As far as most of the bigger software houses in the UK are concerned, the ST is old news – and that's fair enough considering the vast numbers of games available for the ST and the fact that, however harsh it may seem, the capabilities of the base machine *are* limited compared to other platforms available for playing games. Although this might seem like a doom and gloom scenario, there are hidden benefits – the biggest of which has to be the budget games industry – budget games being those which retail for between around a tenth to a half of the original price. With lower demand for many full price games when they first come out, softies are releasing these big titles, such as *Street Fighter 2* on budget within months of their initially hitting the streets. The whole budget games industry is expanding with virtually every major software house having a budget label – so all those games you couldn't have afforded when



■ **The background in this screenshot of *Kasumi Ninja* makes the most of the Jag's capabilities.**

EVERYTHING ELSE

There are loads of external periphery services that enhance life with your ST - and it's from them that you're likely to get the most benefit

PUBLIC DOMAIN

As softies get more reluctant to develop new games for the ST, talent in the PD ought to blossom as more people turn to the libraries for their programs. ST PD libraries are likely to last longest of all other services simply because they are non-profit making enterprises – they don't rely on bucketfuls of extra money to keep them afloat.

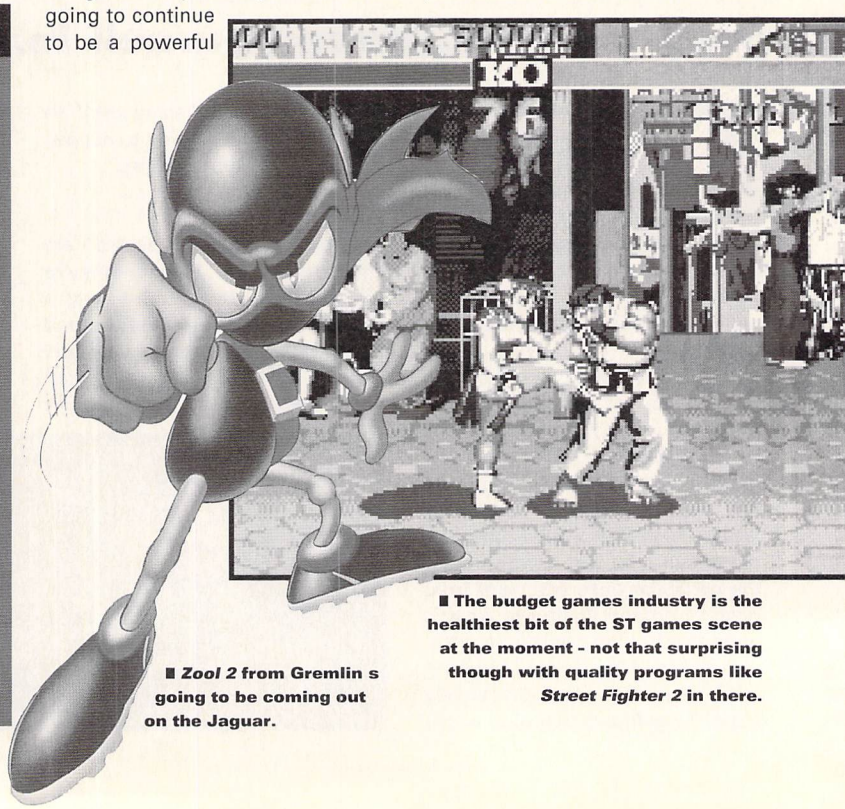
MAGAZINES

There are presently three mainstream titles covering the ST market, two from the same publisher. It would be pretty amazing if both of these continued to operate past the end of 1994.

As far as *ST FORMAT* goes, you can expect it to become more feature-orientated, rather than covering as many reviews as you've come to expect, simply because there aren't anywhere near the same number of programs or bits of hardware to examine – we are still going to be around and kicking at the end of the year, though, without a doubt!

USER GROUPS

Again, as commercial support, say from Atari themselves and ST software helplines lose interest in their customers, user groups are going to be more important as a means of getting together with other ST owners and learning from each other's experience. Get involved!



■ ***Zool 2* from Gremlin s going to be coming out on the Jaguar.**

■ **The budget games industry is the healthiest bit of the ST games scene at the moment - not that surprising though with quality programs like *Street Fighter 2* in there.**

■ If this was a colour page you'd be able to see how pretty *Tiny Toons* is going to look when it's released. As it is, though, you just have to trust us.

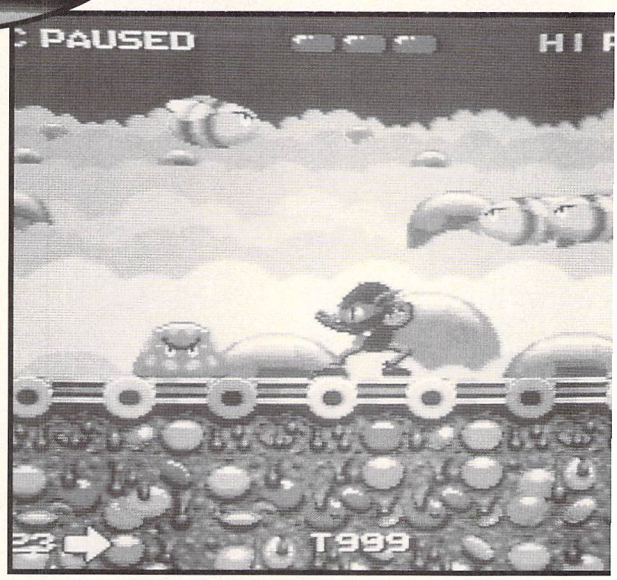
1994 and beyond

Over the next few months and years, look out for...

- The CD peripheral, expected in June of 1994.
- Upgrades to the existing Jaguar – Jaguar 2, Jaguar 3.
- A Jaguar computer with a keyboard within the next couple of years.
- A Jaguar hand held machine, once they've sorted out the present 20 minute battery life problem.
- A Virtual Reality system of some description.

And the most surprising of them all... the relaunch of the Lynx.

■ If you've never heard of the Lynx, that's not a great surprise - it has about 0.7% of the handheld market in the UK.



■ Although Atari want to have unique titles for the Jaguar, it's also good for them to get the well-known names, like *Zool 2* so you can see just how favourably it compares to other systems.

they first came out are now going to be within reach.

As far as new games go you're either going to have to look to the Falcon which has a small trickle of games coming out for it or to the smaller softies who see the ST market as being stable and still having lots of potential for new developers – Bath-based Binary Asylum are a prime example of this group – they're bringing out their first game, *Zeewolf* on only ST and Amiga formats – for more details on this see the main feature starting on page 23.

And then there's the Jaguar. This machine is the most exciting beast to hit the games scene – its capabilities are just phenomenal and according to Jeff Minter, it's incredibly easy to learn to program for. The vast numbers of software houses that have signed up to develop and publish games for it suggest a huge faith in its success. If significant softies are going to be publishing anything on an Atari format, it's going to be on the Jaguar. This is where the future is at on the games front.

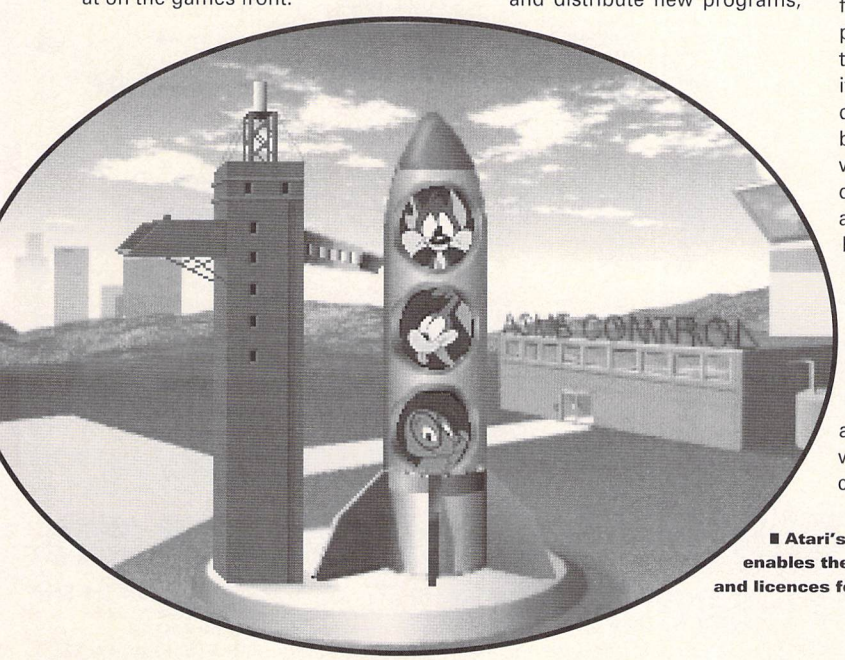
Software industry

The numbers of players in the ST software industry has gone down significantly over the last few months – you can see that just by looking at the number of ads in *STF*. Add to that rationalisations such as the takeover of Microdeal and AVR by Hisoft and the number of companies gets smaller. On the other hand new smaller concerns such as 16/32 System's importation of the exciting Lexicor programs brings a different perspective to the industry. The hard core ST supporters such as Hisoft, Compo and CGS are likely to continue to develop and distribute new programs, as long as the demand is there.

"The software houses that have signed up to develop and publish games suggest a huge faith in [the Jaguar's] success"

Most of the so-called "serious" software that's being developed these days is actually aimed at people with Falcons – and a large proportion of these applications are downwardly compatible with the ST. To a large extent the ST market is saturated – there are loads of art and music programs, along with innumerable databases, word processors and spreadsheets as well as several DTP programs. So, if you actually want to buy anything there are plenty of bits of software to choose from – and, as with the games, the prices are coming down all the time as demand slackens. You see, it's a bit of a vicious circle – if you don't buy software – whether it's because you can't afford it, don't want it or you pirate it – software developers think that no-one wants anything more, so they don't bother developing for it. And then you complain there's nothing new coming out.

During the next few months we're probably going to see further rationalisation backed up by the introduction of very specialist applications to satisfy everyone who's bought a Falcon for a specific purpose.



■ Atari's relationship with Time Warner enables them to use a huge library of pictures and licences for their games.

Hardware

Things are easier and more likely to continue apace on the hardware front since most bits of hardware are standard across all platforms – like floppy drives and printers. Hard drives are really the only area where they have to be built specifically for the ST because of that non-standard interface Atari thought would be such a good idea to introduce – and there are still plenty of them to choose from.

Much of the new hardware that's coming out for the Falcon is downwardly compatible with the ST – for a lot of things such as Falcon hard drives and optical drives – which just need a special adaptor to enable you to plug it in and go. And then the market's not quite so saturated as it is for software – there are still niches that are in the process of being filled, especially in the areas where things are particularly expensive – take the Nova cards from Lexicor for example – they're to be less than half the price than the ludicrously expensive Crazy Dots card.

You can expect to see prices come down, especially for the ST-specific gear – now's an excellent time to upgrade your system to the level you can really afford and you'll be able to get many more years service out of your ST. ***stf***

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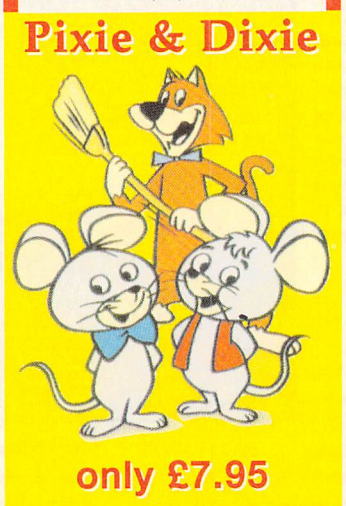

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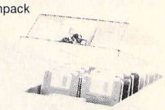

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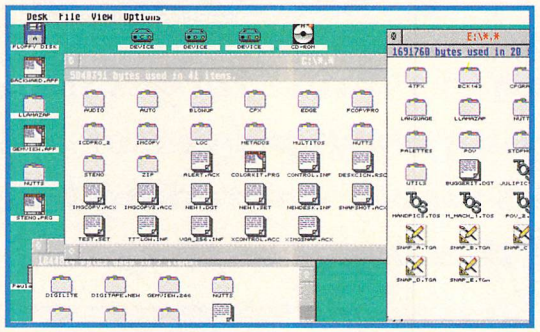
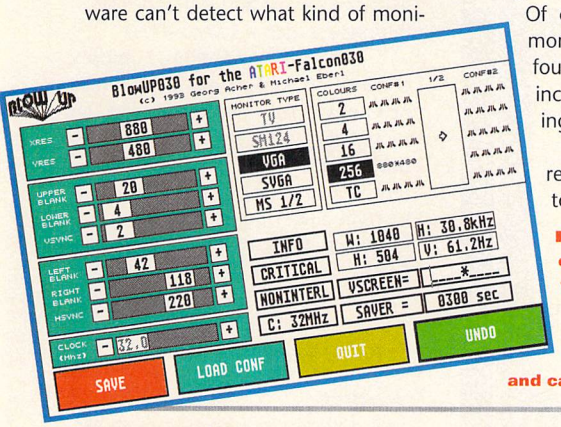
BLOW UP HARD 2

There are two new upgrades for the Falcon – *Blow Up Hard 2* and *Screenblaster*. They are very similar in design, the main difference is that with *Blow Up Hard 2* you can only connect to analog port B rather than have a choice as you do with *Screenblaster*.

Essentially, *Blow Up 2* does exactly the same job as *Screenblaster* but it's much more configurable with many more options available within the setup software. Because the software can't detect what kind of monitor you are using you have to set it from within the configure program, VGA is the default selection. Again, you must be careful not to initialise a setting that is greater than your monitor can cope with because damage can result.



The Falcon's Desktop at a resolution of 880x480 pixels in 256 colours, the standard VGA height but a tiny bit wider. A perfect stable picture is displayed throughout.



Of course, because there are more settings means you can foul up in more ways and increase the chances of making a wrong entry.

You can change *Blow Up* resolutions from the Desktop to a second setting by using the Accessory program supplied, so you can have two different enhanced resolutions set up for a particular colour depth. You can also turn off the *Blow Up* resolutions from the Accessory and switch to normal VGA modes using the Falcon's built in Set Video option.

Blow Up is more versatile than *Screenblaster* and gives excellent results, all Falcon software runs perfectly with it without any trouble. Clearly a good upgrade.

CLIVE PARKER

A much wider range of options are available with the *Blow Up 2* config program, that also means there are more chances to set an incorrect level and cause a blowup.

Blow Up Hard 2

£69.95 System Solutions
☎ 0753 832212

Highs
- Easy to fit.
- Rock steady screen image.
- More options than *Screenblaster*.
- Desk Accessory resolution switcher.

Lows
- Harder to configure.
- Flying lead to analog port looks tacky.

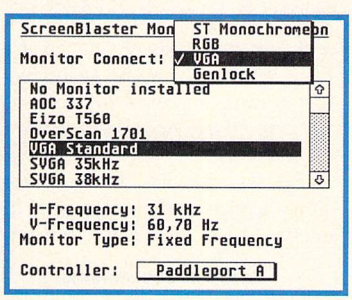
What else?
- *Screenblaster* from Compo Software.

STE RATING 88%

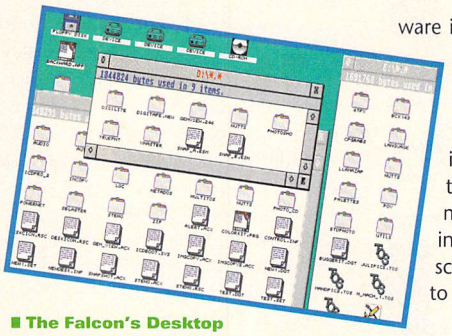
SCREENBLASTER

Get up to 300% more information on your Falcon's screen with *Screenblaster*, the first resolution enhancer for the Falcon. *Screenblaster* is designed by Overscan, the same company who designed the Overscan ST and Overscan TT upgrades.

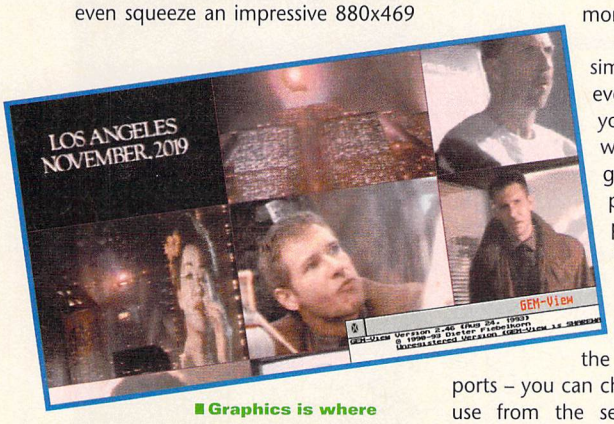
The improvement in resolution you can get with *Screenblaster* depends on the type of monitor you use with your Falcon. If you use a standard VGA monitor you can set *Screenblaster* to give you a maximum resolution of 896x512 pixels; on a multisync monitor you can attain a massive 1,280x960 pixels. You can even squeeze an impressive 880x469 pixels from an ordinary Atari SM144 mono monitor.



The *Screenblaster* configuration menu is easy to set up; just pick out your monitor type and save the configuration. Use your monitor manual to check the frequencies.



The Falcon's Desktop displayed at a resolution of 896x512 pixels; you can see a lot more of the Desktop although we sometimes lost the extreme right edge of the picture, although this could have been our monitor.



Graphics is where you can show *Screenblaster* off to great effect, enabling you to see a much larger area of a picture than you could normally view.

Setting up is simple – you don't even have to open your case so you won't void your guarantee. The main part of the unit plugs into the monitor port on the back of your Falcon and a flying lead plugs into one of the game controller ports – you can choose which port to use from the setup software. The installation software is easy to use, just select your monitor from the menu and save the settings. It's very important that you select the correct monitor type; if *Screenblaster* tries to drive a monitor at a higher rate than it can cope with the monitor can become permanently damaged.

When you boot with *Screenblaster* running you see a menu of available resolutions depending on which video mode is selected. Choose the resolution you wish to use with the cursor keys and press <Return> – and that's it.

Screenblaster is "transparent" to all Falcon software, this means that the software looks up the size of the screen area and adjusts itself to suit. The fact that *Screenblaster* has set the video mode makes no difference, all Falcon software we tried works perfectly and even well-written ST software is OK. The larger screen area is ideal for DTP, word processing and graphics applications. You can see more of your document or picture, making editing and updating much easier than using the standard video modes, this is especially helpful in true colour mode where the screen area is normally restricted to 320x200 pixels.

Screenblaster is a sensible upgrade for your Falcon; it's not too expensive, easy to fit and really improves your setup.

CLIVE PARKER

Screen blaster

£79.99 Compo Software
☎ 0480 891819

Highs
- Simple to fit.
- Easy to use.
- Large screen areas on all monitors.

Lows
- Flying lead to the analog port looks tacky.

What else?
- *Blow Up Hard 2* is available from System Solutions, a very similar system.

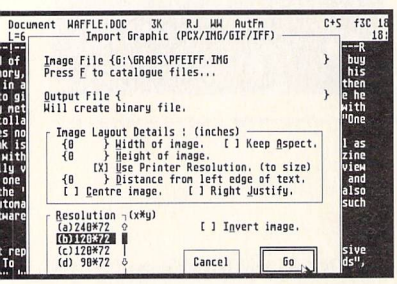
STE RATING 85%

PROTEXT 6

A new version of *Protext* surges into the already heaving word processor arena; we find out if it's worth upgrading to the latest version of this popular program

For a long time now, *Protext* has been regarded as the best option if you're looking for a powerful word processor which supports your printer's built-in fonts. While other programs make full use of GEM menus and alternative font systems, its no-nonsense display, wealth of features and speed make it the first choice of serious text crunchers.

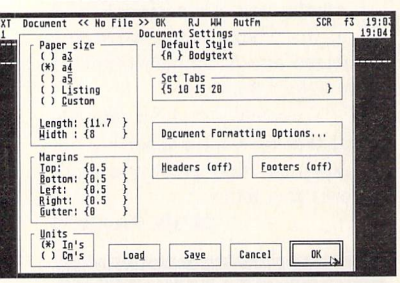
The new version comes supplied on four disks, with manuals – User and Reference. It occupies nearly 3MBytes of disk space, so a hard drive is highly recommended. *Protext* runs from floppies, but with the larger dictionary and thesaurus files weighing in at about 400k each, there's loads of disk swapping to be done. You have to configure *Protext* for your own system with a separate program where you specify the various options.



New to v6, the style editor gives you the freedom to create styling templates for use on multiple documents, a feature often found in DTP programs.

Protext has been criticised for its non-GEM interface and often confusing command system. A full command line system is available with every command explained in the manual, but functions can easily be accessed via a menu if you prefer. Version 6 is even simpler, using more dialog boxes, giving it the friendliness of GEM without sacrificing speed. The drop-down menus have keyboard shortcuts too, but this can be a bit confusing, since some use the familiar <Control> key combinations while others adopt the style seen in many German programs now, with the keypress highlighted in the menu by the underscore "_" character. Once you've got used to the shortcuts you can edit your text swiftly, resorting to the mouse for the odd feature or two.

New to *Protext 6* is the ability to import graphics in various formats, although you can't see them on-screen - only a line of text telling you the filename and size information.



Setting up your document's parameters is done via a pseudo-GEM dialog box, and it's adjustable with the minimum fuss.

In with the new

- Dictionary editor.
- Graphic import.
- Improved interactive help system.
- Macro editor.
- Postscript support with the supplied driver.
- Scaleable font support, if your printer has them.
- Style tags to enable transfer of layouts between documents.
- User-definable glossary for commonly used abbreviations.

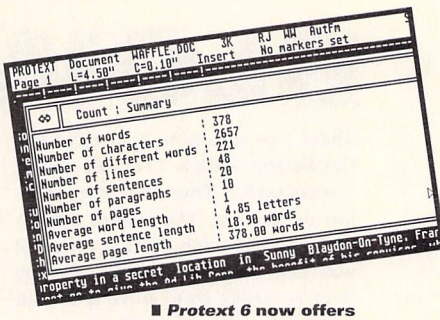
What's new, Pussycat?

Most of the upgraded features fall into two categories – improving the friendliness of the program, and enhancing its use to the pro or semi-pro writer.

The addition of style tags means you can create and save sets of formatting details to use regularly. If you produce your own magazines or newsletters with a DTP program, you can format each article you write with your house style without having to muck around with the document settings every time – a real time saver. Another bonus if you often use the same expression again and again is the Glossary. The word count function is vastly improved over previous versions. *Protext* now gives you document analysis as well as a straight count; you can list all words used either alphabetically or by the frequency used, and a full summary which even gives you the average length of your words and sentences.

> *"The new editing functions and document analysis features are very helpful for writers"*

Previous versions of *Protext* have lacked one thing – graphics handling. While not out to compete with document processors, version 6 enables you to include images on your page, under certain restrictions. *Protext* doesn't display the image on-screen, so you don't get to see it until you print the document – a line is inserted into your text which tells *Protext* the filename and resolution of the picture. You aren't likely to use it in place of DTP software, but it's useful for letterheads and the like without having to print them separately. Graphic formats handled are GIF and PCX as used on the PC, IFF from the Amiga, and the usual IMG – but not the high res *Degas* PI3.



***Protext 6* now offers more than a simple word count, with a full document analysis showing a detailed breakdown of your writing.**

Protext's printout quality depends on your printer, since it uses no fonts itself, relying instead on those built into your printer. The obvious advantage is speed. Graphic font word processors often take ages to print single pages, but using the hardware fonts gives swift results. Really, you need to decide whether your printer fonts are up to it – with a standard 9-pin dot matrix you won't be realising *Protext's* full potential.

Verdict

So is it worth upgrading from an earlier version? If you have v5 or earlier, then the answer is yes. The greatly improved dictionary and Collins' thesaurus are light years ahead of earlier ones, and the program is much friendlier to use. On the other hand, if you're currently using v5.5, the choice is a little more difficult.

If you take your writing seriously and want to use your ST for more than tapping out the odd letter, the answer is still yes. The new editing functions and document analysis features are very helpful for writers, and make the cheap upgrade cost worthwhile. A definite winner.

FRANK CHARLTON

Protext 6

£152.75 Arnor Ltd
☎ 0733 68909
Upgrade prices: from v5.5 £35.25, from v5 £47, from v4.3 or earlier £58.75.
Needs 1MByte RAM; hard drive installable

Highs

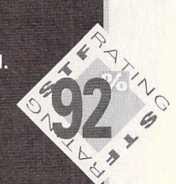
- Fast and powerful.
- Excellent dictionary and thesaurus.

Lows

- Needs a hard drive to work at its best.
- Intimidating for complete beginners.

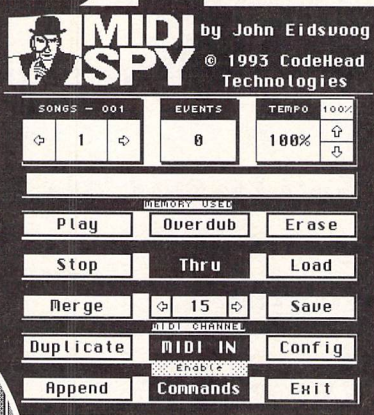
What else?

- *Redacteur 3* from ST Club ☎ 0602 410241.



MIDI SPY

There's something out there, and it knows all about your MIDI... let's investigate



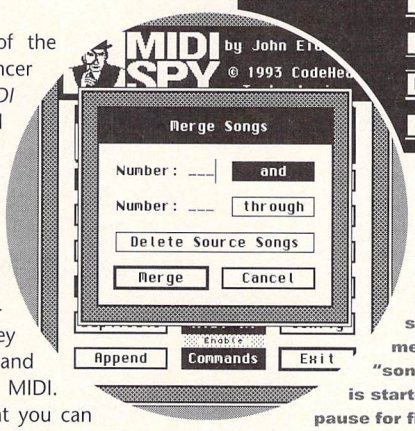
■ *MIDI Spy* is a revolutionary new way of exploiting your MIDI setup. In Accessory form, it enables you to play your MIDI instruments from within other applications. It also enables you to play complete MIDI files in the background while you use other programs.

Hey, you! Do you use MIDI? Well, *MIDI Spy* could make a significant difference to your life. There's a new package available that gives you full access to your MIDI setup even when you're using other programs. This, together with a whole host of other features, makes *MIDI Spy* the Accessory that you may previously only have dreamt about.

By using a form of multi-tasking, *MIDI Spy* can play MIDI files in the background while you work in other programs. You can even line up loads of .MID files to play in succession – working much in the same way as a juke box. If you like a particular combination of songs, simply save them all as one big *MIDI Spy* file and listen to them whenever you wish.

Exclusive!

Unlike many of the cheaper sequencer programs, *MIDI Spy* can record and play back system exclusive messages. These messages are transmitted by your synthesisers when they dump voice and panel data via MIDI. This means that you can save your keyboard's voice setup, leaving you free to edit the voices or load in different voice setups without losing the original data.

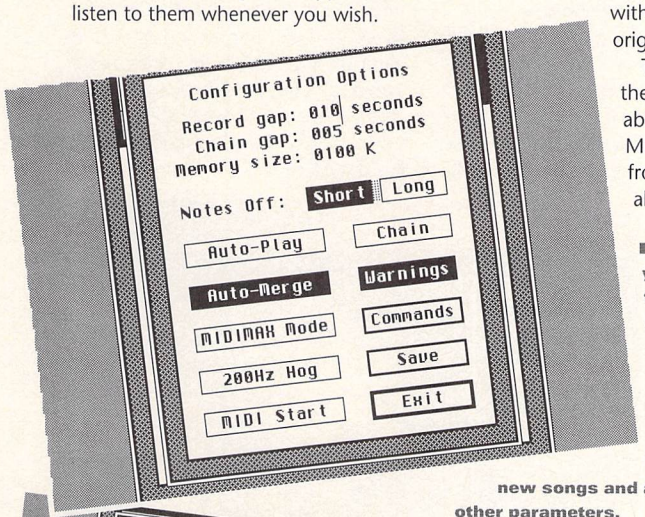


■ The program records everything you input, including MIDI channel changes and system exclusive messages, as "songs." A new song is started every time you pause for five seconds or more. These songs can easily be merged together to form larger songs. By calling the Accessory from the Desktop you can save any or all of the songs in .MID format for later use with your sequencer.

The real joy of the program is its ability to play your MIDI instruments from within almost any program. So, if you are working on song lyrics using a word processor you can play a MIDI piano and work out the music at the same time. If you're printing out a long DTP document you can use the time to brush up on your scales! When the Accessory is not displayed on-screen it beavers away in the background and records little bits of MIDI activity, even if you can't access the Desktop menu.

When the Accessories are available again, simply save your work in the MIDI format of your choice – *MIDI Spy* supports MIDI 0, 1 and 2 standards. Every time you pause for five seconds or more the program begins a new "song," this makes it very easy to find the bits you want to play back or save. Songs can be appended, merged, overdubbed and generally messed about with within the program but if you find you need greater control just save your work and load it into your sequencer.

The package requires you to fill in a simple registration form which encodes your copy of *MIDI Spy* with your name and address. After this process you can copy the program to another floppy or to your hard drive. Although *MIDI Spy* comes supplied and runs as a standard .PRG file the only way to get the most out of the program is to change the extension to .ACC and run it from the root of your boot drive as an Accessory.

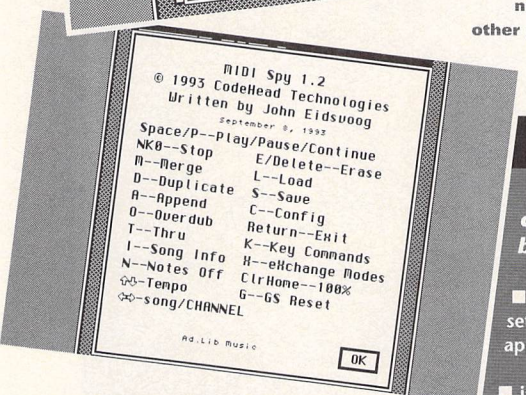


■ With *MIDI Spy*, you can change the amount of memory the program reserves for MIDI information, the time lapse for starting new songs and a whole host of other parameters.

Verdict

MIDI Spy is essential, there is no question about it. It may well be the most expensive Accessory you ever buy, but it significantly enhances your MIDI setup. *Midi Spy* is a superb stable mate for any sequencer, we recommend it without reservation.

ANDY CURTIS



■ *MIDI Spy* has a full set of simple keyboard shortcuts when you load the program or call the Accessory. These, for some bizarre reason, are completely different from the keyboard commands you need to use when the Accessory is not displayed on-screen.

What's all this, then?

MIDI Spy is a great new concept in MIDI control because it...

■ enables you to use your MIDI setup from within almost any application.

■ is multi-tasking. When resident, you can play your MIDI instruments while your ST gets on and does other things.

■ records everything you play. Simply call the Accessory if you want to and save any or all of your musical ramblings.

■ enables you to play MIDI files in the background while using other programs.

■ records all types of System Exclusive MIDI data.

■ runs as a program or an Accessory. Edit the file extension as required.

■ gives you full keyboard control even when running programs with no GEM Desktop.

MIDI Spy

£59.95
System Solutions
☎ 0753 832212
Runs on all STs in all resolutions. Also runs on Falcons and TTs.

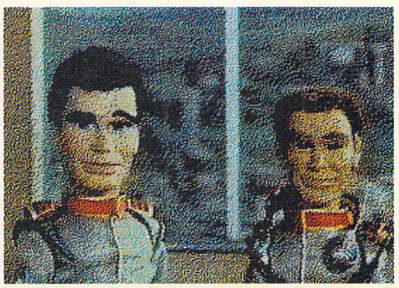
Highs
■ Unprecedented MIDI control.
■ Enables access to MIDI from within almost any application.
■ Clear and concise manual.

Lows
■ Slightly confusing keyboard shortcut system.

What else?
■ Absolutely nothing.

VIDI-ST 12

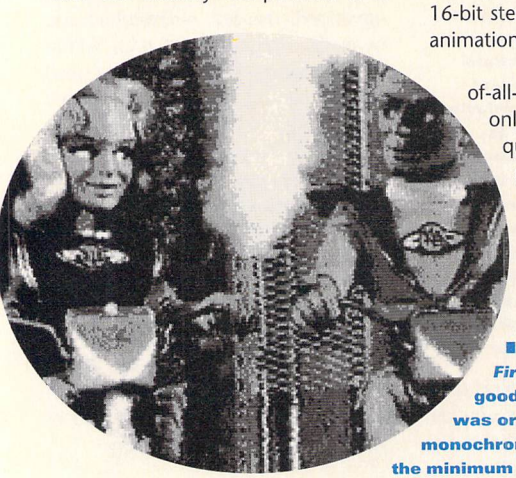
Another new digitiser on the scene, huh? What can this gringo do for us that others gone before failed to do? It's time to find out if this town's big enough for the big guns of Hisoft/AVR *and* Rombo...



■ When using 16 colours, you need to be careful to obtain decent looking grabs. The VIDI software has a dither option, which creates the effect of more colours by using dot patterns - as shown here.

After Videomaster Falcon putting in such a brilliant performance last issue (92%), it's difficult to believe that another digitiser can actually out-perform it so soon... Well, not quite. You see, Videomaster does everything. Digitising using 16 grey shades and 8-bit sound sampling; or 64 grey shades and up to true colour digitising and 16-bit stereo sampling on the Falcon; animation – just about anything.

However, it's a bit of a jack-of-all-trades, because you can only animate using images of quarter-screen size; you must grab full-screen size images separately, and true colour digitising is pretty tedious if you haven't got a separate electronic colour splitter. So, while it has a lot of functions, they do leave something to be desired.



■ Even with 16 grey shades, *Fireball XL5* still looks pretty good. Er, anyway - the subject was originally filmed in monochrome, so grabbing it involves the minimum amount of fuss.

Enter Rombo's VIDI-ST 12. This is a more expensive unit than Videomaster, and it doesn't have any sound capability – it's just a digitiser.

"VIDI-ST 12 boasts full-screen monochrome digitising"

If digitising is your bag, though, and you would like to work with full-screen images quickly and easily, VIDI may be just, as it were, up your alley.

What's the first thing you notice when you load up a piece of software? The front end, of course. VIDI-ST 12's front end looks superb – very much like a quality image processor or paint package. A thick menu bar at the bottom of the screen gives you all the options you need, and this can be repositioned if you get a "blind spot" – a part of the image which is hidden behind the menu bar.

VIDI-ST 12 boasts full-screen monochrome digitising at a rate of up to eight frames per second on a standard ST. Most digitisers (Videomaster included) only handle quarter-screen images, but their frame rate is significantly higher. The Continuous digitising option records the frames so that

IMAGE PROCESSING

The VIDI software includes some basic image processing functions to enhance your images after you've grabbed them

CONTRAST/BRIGHTNESS
Similar to the controls on your TV, these operate on the clarity of your image.

EMBOSS
Produces a monochrome 3D effect, as though the objects in the image were raised.

PIXELIZE
Enlarges the size of an image's pixels, creating a number of squares giving a mosaic-type effect.

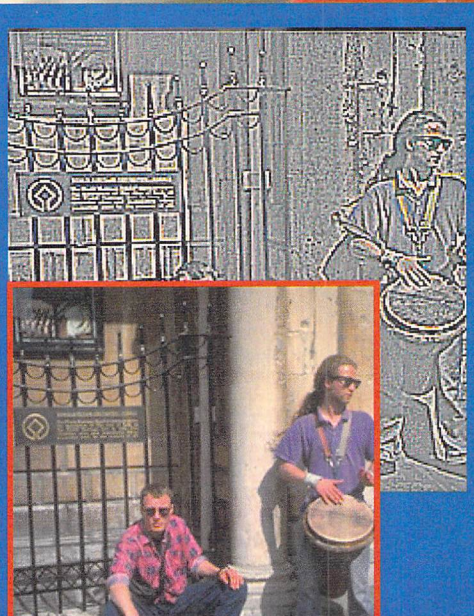
GAMMA
The gamma correction factor improves the accuracy of grey scales when printing an image.

QUANTIZE
Groups similar levels of colour to produce uniform areas of colour, similar in effect to an oil painting.

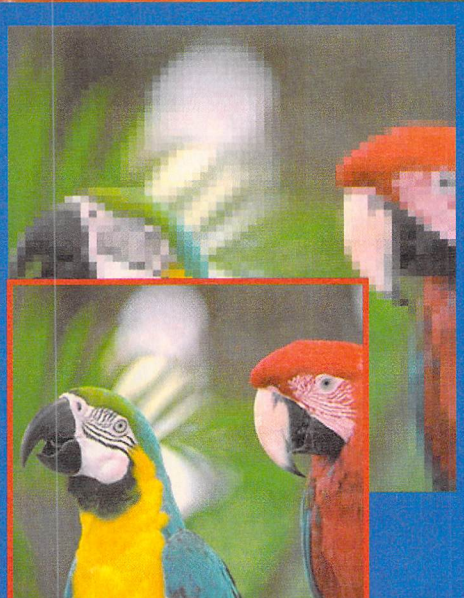
NEGATIVE
Similar to photography, this turns the image palette into negative. Useful for turning negs into positives.

SATURATION
The level of colour in your image. Can be increased or decreased with values of +/- 100.

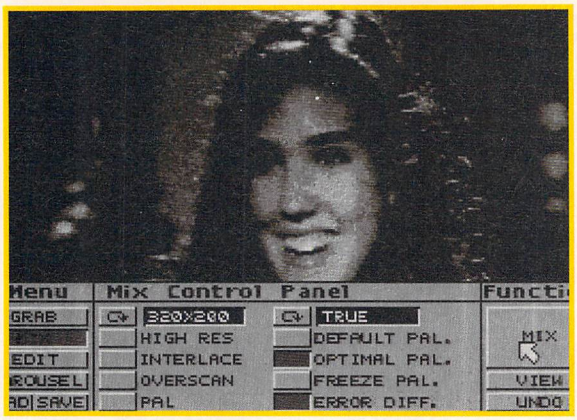
SHARPEN
Got a blurred image? This function sharpens it up, with a sharpen value between 1 and 10.



■ The image processing facilities include an Emboss function. Even with high resolution true colour images - taken directly from Photo CD - though, the results are a little poor. The other functions are better.



■ The Pixelize function works well. This produces a mosaic effect from any image by making the pixels larger. The scale can be adjusted so each pixel is between 2 and 10 times the size of the original - this example is scale 3.



Each image that you grab is automatically placed in the carousel - so if you have a decent amount of RAM you can keep an ongoing record of your grabs.

you can play them back, much like using a video recorder, and edit them. VIDI stores all the images from your film in a carousel, which displays smaller versions of the frames side by side, so you get an idea of how the images change. The carousel makes editing the film easy, because you simply click on the frames you want

"VIDI-ST 12 has an electronic colour splitter built in"

to work with, making cutting, pasting and deleting frames easy and reasonably error-free. With a 4MByte Mega ST, VIDI-ST 12 digitises 70 monochrome frames at a rate of eight per second. It then takes around two seconds to load them all into the carousel, and then you can play them back immediately at rates up to 33 frames per second.

However, if you wish to digitise just one frame in monochrome, it takes roughly two minutes. Why? Before we answer that, take a look at colour digitising first. To mix a colour image, VIDI has to separately grab three monochrome images corresponding to the red, green and blue components of the signal. It then takes a short while to mix the three together, and come up with a colour image which you can display or save to disk.

It seems the author has used the same method to create a single monochrome image. If you set the software to Mono, and click Grab, VIDI goes away and hides somewhere, coming up two minutes later with the resulting 16 grey-shade image. Not good enough, Rombo – not when the software happily digitises and displays 70 frames in less time.

To receive the three colour components of the signal, VIDI-ST 12 has an electronic colour splitter built in to the compact unit. This takes your video signal and splits it up into component (red, green and blue) parts, which the VIDI software then mixes into a colour picture. Using an ST or an STE, you can display images in up to 512 colours in low resolution mode. However, it is possible to generate pictures in 640x400 resolution using 4,096 colours, and save them to disk, but not to display them.

The manual takes a small liberty with this. In the section Displayable Video Modes, it states "The Vidi-ST 12 can mix images to many different display colours and resolutions." It then gives a table of reference which includes the Falcon is several true colour modes. Now, call it petty, but we always take Falcon's true colour mode to be 16-bit (65,536 colours). The VIDI-ST 12 hardware is 12-bit (4,096 colours), so how can it work in true colour mode?

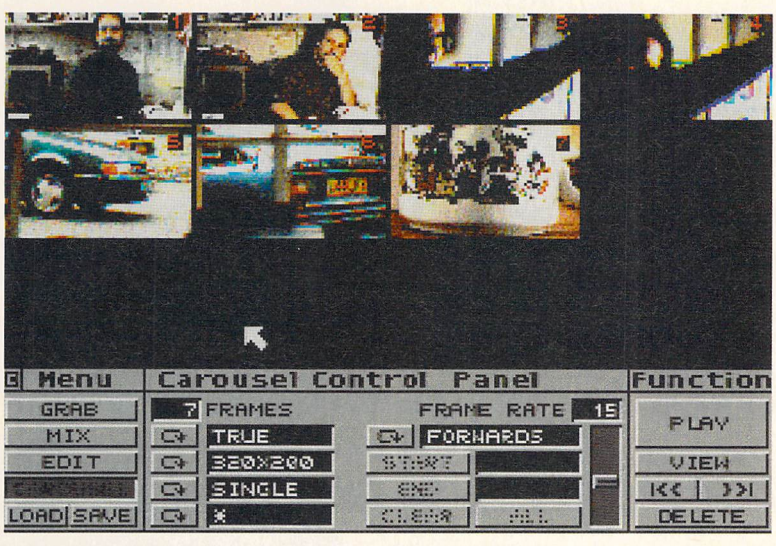
Rombo argue that the Falcon needs to be in true colour mode to display all 4,096 colours correctly – there is no other mode that can. While this is correct, the manual certainly gives the impression that VIDI can mix to true colour standard. It had us fooled for a while, too – because even with 4,096 colours some pretty startling results can be achieved.

That's two black marks. So is it any good, then? Yes, and no. You're never going to achieve spectacular results with 16 grey-shades, but because the images are full-screen size they look pretty good (especially if they've been reduced in size, like the example on the opposite page). To grab a single mono image quickly you need to grab several images and cut the excess out, but the software is pretty intuitive to use so even this isn't too tedious.

Colour grabbing can yield some great results, especially when mixing into *Spectrum 512* format, and you have the usual controls over colour, brightness and contrast to make the input signal look as good as possible. The VIDI software also has a number of image processing functions to treat images once grabbed (see boxout opposite).

So, the hardware is very good quality, and it's got a colour splitter built in which takes the headache out of colour grabbing. Unfortunately you can't display all 4,096 colours on an ST, and you're limited to those 4,096 on a Falcon. It's a bit of an in-betweener that doesn't really know where it's at.

ANDY NUTTALL

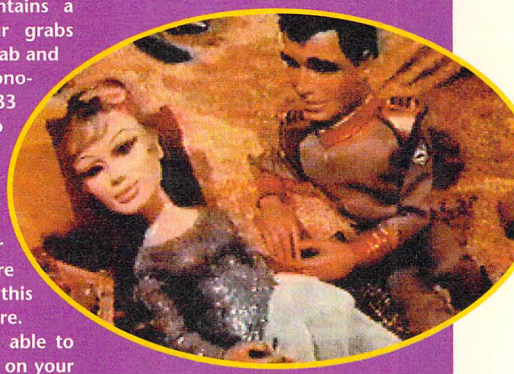


When an image has been grabbed, the raw data is stored in memory - so you can mix it separately to several different palettes and resolutions without reloading. These are all stored in the carousel.

FALCON VIDI

The main attraction to VIDI-ST 12 for Falcon users is speed. The software runs incredibly quickly, and because the hardware contains a colour splitter even colour grabs take less than a second to grab and create. You can record monochrome full-screen video at 33 frames per second, with no noticeable distortion or flicker, which is phenomenally quick for full-screen digitising. Admittedly, you need plenty of memory for storing your frames if you're going to be digitising at this rate, but the capability is there.

You're not going to be able to digitise in true colour mode on your Falcon, because the digitising hardware is only 12-bit – but you can get up to 4,096 colours which is pretty impressive. Let's hope that Rombo bring out an update to VIDI-ST 12 which makes full use of the 16-bit capability, then it beat all comers into the ground.



The true-colour modes of VIDI-ST 12 on the Falcon only actually contain a maximum 4,096 colours. This is a bit of a cheat, but then some great results can be achieved anyway.

These smart-looking gentlemen are the result of a 256-colour grab in low resolution mode on an STE. The colours are a little bland, but then this is Stingray way back in 1967.

VIDI-ST 12

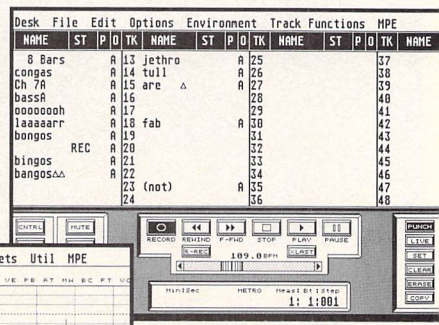
£149.95 Rombo
☎ 0506 414631
All STs, all Falcons, all monitors.

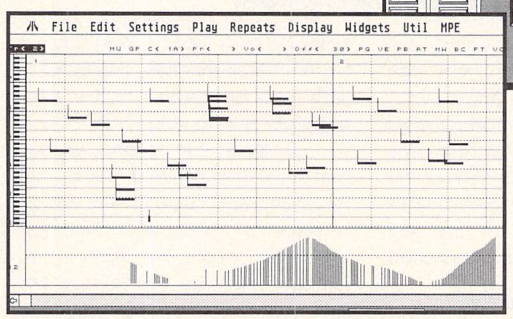
Highs
- Full-screen digitising.
- Extremely fast on the Falcon.

Lows
- Quirky software.
- Slow colour mixing on ST.

KCS OMEGA 2

Forget your *Cubase*. Bin your *Notator*. Jump up and down on your *Creator*. We look at *KCS Omega 2*, the latest update to Dr T's alternative high-end MIDI sequencing package





Above: the main *KCS* sequencer screen, where you record and name your tracks. Left: alien craft attack the cliffs of Dover on the handy Tiger graphical editor.

Dr T's *KCS* is a desktop MIDI recording system (all right then, sequencer) which is probably the more familiar to Amiga users. There are two reasons for this: *KCS – Keyboard Controlled Sequencer*, in case you wondered – was originally developed on the (snigger) Commodore 64; second, there are no *Cubase* or *Notator* versions available on Amiga format, so *KCS* really has the super high spec sequencing market to itself. But it's also been resident on the ST for many a year, up until recently as *KCS Omega*, a module based system centred around v4 of the sequencer. You can find that on this month's Cover Disk.

Now *KCS Omega 2* is here, featuring *KCS* v5 and upgrades of most of the other modules. The upgrade is more internal than cosmetic: cleansing of small bugs, greater control over sequence playback, that sort of thing. Its list price is £275, though you can upgrade from the old version (on the cover, remember) for a strangely bargain price of £99. So, is this deal worth foregoing your trusty *Cubase* for?

Numbers up

A big system means multiple disks and whopping manuals, and *Omega 2* is no exception. There are two versions of *KCS* on the first disk. One is just the core program for recording and editing MIDI data; the other, Level Two, is about 96K larger and features the PVG and Master Editor modules for advanced compositional stuff. The other disk harbours the four modules QuickScore, Tiger20 (the essential graphical editor), Song Editor and Mixer. You don't need a dongle to run the software.

Omega 2 uses a Multi Programming Environment or MPE. This means you can pull modules in and out of *KCS* if and when you need them, so preserving vital memory for MIDI data. With a 1MByte machine, you can't run Tiger, the most important of the modules, with *KCS*, though you can run it as a free standing editor. Do this, mind, and you are importing and exporting files all the time, so 2MBytes at the very least is needed to prevent moans and hair-pulling.

KCS is not particularly mouse-driven, as the full title suggests. You are often prompted for keyboard input – hence the message line at the bottom of the screen – and there's an enormous array of keyboard shortcuts that you can learn until the cows pass away. If using the left and mouse buttons to increase and decrease parameters is normality for you, then you are in for a bit of a surprise: the left selects menus and so on, but the right always triggers playback.

KCS has two main working modes, Track and Open: you boot-up in the former. Recording and playback of MIDI data is easy enough – *KCS* always records into the first blank track – but performing useful tasks like setting loop points and quantising (erasing timing errors in your playing) is far from intuitive. Another thing to get used to is the Conductor Track: this sets the maximum length of a song. If you record any Tracks longer than the Conductor Track, then *KCS* only plays what the Conductor track enables.

Once you've got a few tracks and put them together, you can save them as Open Mode sequences. On the Open Mode screen, these are displayed with a code number. Hit the appropriate keys corresponding to the code and you can trigger the sequences in real-time.

The only editor integral to the core *KCS* program is the event editor, the one with all the raw data that most people steer clear of in other sequencers. This Event Editor is even more powerful than usual, because it gives you access to the esoteric programming language of *KCS*. By placing assorted two letter abbreviations in the Message Type column, you can perform no end of control feats, in either mode. With Open sequences, you can even program some of the sequences to control others.

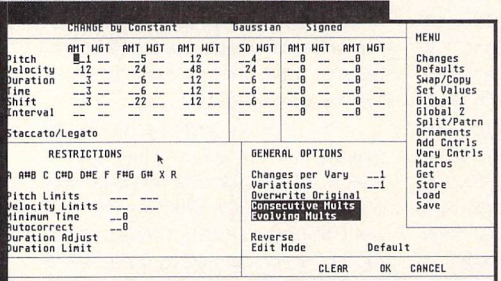
> **"KCS really has the super high spec sequencing market to itself"**

KCS Omega 2 is a very powerful system, but it's not the sequencer to record your first chart foray on. It just doesn't have that instant appeal of *Cubase*, of *Breakthru* even, and as they say, first impressions do count. This package lends itself to heavy duty compositional and performance work, and so there's a lot of learning and adapting to its idiosyncrasies that must go with it. But everything is there if you want to do things the *Cubase* way: the comprehensive Tiger editor; the Song Editor for arranging Open sequences; the Mixer for recording real-time panning and level control; and a mediocre notation section in QuickScore (now, that really is like *Cubase!*).

At the full price of £275 I'd have reservations about recommending this to any but ultra-serious and patient users. But for £99, if you soon get the hang of the cover version, then go for that upgrade.

DAVID ROBINSON

KCS PVG, OK?



The PVG page. It's got lots of numbers on it. It's complicated to use. Don't say we didn't warn you.

The Programmable Variations Generator is powerful and, well, a bit scary. It's a device that does exactly what its name suggests: feed it with a melody or bass line, jiggle a few numbers, cross your fingers, and it spits out a volley of variations on your original motif. How close the results are to what you entered depends on your data tweaking prowess and the element of chance.

It's a great tool for experimental music and suggesting possibilities when you're all-inspirationed-out. Unfortunately, that 100 page plus, illustration-sparse manual on the PVG alone is enough to put most sequencer users off.

KCS Omega 2

£275 – but not really. It's a mere £99 if you upgrade from the Cover Disk version. Avalon Music Developments ☎ 081 699 7004. 2MBytes recommended works in medium resolution but a mono monitor is recommended. Falcon compatible

Highs

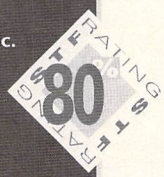
- Does everything a sequencer should.
- Enables real-time interaction and performance.
- Worth it if you are serious about music.

Lows

- Very little instant appeal.
- Lots and lots to learn.
- Comprehensive but complicated manual.

What else?

- *Breakthru Plus*, Software Technology (☎ 061 236 2515) it costs £159.95.



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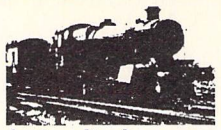

If you have an Atari ST capable of medium resolution display you can enjoy these absorbing games. To avoid any possible disappointment, please note that these are not "arcade" games, but realistic simulations. There are no flashy graphics, though most do show a track plan on the screen; the emphasis is on providing you with sufficient information to make the right decisions.

Traffic Control: Doncaster 1992 - Deal with frequent electric services on the East Coast main line and Inter-City cross-country services on the North-East / South-West route, also Sprinter services between Humberside and Sheffield/Manchester that must cross the main lines. Add to this terminating local services, mainly on the Lincoln and Leeds lines, and a fair amount of freight traffic, and your task is not easy. Price £15.95

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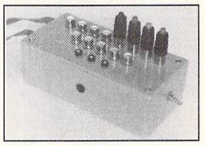

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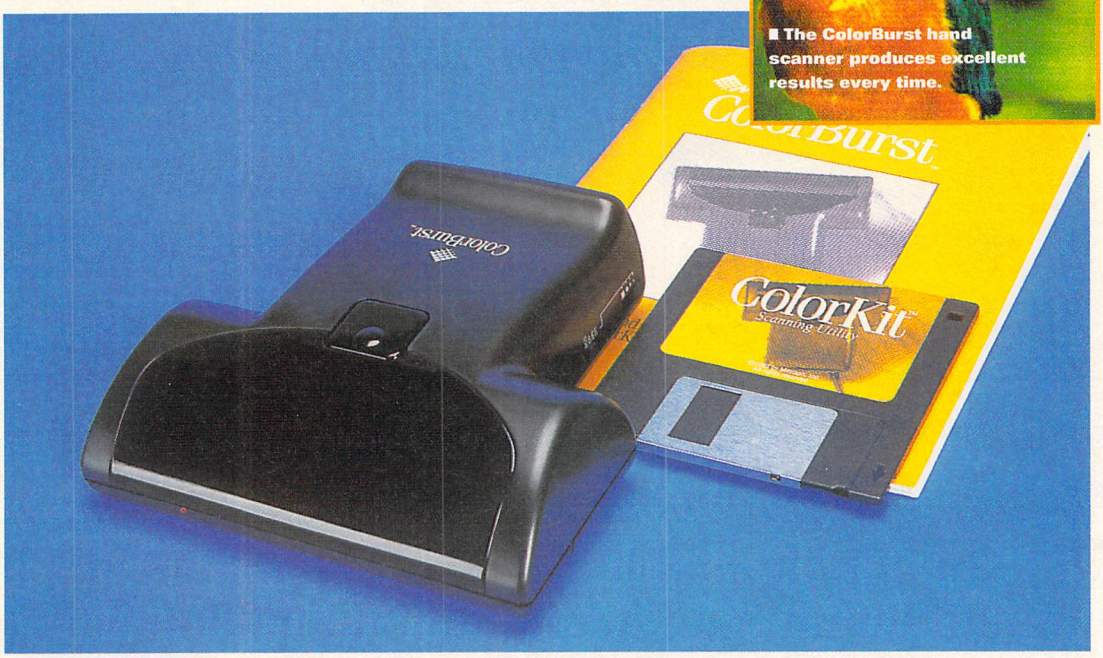
VISA Access

COLORBURST HAND SCANNER

We've got hold of the first Migraph ColorBurst hand scanner available and we take it for a test scan

The ColorBurst hand scanner produces excellent results every time.



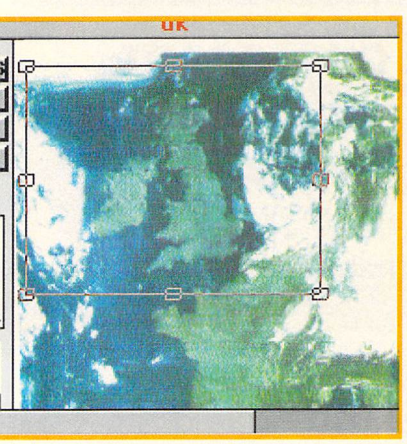
Scanning in colour is now possible on the Falcon with the new ColorBurst hand scanner from Migraph, enabling you to make full colour scans in 256 colour and true colour video modes.

To use ColorBurst you need a Falcon with a minimum of 4MBytes of memory (if you have a 1MByte machine you should upgrade) and the ColorKit software is designed to work best on a VGA monitor, although you can use a standard RGB monitor or a TV.

The ColorKit software supplied with the scanner enables you to create four distinct types of scan. Super colour mode only while the other version provides the 256 colour and greyscale modes.

"ColorBurst is a good hand scanner and provides outstanding colour pictures"

Colour mode (SCG) enables scans containing 262,114 colours to be made and only works in true colour mode, Colour mode (CG) scans in 4,096 colours, Monochrome Grey (MG) reads 64 levels of greyscales and Monochrome Text (T) scans text for optical character recognition (OCR) and line art. There are two different versions of the ColorKit software supplied, one works in true colour mode only while the other version provides the 256 colour and greyscale modes.

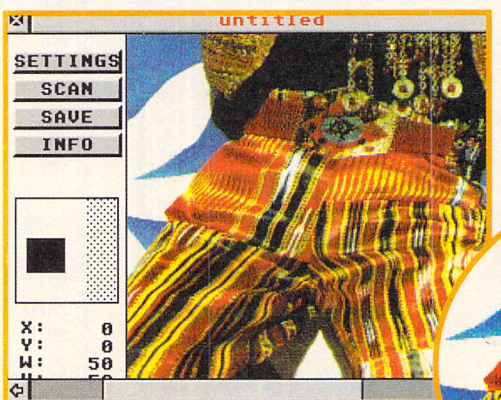


The clipping function enables you to save just the area of the scan you want to keep - here Britain is being separated from the rest of Europe.

The hardware

The ColorBurst completely bypasses the normal cartridge port connection and plugs into the printer port of the Falcon, this is fine if you don't use a printer but a bit of a bind swapping connections if you do use one. A parallel port switchbox can be used but the scanner hardware is not compatible with all switchboxes, some of the colour data can be lost during scans.

The scanning head is the same one that Migraph use for their Mac and PC versions of the system, the scanning head is the most expensive part of the kit and pushes the price up to the £400 mark. Still, if you want to scan in colour with your Falcon this is the most affordable option – if you opted for a colour flatbed scanner you'd have to pay at least £300 more.



A pair of brightly coloured snazzy trousers grabbed in 256 colours, they look good - but not as good as..

Above: A scanner that looks different. Migraph have dispensed with the traditional boring grey scanner head and introduced a racy black machine instead, though the interface unit looks a bit dodgy.

... the same pair of snazzy trousers captured in true colour at 200 dpi. We could show you the model's head but when we scanned it looked... strange.

The printer port adaptor looks a bit of a kludge, although it works perfectly well. The scanner interface has a short ribbon cable with a 25-pin D plug, this fits into the adaptor which then plugs into the printer port. An all-in-one unit would be a more pleasing design, but the main interface is the same as other machines use while the adaptor contains Falcon specific circuitry. It's very important not to plug the interface into the Falcon without using the adaptor because this can damage the unit.

■ Right: Our pal Ollie captured at 100 dpi in 256 colours scanned straight out of the FES advert. Not a bad result, 256 colour pictures are usually good enough for most purposes.

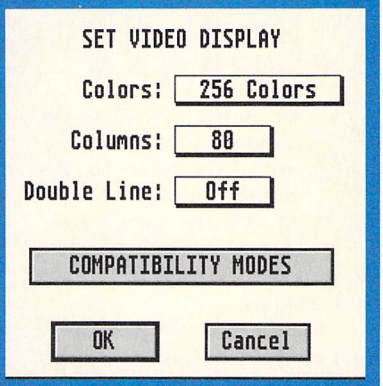
■ Right: Ollie again, this time in true colour at 200 dpi. You can see the sharper colours and the greater detail obtained using true colour and a higher scanning resolution.

VIDEO MODES

The ColorKit software enables you to scan in true colour and 256 colour modes, but you need to set your Falcon to the correct screen modes first, using the Desktop Set Video option. To get the best results and obtain the correct aspect ratio for your scans use the following settings.

For 256 colour scanning set your Falcon to 80 columns, 256 colours and Double Line off. For true colour scanning set to 40 columns, true colour and Double Line off.

Note: True colour mode on the Falcon should really be called high colour mode. Real true colour modes normally have a 16.7 million colour palette, the Falcon only has a maximum of 262,144 colours available.



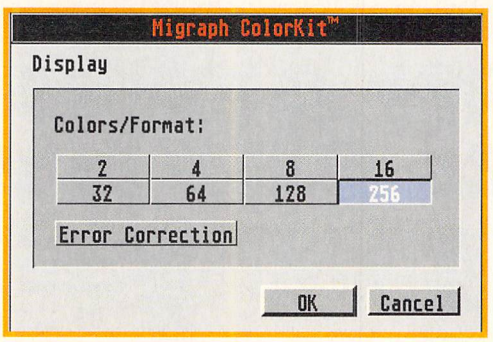
■ Set the video mode from the Falcon's Desktop before running the *ColorKit* software, the Double Line must be set to off to obtain the best results.

Up and scanning

So, how well does the beast work then? As it turns out, remarkably well. You have to set the Falcon to the correct screen modes using the Set Video option from the Desktop, it would be better if the software automatically set the screen mode.

Once you have the correct modes set up it's all a matter of the correct scanner settings and a steady hand, if you draw the scanning head down too fast some weird and wonderful distortions can occur with circles becoming squashed and strange lumps appearing on heads and arms. A few practice scans soon overcome the problem.

Scanning in true colour mode results in excellent quality grabs with the picture on the page being faithfully reproduced on-screen, apart from a squashed effect from the Double Line off setting. This is corrected from within the ColorKit software with a special Halve Image option, this halves the width of the image only – the height is unchanged – and restores the aspect ratio of the original picture to the scan. We found that the best picture proportions were obtained in 256 colours at 100 dpi, other resolutions tend to distort the image slightly in both 256 colour and true colour modes. The software needs to be improved slightly to get rid of this annoying problem.



■ In 256 colour mode there are options for selecting the number of colours used in a picture, this is performed from the Display dialog box. Error correction is also selected from the same menu.

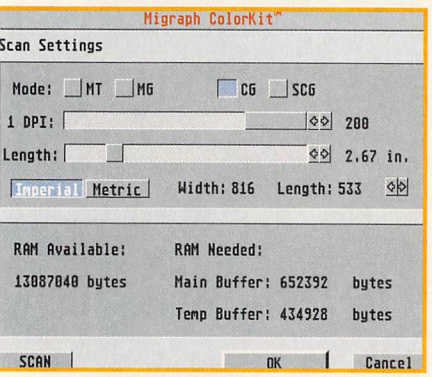
Error correction

Selecting Error Correction from the Display dialog box enables a more accurate image to be generated by creating the illusion that more than 256 colours are being used. This correction is performed by dithering the image and spreading out any incorrect colours, producing a final picture closer in colour to the original image scanned. You should always use Error Correction in 256 colour mode.

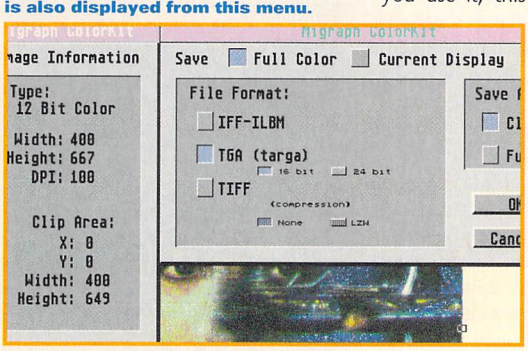
"Scanning in true colour mode results in excellent quality grabs"

To obtain perfect scans the scanner head has to warm up before you use it, this takes about 30 seconds on average before each scan but you can abort this feature if you are making a lot of consecutive scans. It's recommended that you let the scanner head warm up for at least two minutes before you make your first scan of a session.

Once you have scanned a picture the software processes it in memory, the larger the scan the longer it takes. There are basic clipping functions within the program so you don't have to save the complete picture, a handy feature because Targa and TIFF pictures use a lot of disk space. An average true colour scan at 100 dpi is about 500K in size, so it's a good idea to have a hard drive as part of your setup.



■ The Scan Settings menu enables you to adjust the scan size, colour and resolution. System information is also displayed from this menu.



■ Pictures can be saved in 16-bit or 24-bit mode in either Targa, TIFF or IFF/ILBM formats to ensure maximum compatibility with image processing software.

Verdict

ColorBurst is a good hand scanner and provides outstanding colour pictures, the software is easy to use, if a little short on editing and manipulation functions. The hardware interface could do with being combined into a single unit to prevent any accidental damage occurring by not using the adaptor. Overall, the scanner works well and is worth considering if you are interested in working with graphics on your Falcon.

CLIVE PARKER

ColorBurst Hand Scanner

£400
Gasteiner Technologies
☎ 081 365 1151

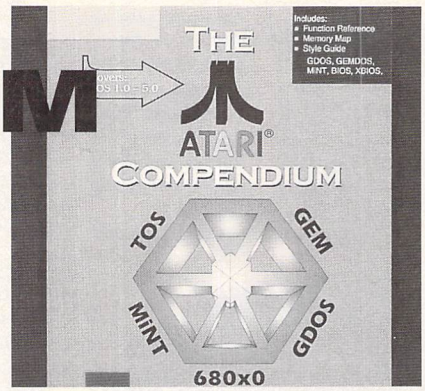
Highs
- Brilliant true colour scanning.
- Saves in standard Targa, TIFF and IFF formats.
- Easy to use.

Lows
- Scanning must be performed slowly and steadily.
- Very basic editing functions within the ColorKit software.
- Aspect ratio can be hard to get exactly right in any resolution.

What else?
- Nothing, there are no other colour hand scanners available for the Falcon – yet.

ST FORMAT RATING 79%

THE ATARI COMPENDIUM



A comprehensive reference manual, clearly written and well detailed. The best technical guide available.

Enveloped between the covers is a programmer's reference to the complete range of Atari ST, TT and Falcon computers, covering every version of TOS from v1 to the upcoming v5.

The official Atari developer's documentation is all here, converted into a huge 850 page reference manual, essential if you want to write software for any of the Atari machines. It contains explanations for every version of TOS up to v4 and a complete breakdown is given of all the sections of the operating system. GEMDOS, BIOS, XBIOS, AES, VDI, Line-A and XCONTROL all have their own chapters along with sections on all the various types of hardware in the different machines. MiNT, MultiTOS, SpeedoGDOS and the construction of Bitstream fonts are also well covered.

Each system call is documented in detail with information about which particular TOS versions use the call, some calls are available in the newer versions of TOS for the STE, TT and Falcon that were not present in earlier versions.

This is the most comprehensive guide to the ST operating system ever assembled. Written in a clear and concise way, the book takes definitely over as the official programmer's reference and is recommended to all Atari programmers.

At £39.95 it's quite expensive, although it costs a lot more to buy the official support documentation from Atari.

CLIVE PARKER

The Atari Compendium

Scott Sanders
ISBN: 09638331-0-3
£39.95
Hisoft/AVR
☎ 0525 718181

Highs
- The most comprehensive Atari technical reference ever.
- Inexpensive compared to official documents.
- Complete memory map included.

Lows
- Expensive.

What else?
- All other guides are out of print.

ST FORMAT RATING 91%

MODERN ATARI SYSTEM SOFTWARE

Another technical guide, this time aimed directly at programmers working only on Falcon030 software, hence the "modern" of the title.

The book has been extensively researched and is written by two of Hisoft's own top technical men who have been developing Falcon software for almost two years, so you can be sure that everything in the book is going to be completely accurate. Comprehensive guides to all the new hardware sub-systems such as the DSP, the CODEC and video system modes are provided, along with complete details of all the new system calls to access the new hardware.

Written by two of Hisoft's top technical men, *Modern Atari System Software* is simply wonderful!

The three largest sections of the book deal with the DSP sub-system, the new GEMDOS MiNT system calls and SpeedoGDOS. All of these subjects are covered in such exhaustive detail, it's very unlikely that you need to get any other reference guide for the Falcon030.

If you program exclusively for the Falcon then you need *Modern Atari System Software*, it's the best technical guide you can get.

CLIVE PARKER

Modern Atari System Software

Tony Racine/Alex Kiernan
ISBN: 0 948517 63 8
£19.95. Hisoft/AVR
☎ 0525 718181

Highs
- Complete Falcon030 technical reference.
- Excellent programmers style guide.

Lows
- Backward compatibility with older operating systems ignored.

What else?
- The *Atari Compendium* covers the Falcon but not in as much detail.

ST FORMAT RATING 90%

TABBY

The Tabby is a small graphics tablet and pen that works with any Atari from the ST to the Falcon, although you need a small adaptor to connect it to STs. It is small enough to fit neatly on your desk next to your mouse mat – it's only 17cm by 14.5cm in size – and plugs into the serial socket on the back of your ST. This means you can use both the mouse and the Tabby at the same time because they don't interfere with each other.

It's small, square and easy to use. The Tabby graphics tablet is an essential piece of kit perfect for all graphics software, it's pretty good with other programs too.

Using the Tabby to run your Desktop becomes second nature after a few minutes and it's almost 100% compatible with most mouse based software, not just graphics applications. The one major failure is *Deluxe Paint* – this doesn't work with the Tabby at all.

Using the pen to perform mouse clicks is easy, a left click is performed by pressing down with the pen on the tablet, a right click is emulated by clicking the pen and pressing the <Alternate> button and a double-click by clicking the pen and <Control>. You're soon going to be performing double-clicks by clicking the pen twice, but if you can't get used to double-clicking the pen or using the <Control> key then you can set the software to double-click automatically, simply by lifting the pen off the tablet.

The ability to configure the active area of the tablet means you can adjust the speed of mouse movement across your screen from very fast to slow, couple this with the built-in acceleration options and the Tabby is perfect for any software.

Tabby is an affordable system that complements the mouse rather than replaces it completely – you can use the tablet and pen system exclusively but there are still some options that work better with a mouse rather than the pen. Freehand drawing within almost any graphics program on your ST is now as easy as using a pen and paper, that's got to be good news for artists. Tabby is unique – highly recommended.

CLIVE PARKER

Tabby

£49.95 plus free adaptor for all STs
JCA Europe
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Highs
- Easy to set up.
- Natural drawing action.
- Compatible with all mouse software.
- Compact and sensitive.

Lows
- Right mouse clicks and double-clicks take a bit of getting used to.
- Ties up serial port.

What else?
- Nothing comparable, Tabby is unique.

ST FORMAT RATING 86%

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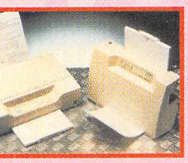

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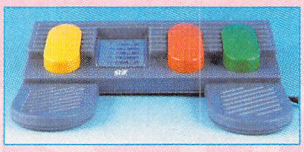

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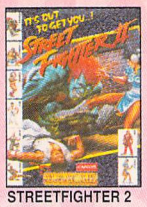

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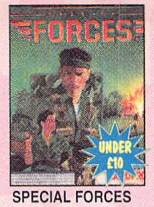

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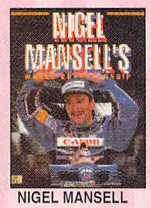

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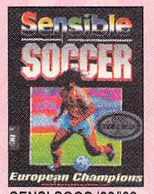

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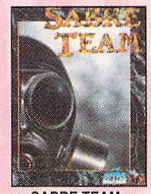

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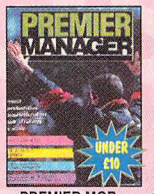

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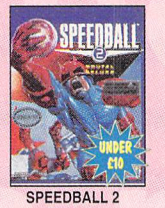

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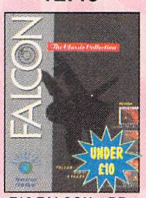

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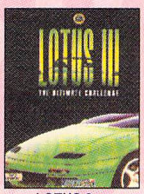

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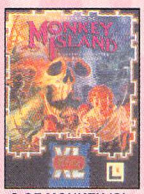

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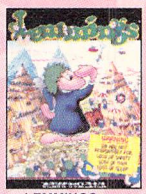

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GAMES

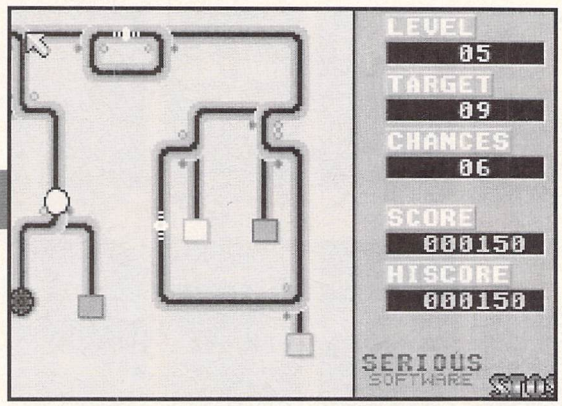
TRACKBALL

LAPD
DISK G322

Trackball is one of the most fiendish puzzle games yet to appear in the Public Sector. Written in *STOS* by Ross McNaughton (not Rod McNaughton as we printed last month), the aim is to guide a series of coloured balls down winding tracks to a similarly-coloured goal. The tracks intertwine with a junction; a simple mouse-click changes the junction from one direction to the other.

The balls roll out in a random order – which, hey, you can handle, right? As the levels progress the balls travel faster, the track layout gets more complicated, and objects are placed on the track to divert the balls – making them bounce in the opposite direction. Oh, and sometimes you get a multi-ball feature, making you juggle two balls at the same time – not easy. If anything *Trackball* gets too hard too quickly, but that's probably the only downfall.

***STF* RATING 87%**



This is Bounce, Level Five of *Trackball*, which would pass for Level 50 on any other game because it's so damned difficult. Knock the coloured balls into their slots.

WALLS OF ILLUSION

LAPD
DISK G308

This is going to be a slightly odd review, just to warn you, because *Walls of Illusion* is a German program. That's German text and things rather than just being of German origin, so unless you're fluent in the Germanic tongue you're unlikely to get much joy out of the game.

It is an RPG, though, so assuming you're familiar with the genre already, you might not get too many problems. It's basically move about, pick things up, hack and slash at any monsters with your bronzeschwert, eat the odd apple and try to escape. There you go.

So why include it here? The simple reason is that it looks so damn good. The graphics certainly rival commercial RPGs on the ST and other platforms, and the gameplay suggests that it could easily be a full-price game. So it's here, really, as a plea to the programmers: make an English version!

***STF* RATING 85%**

Turkan, the master hairdresser, got his comeuppance when he left the blue-rinse grannies under the dryer for too long...

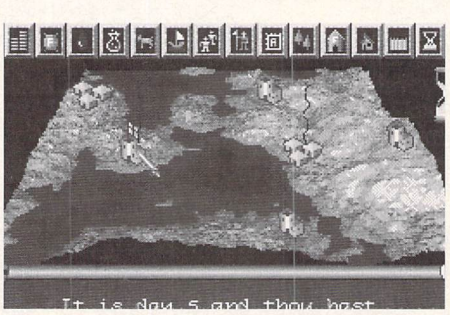
CONQUEST

LAPD
DISK L60

Conquest's based on the old text-based game called *Kingdom,* where you're the ruler of a land controlling money, wheat, livestock and defence. The game ends when all your people die, either of starvation, thirst, poverty or through battles. So, you have to survive for as long as possible, only tinkering around if you think you're not making enough money or your people start to eat each other...

Yeah, *Conquest's* exactly like that, except it's got some excellent graphics instead of the old text interface. The landscape is generated using fractals, and the new interface is mouse and icon-controlled. It throws in a bit of detail as well, such as different types of army and spies which you can train and send out to neighbouring villages. In fact, it looks and plays similarly to the Bullfrog's commercial game *Powermonger* – simplified, of course – but then it's substantially cheaper as well.

***STF* RATING 82%**



These little huts and castles form your kingdom. Your people worship you - if they feel you don't want to feed them, they keel over and die horribly.

MISCELLANEOUS

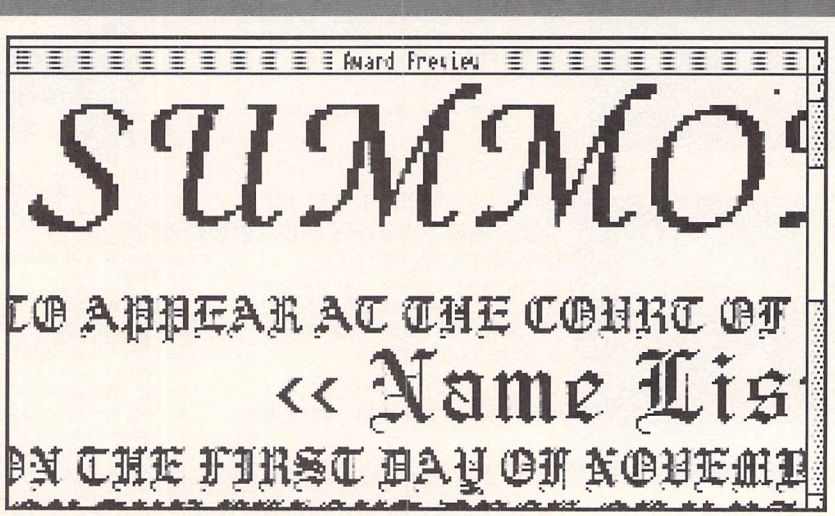
AWARD MAKER

AWF PDL
DISK UTIL 28

Do you need a certificate made for any reason? No, thought not. Turn the page, then.

Right, that's them out of the way. What type of certificate shall it be then, sir? Swimming? Geography? Life saving? Court summons? Thinking about it, is a court summons really a certificate? Baudville, the authors of *Award Maker,* seem to think so, because the example file on the disk is to summon you to the court of King Neptune. Bizarre, but it's merely to illustrate what you can do with *Award Maker.* Loads of graphics are provided on the disk for borders, signatures and other decorations, along with several different fonts (including the obligatory Olde English style) to make your awards really shine. And it's so simple to use you don't even really need instructions. Great.

***STF* RATING 80%**



Pretty certificates and awards like this can easily be created and printed out with *Award Maker*, using a variety of borders and font styles.

SPOT IT
GOODMANS
DISK GD2119

Either Armageddon has begun already, or the artist got a bit loose with the old colour palette. We favour the latter, given the evidence.

What was that about repetitive puzzle programs? This one takes the biscuit, it really does. It's a Spot the Difference puzzle – actually, no, that's not quite true, it's 11 different Spot the Difference puzzles.

Each picture is displayed in full on the left of the screen, and on the right is the same picture, but missing some of its features. This almost, almost, works. The problem is that the features are erased with a fairly large block of colour, so you can spot most of the Differences without referring to the original picture! The pictures are fun and detailed though. At the risk of sounding boring, this is another puzzle game which is best given to a child under, say, ten years of age; merely a novelty for the rest of us.

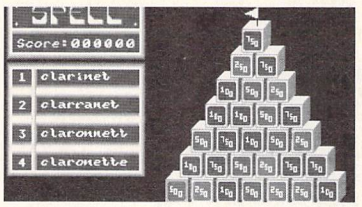
***STF* RATING 76%**

A FISTFUL OF PROGRAMS
BLYTHE PD
DISK GAM56

Sifting through the Public Domain to find brilliant programs is a thankless task; it seems people keep producing the same old thing again and again. One genre which keeps cropping up is puzzle games: disks and disks full of them – logic problems, crosswords, *Tetris*-variants and loads of others.

Anyway, to the point. Dave Cobbledick's written these puzzle games, you see, and they're actually rather good – in a kind of minimalist way. The six games packed on this disk are varied, including a spelling tester which gives you multi-choice words – good for kids learning how to spell; a shape-related puzzle where you make shapes out of bits of bent pipe; and a basic gambling program that asks you to find the ace from a row of seven cards. Some are infuriatingly difficult, but for a £2.50 Shareware fee you can get a fair few hours enjoyment for your money.

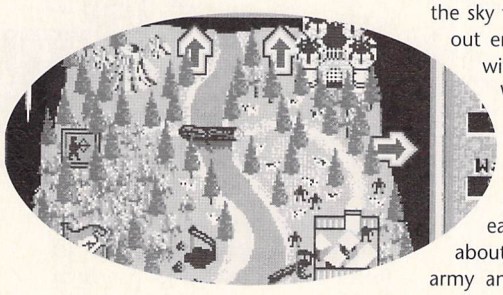
***STF* RATING 73%**



Mr Cobbledick's games are well-presented, but they vary from easy to ridiculously hard. Even the worst speller knows that this particular instrument isn't spelt "Claronnett." Surely.

ARTHUR OF THE BRITONS
LAPD
DISK L59

Historical figures that figured heavily in wars and battles generally had really hard-sounding names that suited their persona – Attila, Goebbels, Stormin'. Being called Arthur must have been hell. Imagine being the leader of one of the most civilised countries, commanding crack sword-wielding troops, and having everybody call you "Art."

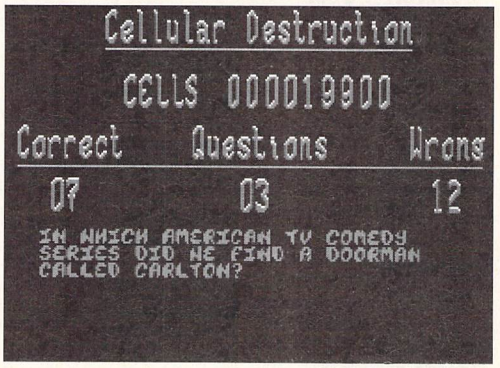


The kingdom of the Britons, otherwise known as Britain, of which you are King. The sword marks your position (Excalibur - yes?); the green man is Robin Hood, presumably, and the stick men mark the enemy.

Anyway, Art you are, and you are a Briton. Life, according to this Shareware game, seems to consist of moving your troops around a small kingdom-like land (see *Conquest*, on page 52), shooting some birds from the sky for food, and trying to knock out enemy armies single-handedly with your bow and arrow. Where the rest of your army is when these things are going on is anybody's guess – cowering under a rock, probably. The birds are quite easy to shoot, but there are about 70 soldiers in the opposing army and they're almost impossible to shoot. So, survival is somewhat difficult, which leaves you meandering aimlessly around your land. *Arthur's* good, in a really naff kind of way – a bit like one of those cheap '60s Hollywood B-movies like *Them!* and *Plan 9*.

***STF* RATING 70%**

BRAIN DAMAGE
MERLIN PD



This was one of the easier questions - only answerable if you're a fan of early '80s American sitcoms though. The score of seven was a joint effort from the *ST FORMAT* team.

This is some of Dave Cobbledick's work again (see *Fistful of Programs* above). This time he's perhaps been a little too ambitious with his puzzle creations, and come up with a pub quiz game which he's curiously titled *Brain Damage*. Most pub quiz games are multi-choice, so it asks you a question and gives you a choice of three answers.

Not Dave's program, though – with this one you have to type your answer in full, with no clues. And given that in three games I could only even attempt to try to answer one of the 30 questions proferred ("What's the name of the metal dog that appeared in several episodes of *Doctor Who?*"), it may be considered to be a tad too difficult. An example question: "Of which country was Marshal Pilsudske the leader?"

OK, so if you're very good at trivia you can probably get a lot out of it, but it's dogged with problems – not least of which the typing errors which it accepts as your answer, without giving you a chance to correct it. Then there's the accuracy – it expects you to get everything letter-perfect, but it won't let you type in a space. Come on Dave, give us a break.

***STF* RATING 60%**

ROUTE FINDER
LAPD

Route Finder takes the place of a map book, providing a list of the A roads, B roads and motorways between you and your destination. You simply supply a city or town as your start place, and then your destination, and it does the rest.

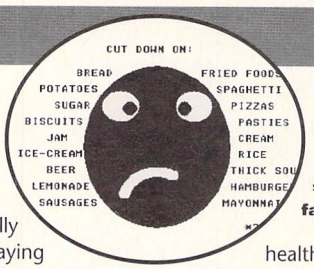
Quite how good it is, it's difficult to say – but checking with a map book it does seem to be reasonably accurate, and up-to-date with the roads too. It locates the cheapest, fastest and most economical routes for you, taking into account your preferences for types of road – if you hate motorways for example, it steers you well clear of them and keeps you to the A and B roads instead.

You may have seen programs like this sold commercially, *Auto Route* being the main one; and it has to be said that *Route Finder* is not really up to their standard. They're usually quite expensive though, but then *Auto Route* features a full map of Britain which you can look at and find your towns on.

Route Finder is a little more basic – you can't display the map, and the roads are simply printed out on-screen or printed as a list of text. But it serves its purpose, it's reasonably fast even on a basic STFM, and, of course, it's cheap.

***STF* RATING 78%**

HEALTH DISK
EMERALD CITY
DISK SN42



Actually, the bit about exercise might be a little economical truth-wise. So what's so bad about eating fast food, occasionally?

Health freaks are really annoying. Always saying what you can eat and what you can't – and, almost always, what you can't eat is the best stuff around (chocolate, cream, bread, custard, that sort of thing.) What's the point of being alive if you can't enjoy yourself? Smoking's a different thing because that can affect others, but if somebody enjoys eating, let them do it in peace.

Ahem. As you may have guessed, this is a program about health. Vitamins, healthy foods, slimming, biorhythms – they're all here. It's just like one of those leaflets you pick up at the doctors, actually: "Simply answer the following questions and we tell you if you're a well-balanced individual with a good diet, or a homicidal insomniac with constipation problems." Yeah, like, you don't know already. Hypochondriacs are bound to love it – everybody else, beware.

***STF* RATING 40%**

UTILITIES

KOZMIC 4

LAPD DISK A36

"User friendly psychedelic graphics" is the uncompromising promise writen on the intro screen to *Kozmic 4*, the latest version of the weird graphics generator program we gave you on Cover Disk 33. It certainly is psychedelic, the strangeness of the graphic hypnotic patterns are liable to send you into a trance as you stare at the screen trying desperately not to hit the keyboard with your forehead.

The immaterial girl herself overlaid with some of the graphics available within *Kozmic 4*. Cue spooky Theramin music... ooohh.

Kozmic 4 is a vast improvement over previous versions of the program with even more tools, patterns and effects than ever before, the palette cycling option alone gives Paul McKenna a run for his money. You can create pattern and images of amazing colours and contrasts and save them as standard *Degas* or *Neochrome* files. Get this program, you need it and it's great.

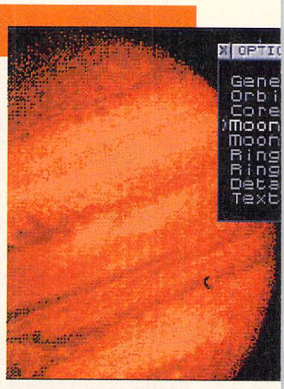
***STF* RATING 90%**

THE ILLUSTRATED SOLAR SYSTEM

GOODMANS INTERNATIONAL DISK GD2022

Ah yes, it's all written in the stars you know. It is. Er, actually, it's not. *The Illustrated Solar System* from Goodmans' is a low resolution guide to a small section of the galaxy viewable on your ST and it deals with astronomy rather than astrology.

The graphics are stunning even in the ST's limited 16 colour palette, the illustrations are all taken from high resolution scanned photographs of the relevant planets where available, or are artists impressions based on the latest speculations from JPL and NASA. The version of the program on this disk is limited to three planets and the asteroid belt, the full version costs £12 from the author and is worth buying if you like watching the sky at night.



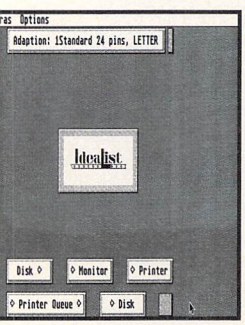
More impressive than the monolith in 2001, your menu box in orbit around the largest planet in the solar system - Jupiter. Da, da, daaaaa - Da Da!

***STF* RATING 88%**

IDEALIST

ST CLUB DISK UTI209

Idealist is a printer utility enabling you to configure and print out your ASCII and *First Word Plus* format documents using a variety of different features. Options for printing include up to nine columns, four font sizes, headlines, line numbers and configurable printer drivers, these features make *Idealist* a powerful printing utility to add to your collection. You can run the program either from the Desktop by double-clicking on it or as a Desk Accessory, so the printing options are available from any other GEM-based software you are using. The program is entirely mouse driven with keyboard shortcuts if you prefer to let your fingers do the walking and appears to be 100% stable in use.



***Idealist* has options coming out of its ears, now uou can print your plain old ASCII files in a superb imitation of the tabloid press - but from a higher moral stance.**

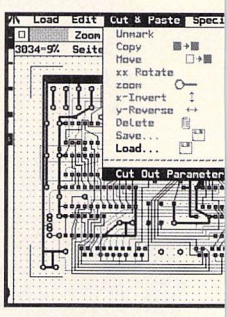
***STF* RATING 80%**

CONNECTI-CAD 1.2 DEMO

EMERALD CITY PD DISK 5N46

If you're looking for a powerful CAD program for your ST then you needn't look any further than *Connecti-CAD*, a high resolution program from Germany. This demo version of the program enables you to perform all the major functions of a professional CAD package with just the save options disabled. Because the graphics are vector-based, the printer output is superb on any size of paper at any magnification, you can print hard copy on 9-pin, 24-pin and HP Laserjet using the built in printer drivers. The excellent zoom capability enables you to perform detailed close-up work accurate to a fraction of a millimetre. The only fault with the program lies with the translation into English, it only appears to be half done with many of the alerts and information boxes still in the original German.

***STF* RATING 72%**



The amazing half English half German *Connecti-CAD* demo program.The full version may be translated into English, one day.

ST ASSEMBLY LANGUAGE WORKSHOP VOL. 2

GOODMANS INTERNATIONAL DISK GD2111

This is not a program, but a complete book on disk. The first volume of the *ST Assembly Language Workshop (ALW)* was a paperback, the second volume is presented as a series of text files, examples of source code, demonstration programs and picture files. The text files give you the equivalent of a five chapter paperback that you can read on-screen plus the extra programming data. This disk is Shareware so when you subscribe for about £9 you are sent an extra disk with more data and programming examples. The book is split into sections explaining how to program the various elements of GEM.

Every chapter is clearly written and assumes that you have a basic knowledge of programming. If you're learning 68000 code then this disk is a handy, but not essential addition to your library.

***STF* RATING 63%**

ROYAL PAINT

EMERALD CITY PD DISK SA14

Yet another (bad) *Degas* look-alike paint package with no particularly outstanding features to set it apart from or above any other PD drawing program. All - the usual drawing options are included in the program including text, fills, boxes and circles – it's all boring standard paint package stuff. The main problem with *Royal Paint* is that it's badly implemented, slow and difficult to use. Instead of a simple right-click to go to the drawing screen you have to click on the Draw option, once you get there you have to wait for the cursor to appear – a pause of over a second after any action you take just adds to the general frustration you feel when you use the program.

One of the most off-putting parts of the program is the series of alert boxes that appear before you can start using the package, they only serve to put you off using *Royal Paint* This is definitely one to forget about. Steer clear.

***STF* RATING 20%**

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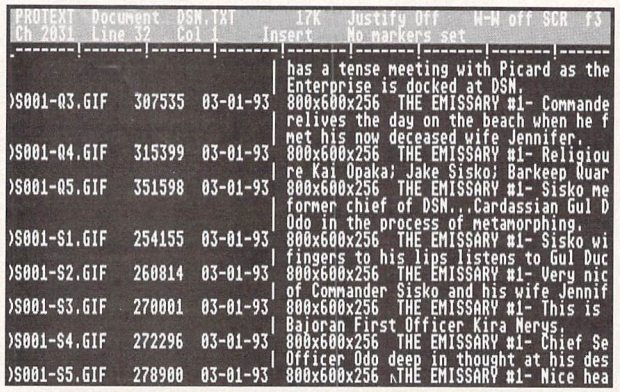
ST ANSWERS

MIDI, art, graphics – whatever your problem, let us know and we can give you the answer



■ ***Protext*, probably the fastest word processor in the world – if you can get it to boot up!**

Write On and *Protext* clash

HARD DRIVES

I have just bought a Gasteiner hard drive and am very pleased with it. However, two of my favourite programs refuse to run properly from the drive even though they are both hard drive installable. *Write On* works OK until I try to print something, then lines appear over the text. *Protext* bombs when I try to run it; I have the same problem with *Protext* if I try to run the floppy disk version and the hard drive is running. If the drive is turned off then *Protext* and *Write On* both work OK. Is the hard drive causing the problem?

Sean Harding, Isle of Wight

A The Write On problem is well known and is nothing to do with the hard drive itself, the program has always had difficulty with any memory resident software such as on-screen clocks and RAMdisks, you may be suffering from the same problem with Protext. You need to disable all your Desk Accessories and AUTO folder programs and see if your programs work, now enable them one by one until you find which utilities are causing the clash.

Timeworks too

SOFTWARE

In your review of SpeedoGDOS in issue 50, you mentioned that you tested the program with GDOS compatible software such as *Degas Elite*, *Hyperpaint 2* and *Timeworks 2*. I bought SpeedoGDOS on the strength of this review only to find it doesn't work with my copy of *Timeworks 2*. Have you got any suggestions as to why it won't work?

Michael Beasor, Gloucestershire

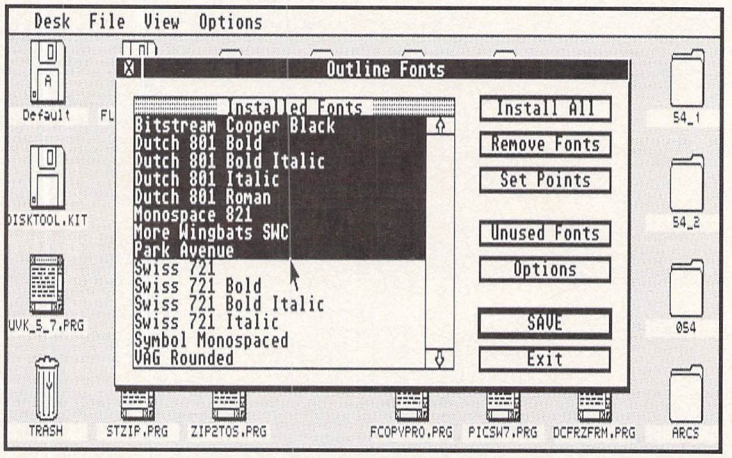
A Many apologies for this problem arising with your version of Timeworks 2. After checking with GST we found that the version of Timeworks 2 we tested is an older version which does work with SpeedoGDOS, the newer version which was released in December 1991 has different font handling routines and is incompatible. The part of Timeworks causing the problem is the FONTWID utility, v2 works but v2.01 doesn't. If you can find an old version of the program you can transfer the FONTWID routines and you can then use SpeedoGDOS.

Although you can use SpeedoGDOS and the new fonts with older GDOS compatible programs, you can only use all the new font handling features with programs specially written to take advantage of SpeedoGDOS. GST tell us that they are working on a fully compatible upgrade of Timeworks 2 that should be ready early in 1994.

Pagestream worries

SOFTWARE

I have been having problems using *Pagestream 2.2*; it bombs out randomly at different points of the program – sometimes when it's loading, when printing or when displaying fonts on-screen. I have had my working disks "fixed" by Silica Systems but I still have the



■ **SpeedoGDOS almost works with all old GDOS compatible software if you have the correct version, although some features are disabled.**

ASSEMBLY POINTERS

If you need to be prodded into the right direction, take a word of advice from our assembly expert,
Tony Wagstaff

FAT chance

Could you explain how to find the contents of a file using the FATs.

J Fairley, Winchester

stf: *A disk, be it a floppy, a hard disk or RAMdisk, is divided into sectors, each sector generally 512 bytes long. Data belonging to a file is stored in clusters, which are usually two sectors long. Once the data in a file exceeds the size of a cluster, which is 1,024 bytes, another cluster has to be allocated to that file. This may not necessarily be the next cluster on the disk since another file may be using it, so the operating system needs some way of telling which clusters belong to which files.*

This is what the FATs, or File Allocation Tables are used for – a standard disk has two. The first FAT starts immediately after the boot sectors. The second FAT comes next followed by the root directory and then the data clusters. You need to find where everything is first, using the BIOS `Getbpb` *call. This returns the address, in d0, of an array of nine words, described in the Bios Parameter Block boxout.*

You first have to locate the start of the root directory by adding `fatrec` *to* `fsiz`*. The directory can be read using the BIOS* `Rwabs` *call, and contains 32 bytes of data for each file and folder on the root directory, see the boxout. The first eight bytes of each 32 byte entry are the file's primary name, padded with spaces, followed by three bytes for the extension – the full stop isn't recorded. The other useful entry is the word entry at byte 26, which gives the first cluster of the file, or a sub directory if bit 4 of the attribute byte is set. This is in 8086 format, for PC compatibility, so the two bytes have to be swapped.*

```
lea
file_entry,a3
    move.b 27(a3),d1
    lsl.w #8,d1
    move.b 26(a3),d1
```

Now we have the first cluster of the file we convert it to a logical sector by subtracting two, multiplying by `clsiz`*, from the* `Getbpb` *call, and then adding* `datrec` *to it. It can now read it into memory with the Bios* `Rwabs` *call, using the file length from the directory to make sure that you don't read too much data.*

Now for the next cluster. If the first file cluster was five, the fifth FAT entry

Bios Parameter Block

`recsiz` – physical sector size in bytes
`clsiz` – cluster size in sectors
`clsizb` – cluster size in bytes
`rdlen` – root directory length in sectors
`fsiz` – FAT size in sectors
`fatrec` – sector number of start of second FAT
`datrec` – sector number of data sector
`numcl` – total data clusters on disk
`bflags` – flags

FAT Entries

16 bit 12 bit
$0000 $000 Free Cluster
$0001 $001 Not Used
$0002-$7FFF $002-$0FEF Next Cluster
$FFF8-$FFFF $FF8-$FFF End Of File

STOS CORNER

Is STOS troubling you? Then take Billy Allan's expert advice

A taxing problem

Do I have to be a certain age before I can release Shareware software, and what forms of tax do you have to register for?
Matthew Cottier, Merseyside

stf: *No, you can release Shareware programs at any age. Unless you make Minter-esque amounts of money from your Shareware you won't have to worry about tax.*

Track me down

Is there any way to read the joystick/mouse while using the *STOS* Tracker routine?
Matthew Heard, Bristol

stf: *It is possible, although a little unreliable.* `TRACK KEY` *returns a value when the joystick is pressed, each direction and fire having a different value. To test for these you have to use the* `BTST` *command in much the same way as you would for* `JOY`*. Unfortunately, certain keypresses conflict with the joystick and change the values, but you should be able to work around these.*

Size of a Harrier!

Are there any routines or extensions for *STOS* which enable you to do sprite-scaling like in *Space Harrier*, or do I have to write my own routine?
Mike Okuda, Lancs

stf: *There are rumours of an extension which does this, but we haven't seen it yet. Anyone with information on it is welcome to write in...*

Fade to grey

Can I get the original palette back after doing a `FADE`?
John Colston, Somerset

stf: *Yes, as long as the original palette is stored before you call* `FADE`*. For instance, if you load a picture into a bank, copy it to the screen then* `FADE`*, you can get the original palette back by doing either* `GET PALETTE(x)` *or* `FADE TO x`*, where* `X` *is the bank number.*

Extend yourself

Where can I get hold of the *Maestro* and *Compiler* extensions?
Dave Redpath, Cornwall

stf: *You can still get hold of Maestro from mail order companies (look through the adverts in STF). The Compiler is rather more difficult. Europress have stopped selling it, and refuse to allow anyone else to buy the licence. Most mail order companies seem to have run out, but you may still find one or two who have a copy.*

Hishing shamplesh

When I use the routines supplied with *Mastersound 2* to play back a sample in *STOS* they sound hissy and there is a lot of background noise, but they sound OK in *Mastersound*. What can I do to make them sound better?
P Wellington, Longney

stf: *It sounds like your samples are "signed" the wrong way for the replay routines you have. To convert between signed and unsigned formats in Mastersound you can press <Control> <S> or <Control> <N> depending on which version of the program you have. Or you could use the* `SAMSIGN` *command from The Missing Link extension which was on ST FORMAT Cover Disk 51.*

Lonely hearts

Is there any way I can get in touch with *STOS* users? It's difficult to learn to program without help.
Richard Roth, Paisley

stf: *There is a PD disk magazine called Stosser which is available from Goodman International PDL (☎ 0782 335650), it features a Contacts section.*

Wrong division

I am writing a calculator program but the division function doesn't work properly. For example, `PRINT 5/4` returns 1 instead of 1.25.
B Levin, Manchester

stf: *If you want to use get an exact answer you have to include the decimal point in your original values. So your example would become PRINT* `5.0/4.0`*, which returns the correct answer.*

same problems, and the people I bought the program from say I may have copied it and refuse to refund my money. The *Pagestream* manual says that the program works on a 1MByte ST with two disk drives – which is what I have – but I cannot get it to work.
Kristofer Meadway, Surrey

A This sounds like a software clash of some kind – there is no reason why Pagestream 2.2 shouldn't run perfectly on your setup. Disable all Auto folder programs and Desk Accessories on your boot disk and then run Pagestream; it should load and run without any problems. Now enable each Accessory and Auto folder program one by one until Pagestream fails so you can isolate the program causing the problem.

Naksha go away

HARDWARE

My Naksha mouse is broken, the connecting cable is damaged and the pointer zooms up to the top left corner of the screen – and stays there. I have written to Naksha but the letter was returned marked "gone away." Do you know can I fix my mouse?
Howard G Angel, Harrogate

A Naksha have indeed "gone away;" they are no longer trading in the UK. There are two answers to your faulty mouse cable problem. You can buy a new mouse practically anywhere for around £10 or alternatively, you can perform surgery on your mouse.

Conductors in mouse cables tend to break where the cable enters the mouse body. If you are handy with a soldering iron you can dismantle the mouse, disconnect the cable, shorten the lead and reconnect the cable to the original connections. On balance it's better to get a new mouse, First Computer Centre (☎ 0532 319444) sell the Golden Image Mega Mouse for £12.99.

Video killed the radio star

DISKS

I have a 2MByte STE and an AOR AR3000A scanner radio. Where can I get software to run the radio using my ST? I know you can get PC radio software but I don't want to buy a PC emulator.
Mike Powell, London W3

A Most PD libraries have radio sections, the ST Club (☎ 0602 410241) has half a dozen PD disks full of radio utilities. ST Club disks cost £1.25 each and every order carries a £1.25 handling charge regardless of the number of disks ordered.

Colour drivers

PRINTERS

Do you have any idea where I can get a printer driver for my HP500C colour inkjet printer?
B Hunt, Worcs

A There is no one printer driver that works with all software on the ST, each word processing, desktop publishing and accounts program has its own printer driver and if your printer is not supported then you're stuck. For printing out graphics files there are two main possibilities you can choose from. HP Chrome enables most of the popular ST picture file formats to be printed on HP printers, HP Chrome costs £5 from Rufus Developments, 21 Rowlands Hill, Wimbourne, Dorset, BH21 2QQ. The other option is Imagecopy 2 Colour from the ST Club (☎ 0602 410241, £19.95), this utility covers a wide range of picture formats .

Oldie but goodie

HARDWARE

I have bought a second-hand 1040 STF for MIDI and music, but I didn't realise you could play such good games on the ST until I saw your 50th edition. My query is that you don't mention the STF; you only mentioned the STFM, STE, Mega ST and Mega STE machines. Do STFM and STE games work on my STF, and should I get a TOS upgrade?
Bas Bartelink, The Netherlands

A Your STF can use all ST games except those that are specified as STE-only – Sleepwalker is the only STE only game we can think of so you have no need to worry about compatibility. You may be better off getting a TOS upgrade if you intend using a hard drive with your ST; early versions of TOS below v1.4 aren't particularly good at file handling.

contains the next one. Check the first bit of `bflags`*, a one indicates 16-bit FAT entries, a zero 12-bit. For the former simply multiply it by two and add it to the start of the FAT. The word at this address, after the bytes are swapped, is the next cluster for the file, or end of file – see the FAT Entries boxout.*

12-bit entries are more complicated. Multiply the previous cluster by 1.5, add this to start of the FAT, ignoring the decimal, byte swap the word value stored there, then, if the cluster number is odd, right shift four places, and finally mask off the four high bits. With the start address of the FAT in a4, and the cluster in d1, the following listing extracts the next 12-bit cluster:

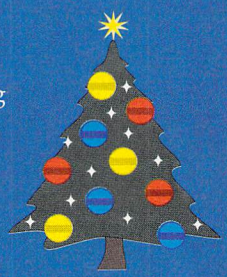
```
    move.w d1,d3
    asr.w #1,d3 divide by 2
    add.w d1,d3

    move.b 1(a4,d3.w),d2
byte swap
    lsl.w #8,d2
    move.b (a4,d3.w),d2

    move.w d1,d3
    asr.w #1,d3 divide by 2
    bcc cluster_even
    lsr.w #4,d2
cluster_even
    and.w #$FFF,d2
```

Once you have the next cluster, use this to find the next, and so on until you hit the end of file.

Root Directory
8 byte name
3 byte extension
Attribute byte
10 reserved bytes
Word, creation time
Word, creation date
Word, first cluster
Long, length of file

Merry Christmas from HiSoft

Silsoe Village Scene by Gordon Chambers, typeset by Leaside Graphics, Luton.



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Lattice C Version 5.52	£75*
HiSoft BASIC Version 1	£20*
HiSoft Devpac Version 2	£15*
HiSoft C Interpreter	£20
FirST BASIC with full manual	£10*
HiSoft FORTH	£10
Devpac 3.10+BASIC 2.10+	
Lattice C 5.60 Bumper Pack	£269
The Atari Compendium Book	£39.95

Utilities

Diamond Back 2+	
Diamond Edge+	
DataLite 2 Bumper Pack	£99.95
HiSoft WERCS	£10*
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XBoot 3 + Saved pack	£35
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SpeedoGDOS	£35
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Self destruct

DISKS

My STE has been wrecking my games disks and giving me helpful messages such as "data on the disk in drive A may be damaged, can not write FATS" or "cannot read system sectors." I thought the problem was a virus and used *UVK* on the disks but it said they were fine. I have been told it may be the disk drive causing the problem, I have lost over £200 worth of games so far – can you help?
Anthony Rothwell, Kent

A *It's not a virus munching your disks, it's a disk drive problem. Get yourself a new disk drive from Power Computing (☎ 0234 843388), the PC720 0I drive is a direct replacement and costs £45.*

Go faster

HARDWARE

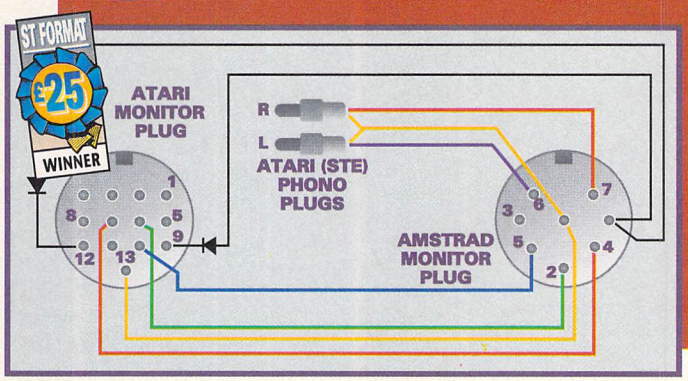
I am interested in 3D modelling and raytracing and I want to add a maths co-processor to my STFM to speed up the operation of *Cyber Sculpt*, *Cyber Studio* and *POV*. Can I install a 68882 in my STFM and how much would it cost?
Ben Luckham, Exeter

A *You could install a 68882 co-processor in your STFM but it's very expensive; difficult to install and does very little to speed up your software. Software is specifically designed to work with a co-processor – installing one in your ST doesn't automatically speed up processing. The solution is to install a hardware accelerator instead, System Solutions (☎ 0753 832212) supply a wide range of accelerators for all STs and have an excellent installation service. The Turbo 25 can triple the processing speed of your ST and costs £299.*

AMSTRAD MONITOR

HARDWARE

I have just purchased a cheap Amstrad CM14 stereo colour monitor as supplied with the Amstrad 464 Plus computer for use with my STE. After some experimentation I have managed to get it working perfectly with my machine after making a lead using the connections shown in the diagram below.



Parts available from Maplins		
2 OA202 signal diodes	QH75S	£0.36
1 metre 9-way video cable	XS42V	£0.65
1 8-pin DIN plug	FJ91Y	£0.45
1 13-pin DIN plug	JW95D	£1.48
2 phono plugs	HQ54J	£0.36

Martin Curran, Gloucester

A *Many thanks for that useful information, Martin, you've just won yourself £25 for the best tip of the month.*

It's too big

GRAPHICS

I have a problem with scans created with my Daatascan hand scanner; when I scan an image it is

MUSIC AND MIDI

If you've got some musical queries, Andy Curtis is the maestro with the answers

Synth from the past!

Issue 39 of *ST FORMAT* contained an article about different styles of music, and at the end of that article you could read something like; "How do I make this great music?" I have heard the sound of a Yamaha DX7 synth and I found it rather interesting. It seems that synths are much cheaper in England, especially if they're second-hand. Could you give me an address where I could obtain a DX7?
Geert Stoelen, Belgium

stf: *The DX7 is quite an old synth so you're only likely to find one second-hand. Check the classified ads in your local paper or subscribe to our sister magazine Future Music and scan the ads in there. You should be able to locate one for sale. One thing is certain, there aren't any new DX7s being made.*

Serious tracking

I have recently begun producing music on the STE using PD sound tracker programs and samples. Could you please tell me if it is possible to produce good quality recordings using these programs?
J Telson, York

stf: *You can achieve some great pieces of music using sound tracker programs. Hundreds of MOD tracker files are available in the PD, some of which are superb. However, if you are talking in terms of commercial recording we're afraid that the sound output is not of a sufficient quality to be suitable. If you were to do the same thing about using sound trackers on a Falcon with its enhanced sound handling then the answer may be a little different.*

Yamaha magic

I have a Yamaha PSS680 keyboard connected to my 2MByte STE and use Gajits' *Sequencer One*, back on issue 31 Cover Disk. When playing the keyboard and recording to the sequencer, while at the same time listening to previously recorded tracks, the sequencer records not just what I'm actually playing, but also the previously recorded notes that I'm listening to as I play.

Can you suggest how I can just record the new information I'm playing on the channel selected, as everything I've tried has made no difference whatsoever.
P J Barber, Norfolk

stf: *The problem here is the keyboard which you are using. Unfortunately Yamaha, in their great wisdom, thought it would be fun to make some of their Portasound keyboards a "little bit" MIDI compatible. The result is that the PSS keyboards with MIDI sockets on are a constant problem when used in conjunction with serious MIDI applications.*

What is happening to you is that the MIDI signals are looping through your keyboard. What comes in is going straight out again, thus causing your problem. There is not a solution from within Sequencer One, but there is a solution from within Sequencer One Plus. (£59.95 Gajits Music Software ☎ 061 236 2515) The software of this program has been specially designed to enable you to use these non-standard keyboards. No room for the details here, but it is all explained in the manual.

The trouble with tribbles

How can you sample from a hi-fi? Do you plug the leads into the speaker plugs or something? The AUX place is for input, isn't it ? Can you plug the STE's audio into the AUX of a hi-fi?
Alex Tribbles, Kent

stf: *Alex, do not plug your sampler into the speaker output of your hi-fi! You are likely to blow it up as the voltage is too great. A good way to feed signals to a sampler is to use the headphone output of an amplifier or cassette deck, especially if you can vary the volume. Make up a simple lead that combines the left and right stereo signals and away you go. When you want to monitor the samples plug the STE's output into the AUX position of your amplifier, it should sound great.*

Synthy singing

I am currently making instrumental music but would like to add vocals of the synthesised kind. Would it be possible to make up my own synthesised words and then give the words actual notes and values so that it sounds like a vocalist. If there are any commercial or PD companies that do anything like this I would appreciate their address.
Brian Roberts, Herts

stf: *As far as we know there is no software or hardware around which is dedicated to this task. The conventional way of creating "computer" voices is to use a Vocoder which takes a spoken word and assigns a specific pitch and effect to it. If you had such a device it would be possible to feed it with your ST synthesised voice and gain the desired effect. Unfortunately, this would require a great deal of expense. It's easier, more effective and a lot cheaper to find someone who can actually sing!*

IFFS and buts

Many people are having the same problem with *Sequencer One* samples. The standard letter reads "I use *Sequencer One* and am still unable to create .IFF format samples to use with the program. I've tried everything and I'm stuck. Please help."
A.Buck, D Hetton, Wallace Greenfield, Dr Adrian Schofield and Alison Dent

stf: *Fortunately we have some good news for all STF Cover Disk users of Sequencer One who are in this position. Gajits Music Software are offering a cheap upgrade to v2.3 of Sequencer One including a program which converts your .AVR samples to .IFF format. The price is a mere £6.95 plus postage and packing. If you are interested in achieving better sample playback quality and getting the sample converter give Gajits a ring on ☎ 061 2362515.*

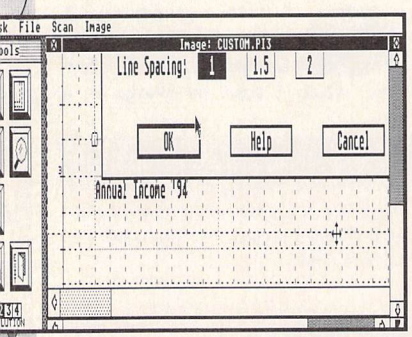
Internal fitting

I recently purchased a Stereo Master sound sampler from Microdeal and want to know whether I can build it into my 1040STE.
Colin Logan, Sussex

stf: *We're afraid that there just isn't enough room inside your STE to install a sampler, and nowhere to install it! Connection to the sampler to the cartridge port would be a big problem, and you would then have to add sockets to input the sound to be sampled even if you did manage it. Sorry.*

usually much larger than the screen so I can only save part of the image in *Degas* format. There is no image resizing option with the software. Is there any software available to change the image size?
John Upton, Brighton

A There are several options open to you. You can use the software supplied with the scanner to crop the picture to screen size leaving out the areas you don't need, then save the cropped image as a Degas file. Save the scan as a GEM Image file or as a TIFF file, this saves the complete picture you have scanned and you can then load these pictures into DTP programs. The last option is to scan at a different resolution, if you scan at 400dpi you end up with a huge picture, scanning the same area at 100dpi normally gives you a picture that fits on your screen.



The editing software supplied with Daatascan Professional is pretty basic but it does enable you to crop the image so you can just save the bit you want as a *Degas* file.

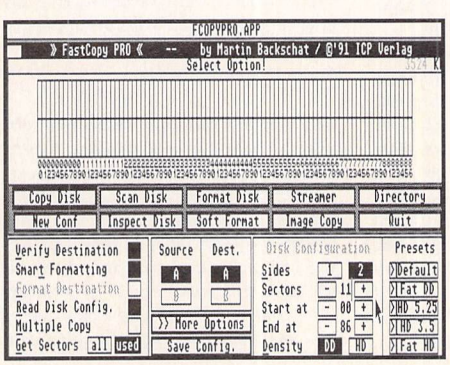
PC drives

I am appalled at the cost of hard drives for the ST, can I connect my 1MByte STFM to a PC hard drive with the correct interface?
David Whiteway, Berks

A The basic cost of hard drive mechanisms is the same for all computers and you can connect any SCSI drive to your ST using the correct interface, but the cost of the interface makes ST hard drives so expensive. System Solutions (☎ 0753 832212) supply the Link from ICD for £89.95, this enables your ST to work with any external SCSI drive designed for the Mac, PC or NeXT. Most PCs use IDE or ESDI drives which can't be interfaced with your ST.

It is your density

How do you tell if the internal drive in an STFM is double-density or high-density, and if it's a 720K double-density or a 1.4MByte double-density drive? I think the drive inside my STFM has more capacity than 720K.
J Longo, Portugal



A You're a bit mixed up between double-density and high-density drives. Early STFs and STFMs had single-sided double-density (S-S D-D) drives giving 360K of storage. Later STFMs and all STEs were fitted with double-sided double-density (D-S D-D) drives giving 720K of storage. The Mega STE, TT and Falcon are fitted with high-density (HD) drives giving 1.4MBytes of storage. You can format your D-S D-D disks to more than 720K by using a program that enables you to format extra sectors and tracks – ten sectors and 82 tracks gives you over 830K of storage.

Using programs like *Fcopy Professional* to format disks enables you to create extended formats. Settings of 11 sectors and 87 tracks gives you over 970K of storage on a double-sided floppy disk.

GFA BASIC

Ask Mac Marsden your GFA questions – you know it makes sense

The right shape

I have been programming in *GFA Basic* for some time now and have been unable to draw an arc or Bezier curve. Is this possible in *GFA* or do I have to learn another programming language?
John Cosy, Surrey

stf: GFA Basic can draw Bezier curves, the command to draw an arc or Bezier-curve is `CURVE a,b,c,d,e,f,g,h`. *We have included a small demonstration program below for you to see how the command works in practice.*

```
a=10 ! Start x position
b=100 ! Start y position
c=30 ! x position of first magnet
d=30 ! y position
e=100 ! x position of second magnet
f=100 ! y position
g=200 ! End x position
h=100 ! End y position
GRAPHMODE 3
DO
    CURVE a,b,c,d,e,f,g,h
    PAUSE 5
    CURVE a,b,c,d,e,f,g,h
    c=RANDOM(100)   ! generate random numbers
    d=RANDOM(100) ! to show the effect of
    e=RANDOM(100) ! the magnets on the
    f=RANDOM(100) ! curve.
LOOP UNTIL MOUSEK OR INKEY$<>""
```

Variables c&d *and* e&f *act as magnets on the curve either pulling or pushing, a "normal" curve may be drawn by enabling variables* e&f *equal* g&h.

GFA Basic vs STOS

I am new to *GFA Basic* but still use it more than any other programming language. I used to use *STOS* but I like Alert boxes in my programs. How would I use the command `WAIT KEY` which I am used to using in *STOS*?
Jamie Brown, Durham

stf: *The following program acts in the same way as the* `WAIT KEY` *command that you are used to;*

```
t%=TIMER
x=5
DO
    a$=INKEY$
    s%=TIMER
LOOP                          UNTIL
INT(s%/200)=INT(t%/200)+x
```

Where x is the delay in seconds.

Buffer clearing

Is it possible to clear the buffer that `VOID INP(2)` uses?
Thomas Nilsen, Norway

stf: *The nearest we can come to solving your problem is for you to use the following small routine;*

```
a|=INP(2)
x=V:a|
IF PEEK(x)>=32 AND PEEK(x)<=127
    PRINT "CHARACTER IN BUFFER IS :";CHR$(PEEK(x))
ELSE
    PRINT "BUFFER EMPTY"
ENDIF
```

The variable "x" holds the address in memory where "a|" holds the ASCII character value of the key pressed. If you wish to remove the character from this location you could replace the IF statement with;

```
IF PEEK(x)>=32 AND PEEK(x)<=127
    POKE(x),0
ENDIF
```

Do I exist?

I have some questions which I hope that you can answer for me. From within a *GFA Basic* program how can I tell if a folder or file is on disk, change the date stamp of a file on disk and delete a file on disk?
Joseph Crystal, Berks

stf: *To find a folder use the following line;*

```
IF EXIST ("\FOLDER\*.*")
```

and for a file;

```
IF EXIST ("FILENAME.EXT")
```

To change the date of a file on disk the following short program should be used;

```
OPEN "U",#1,"FILENAME.EXT"
TOUCH #1
CLOSE#1
```

The command used to delete files from a disk is KILL "FILENAME.EXT"

Artistic addition

I am writing an art program and would like to include a help utility, but I am unable to get a value for the help key using `a|=INP(2)`, is there a way to return a value from this key so that I can see if help is required?
Frederick Hine, Gwent

stf: *The commands you are looking for are as follows;*

```
KEYGET a%
x%=CARD(SWAP,a%)
```

Where `KEYGET a|` *returns a key value, but unlike* `INP(2)`, *it returns a* `SCAN CODE` *along with the* `ASCII` *value, the* `SCAN CODE` *is what we need to examine. We have included some helpful* `SCAN CODE` *values for you which would be held in x%;* `Backspace= 14, Help= 98, Undo= 97, Insert= 82, Clr Home= 71.`

Key control

I am writing a database program and would like to monitor the Control and Caps Lock keys. Please can you help me?
Robert Franklin, Leicester

stf: *It is possible to look for those specific keys and others being pressed if you use the following small routine;*

```
DO
    a| = BIOS(11,-1)
LOOP UNTIL a|=xxx
```

`xxx` *is any of the following; Right Shift=0, Left Shift=2, Control=4, Alt=8, Caps Lock=16. Don't forget that if Caps Lock is on, then 16 must be added to the* `ASCII` *value of the key you are looking for, It would be better if the last line of the routine read;*

```
LOOP UNTIL a|=xxx or a|=xxx+16.
```

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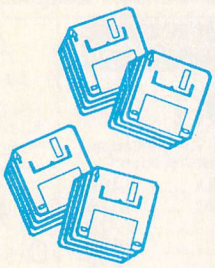

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Arabesque is the only major drawing program for your ST that enables you to create both vector graphics and bitmap graphics and convert them from one format to the other.

In addition to this, *Arabesque* enables you to design graphics and save them in formats suitable for importing into any ST desktop publishing program; vector graphics can be saved in *Calamus* and GEM Metafiles formats while bitmap graphics can be saved as Image or *Degas* high resolution files. You can use GDOS fonts even if you don't have GDOS installed as part of your system, *Arabesque* enables you to load them directly into itself.

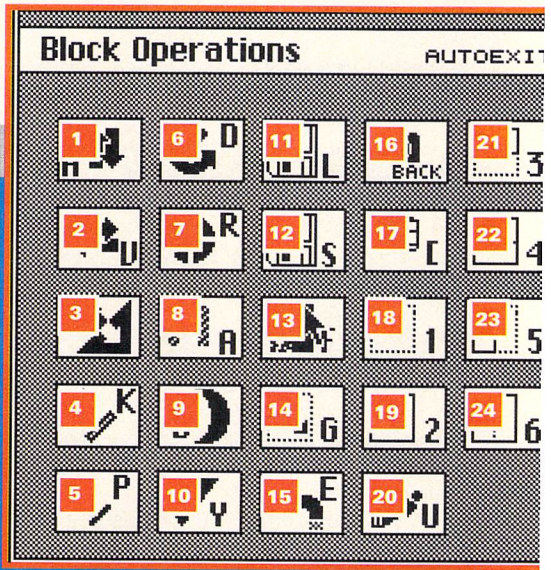
There's even a utility provided which enables you to convert *Signum* fonts to GDOS format so you can use them with *Arabesque.*

Getting set up

We showed you how to set up your ST's memory configuration in the Cover Disk pages of *ST FORMAT* 53 (turn to page 91 to order a copy if you missed it), now we move on to the Drawing Aids menu.

Click on the question mark icon in either the bitmap or vector menu to display the Drawing Aid box, this menu enables you to change many of the default parameters of *Arabesque* to suit yourself and save them to disk.

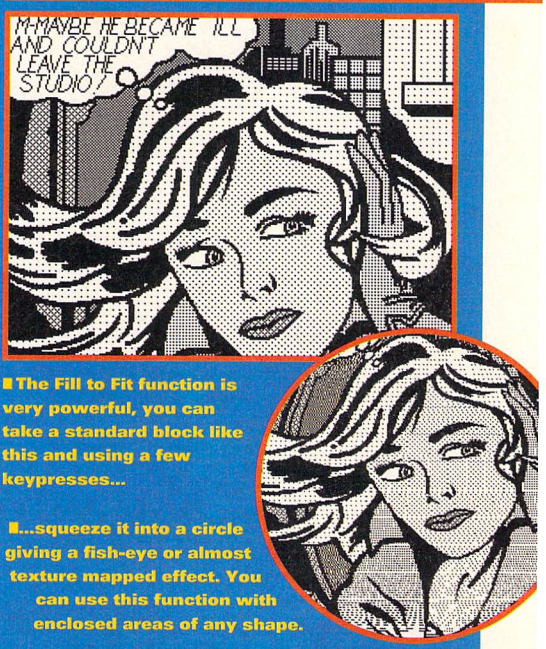
The first option toggles between a full-screen and a small



BLOCK OPERATIONS

Bitmap mode has a comprehensive set of block operations accessed by pressing <Help> when you are in block mode

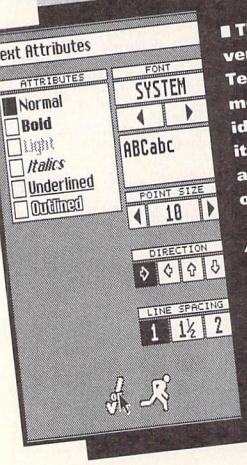
1. **Horizontal axis mirroring: flips the block top to bottom, keyboard shortcut <H>.**
2. **Vertical axis mirroring: flips the block left to right, keyboard shortcut <V>.**
3. **Invert: inverts the block image, keyboard shortcut <I>.**
4. **Contour: Recalculates image so only a contour is left, keyboard shortcut <K>.**
5. **Smooth: smooths "jaggies" caused by enlarging bitmap images, keyboard shortcut <P>.**
6. **Turning: rotates the image by up to 90 degrees, keyboard shortcut <D>.**
7. **Rotate: rotates image 90 degrees anti-clockwise, keyboard shortcut <R>.**
8. **Pattern: fills any black areas of image with the current fill pattern, keyboard shortcut <A>.**
9. **Bend: distort the image in one of four directions, keyboard shortcut <B>.**
10. **Pull: remaps image onto a rectangle with four marker points, these can pull the rectangle into a new shape, keyboard shortcut <Y>.**
11. **Loading: load image on disk into the block buffer, keyboard shortcut <L>.**
12. **Saving: saves the block buffer to disk, keyboard shortcut <S>.**
13. **Contrast: adjust the contrast of a block image, keyboard shortcut <F>.**
14. **Change size: alter size of block image, keyboard shortcut <G>.**
15. **Fill to fit: fill an area with the block image, keyboard shortcut <E>.**
16. **Shadow background: a shadow of the block image, keyboard shortcut <U>.**
17. **Restore to original: cancels all block functions and restores original block image, keyboard shortcut <Backspace>.**
18. **Take over: this makes the modified block image the default, keyboard shortcut <[>.**
19. **Reduce block size by half: keyboard shortcut <1>.**
20. **Double block: keyboard shortcut <2>.**
21. **Half block height: the keyboard shortcut is <3>.**
22. **Double block height: the keyboard shortcut is <4>.**
23. **Half block width: the keyboard shortcut is <5>.**
24. **Double block width: the keyboard shortcut is <6>.**



■ **The Fill to Fit function is very powerful, you can take a standard block like this and using a few keypresses...**

■ **...squeeze it into a circle giving a fish-eye or almost texture mapped effect. You can use this function with enclosed areas of any shape.**

USING FONTS WITH GDOS



■ **The GDOS version of the Text Attributes menu is almost identical except it doesn't have any font loading options**

Arabesque **enables you to to get the best out of GDOS if you are already using it. Run your GDOS disk as normal and then just simply load *Arabesque*.**

To access the font loading function right-click on the Text icon in the main menu, this displays the Text Attributes menu. The menu is slightly different to the version displayed when GDOS isn't loaded, all of the main text functions are present but instead of enabling you to load fonts you simply access the ones already loaded by GDOS. You can scroll through the fonts in memory to select one and adjust the point size.

cursor, the full-screen cursor is best used with the ruler option switched on for precise positioning, the ruler is toggled from the Co-ords option. The box marked All in the Co-ords option toggles the co-ordinate display at the top of the screen, with All selected every co-ordinate function is active. With All deselected then only the current X and Y co-ordinates of the cursor are displayed.

Arabesque enables you to use a "true to scale" display, the CM, Inch and Point options enable you to choose the scaling system for your drawing. Selecting CM displays the ruler and the co-ordinate display in centimetres, selecting Inch displays in inches and selecting Point switches the co-ordinate display to pixels. In bitmap mode the resolution of the printer driver determines the true to scale output.

The X Scale and Y Scale options enable you to enter your own scaling units, you can also define different vertical and horizontal rulers. The Jump option enables you to force the cursor to move in steps defined in pixels, vector mode displays the step grid on-screen as a series of dots.

The last area of the Drawing Aids menu relates to polygons, defining whether they are drawn in two or three dimensions or if segments or conical projections are used. These functions are different in bitmap and vector modes.

Line drawing tools

Bitmap and vector mode line functions are almost identical. All line functions use the same characteristics such as line thickness, line colour, line style and drawing mode – all these functions are selected from the Drawing Parameters menu which you access by right-clicking on any line function in the main menu. You can also select the fill patterns for enclosed shapes from this menu. Another method of calling the Drawing Parameters menu is to press the <Help> key while you are using any line function.

The line functions are all very simple to use, selecting the function from the bitmap menu takes you to the drawing screen and pressing the right button returns you to the main menu. Freehand drawing is performed by holding the left mouse button down and moving the mouse around the page, this should be performed in magnified mode for accurate results. The Line function enables a straight line to be created between two points by clicking once at the start point of the line, dragging the line out until you are happy with it and then clicking again. The Line Set option is similar except that many joined lines are created, the end point of one line being the start point of the next. Clicking the right button exits Line Set mode. If the Filled option is set in the Drawing Parameters menu the shape is filled with the current pattern.

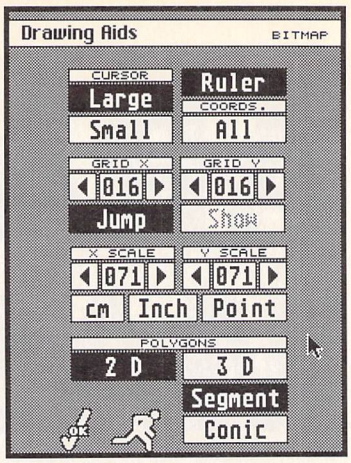
Curved lines are created using the Bézier curve function, select the function and position four points on-screen. When the last point is confirmed the Bézier curve is drawn. Rectangles are simply drawn by defining one corner and dragging the mouse to the opposite corner. Creating circles and ellipses works in exactly the same way except you start in the centre and work outwards, segments of circles and ellipses can also be created.

Creating triangles is a simple matter of placing three points, the first two points define the base line and the third defines the apex. Once the third point is defined the complete shape is moved into position. Parallelograms are defined in the same way as triangles except that the first two points define the base line and a parallel line is defined by the third click. The last type of solid shape is the polygon where five or more lines define the shape. All solid shapes can be filled, in bitmap mode, 2D, 3D or conic depending on how you set up the Drawing Parameters.

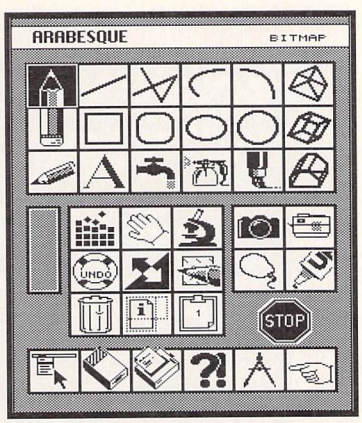
Other bitmap functions

Most of the other bitmap functions are painting functions. To use the Eraser you click on the lower half of the pencil icon, two further clicks determine the size of the eraser. Moving the Eraser over the picture deletes any set pixels it passes over. You can delete or set single pixels by selecting the top of the pencil icon, this takes you to Freehand mode. Normally you can just set pixels in this mode, pressing the <.> key enables you to delete pixels in the same way.

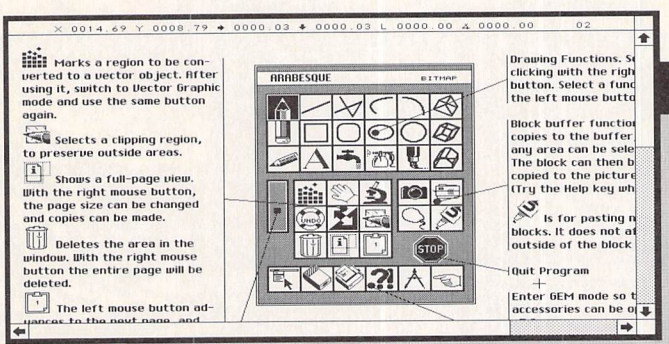
The Fill icon enables you to fill any solid shape with a pattern, there are two fixed sets of patterns



■ ***Arabesque's*** **general parameters are configured from the Drawing Aids menu, you must set the various parameters separately for bitmap and vector modes.**



■ **Almost all of the main functions of *Arabesque* are accessed from the main menus with either a left or a right mouse click on the icons.**



■ ***Arabesque*** **contains its own on-screen help files in the form of a labelled diagram of the two main menus, load them up and print them out.**

TEN QUICK TIPS

1 **If you want *Arabesque* to load directly into vector mode then save the program parameters from the vector tools menu.**

2 ***Arabesque*** **defaults to an A4 page, to ensure that a normal 640x400 pixel page is used for your drawing select Standard from the Page menu.**

3 **If you want more info on the menu functions load the PRGINFO1.ABM and PRGINFO2.ABM bitmap picture files and print them out.**

4 **Use the Lasso icon in the main bitmap menu to cut out irregular shapes.**

5 **Save pictures to disk in compressed format to save disk space, you can save them in a suitable format for your DTP program later.**

6 **Use transparent mode for Spraycan and Paintbrush drawing for some brilliant effects.**

7 **Play around with the Fill to Fit block option for some weird results.**

8 **Use the Page View icon to see what your complete picture looks like if you are working on a page larger than the screen.**

9 **You can use all drawing functions from within magnify mode for superb accuracy.**

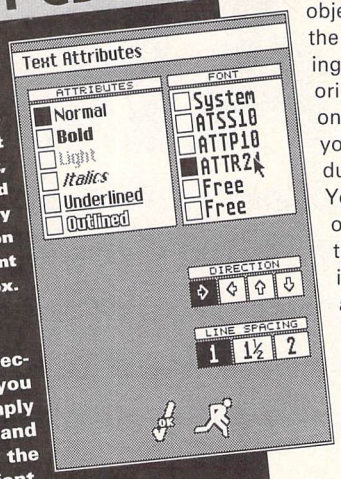
10 **To really get the most from *Arabesque* you should get the manual, use the coupon on page 65 to order your copy.**

USING FONTS WITHOUT GDOS

One unique feature of *Arabesque* is that it has the ability to use up to five GDOS fonts even if your system doesn't have GDOS installed.

To access the font loading function right-click on the Text icon in the main menu, this displays the Text Attributes menu. This menu consists of the usual text functions with bold, light, italics, underlined and outlined modes. The text can be set to run in any direction and at various line spacings. You can load up to five GDOS fonts by clicking on any of the boxes marked Free under the Font menu, you're then taken to the file selector and you just simply select and load the GDOS font.

■ The Text Attributes menu is simple to use, select your font, style and direction by clicking on the relevant box.



and a one definable set where you can edit and design your own fills. The way the fill works is defined by right-clicking on the Fill icon, this pops up the Fill menu. Selecting Pattern from this menu fills the whole area with the pattern, Gradient enables you to make a progressive shade from white to black. The last two options are used with blocks held in memory, Fill pastes the current block into the enclosed area while Fit squeezes the block so that the entire contents are shown whatever the shape of the area to be filled.

Using the Spray Can enables you to make a smooth transition between a filled area and white using the current fill pattern. Right-clicking on the Spray Can icon enables the size and density of the spray to be set along with the drawing mode, Replace mode deletes anything you spray over while Transparent mode enables you to see any original drawing through the spray. The Paintbrush draws using the current fill pattern, right-clicking on the Paintbrush icon enables you to choose the brush shape and drawing mode.

More vector functions

All objects created in vector mode can be resized or moved using the eight squares surrounding it, creating a frame. If you select the Arrow icon from the vector menu you can click on any vector object to select it, you can also call this function from within any other drawing function by pressing the <Esc> key, pressing <Esc> again returns you to the current drawing mode.

Clicking on a selected object enables it to be dragged to a new position while clicking on the squares in the frame enables the object to be resized. If you hold the <Alternate> key while resizing a vector object it keeps its original proportions. More than one object can be selected if you hold down the <Shift> key during the selection process. You may need to select all the objects in a drawing at some time, you can do this by clicking on the icon showing an arrow and multiple markers in the main vector menu, the option is deselected by clicking the icon again. While in any other function pressing <A> selects all objects and <S> deselects them.

Selected objects can be copied to the object buffer by pressing <C> or clicking on the Camera icon, you can cut an object by pressing <X> or clicking on the Scissor icon. Objects are pasted by pressing <V> or selecting the Copier icon. You can make multiple copies by right-clicking on the Copier icon, the Copy Options menu then pops up which enables you to define the number of copies, the offset and the pattern. Objects can be duplicated without using the object buffer by pressing <D> or clicking on the Duplicate icon.

Almost all functions in both main menus have sub-menus attached to them just a right mouse click away. To get the most from *Arabesque* it's best to experiment with all functions, most are self-evident once you have selected them. Vector functions are slightly less obvious, especially if you're used to bitmap drawing, but you soon get the hang of them after a bit of practice.

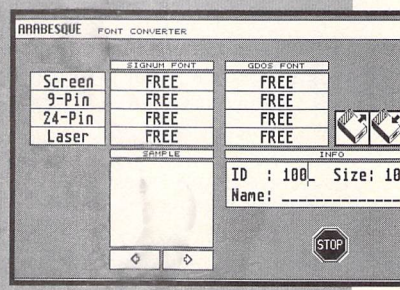
We've given you the best drawing program available for the ST, so use it! ***stf***

Converting Signum fonts

If you have access to *Signum* fonts you can convert them to GDOS fonts by using a special conversion program supplied with *Arabesque*.

Run the FONTMAKE.PRG program supplied on Cover Disk 53 and select the first disk icon to load a *Signum* font. Once you have selected and loaded the *Signum* font enter a font ID number, point size and font name in the fields provided and click on the chequered flag icon. This converts the font to GDOS format and displays a sample in a window.

If the conversion looks alright then select the second disk icon and save your newly converted font to disk.



■ **A useful utility to convert fonts, most PD libraries have disks containing GDOS and *Signum* fonts you can use with *Arabesque*.**

WORDFLAIR AND *ARABESQUE* UPGRADES

ST FORMAT have teamed up with Hisoft to bring you more amazing offers so you can make the most of both *Wordflair* and *Arabesque*.

Wordflair upgrades

■ Upgrade to the complete version of *Wordflair*, complete with *GFlair* (Hisoft's version of GDOS) and the superb easy to follow manual for just £24.95. ■ If you want to run SpeedoGDOS you need *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 as they appear on-screen. *Wordflair 2* costs £34.95 and *Wordflair 2* with SpeedoGDOS costs £59.95.

Arabesque and *Convector* offers

■ Upgrade to the complete version of *Arabesque* including the manual and Hisoft's Silver Support service (worth £19.95 and including a lifetime's technical support, a regular newsletter and access to Hisoft's closed user support area on Cix) for just £39.95 ■ Save £60 on the price of the vector graphics auto tracer *Convector Professional* reviewed in *STF* 46 – usually costs £99.95 and you can get it for just £39.95 ■ Or get both *Arabesque* with Silver Support and *Convector* for £69.95.

All of these offers represent massive savings – so fill out the coupon opposite and send it to *STF* Special Offers, Hisoft/AVR, The Old School, Greenfield, Bedford MK45 5DE with the relevant payment, quoting the order number SHF3912.

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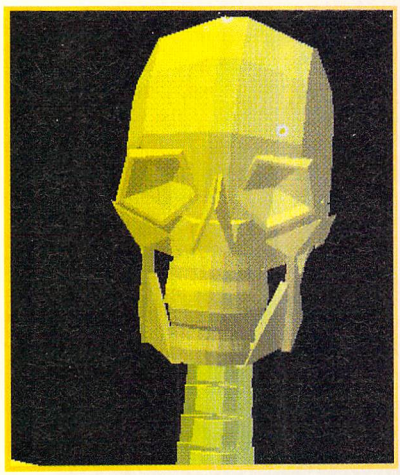
RAYSTARTING

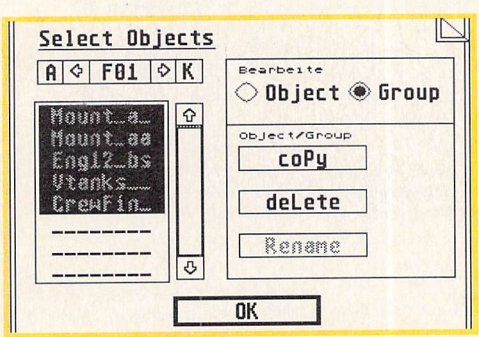


This happy looking chap is waiting for the first Eurotunnel train into London, due in about 2005 AD.

Raystart is the powerful new raytracing program that we gave you on last month's Cover Disk. Clive Parker takes a look at the functions and features of this excellent graphics tool

Raystart is a truly powerful program, not only can it raytrace CAD 3D2 objects loaded into it but it is practically a full 3D CAD package in itself and is very similar in use to CAD 3D or _Cybersculpt_. _Raystart_ runs in any resolution on any ST, TT or Falcon – it's totally resolution independent. Of course, the more colours you have available the better your raytraced pictures look, so using a colour graphics card is recommended if you have an STE or a Mega ST.

An unusual feature of _Raystart_ is the ability to halt a raytracing, save the picture and setup and resume raytracing later, very handy if you're in the middle of a creative masterpiece and need to use your ST for something else.

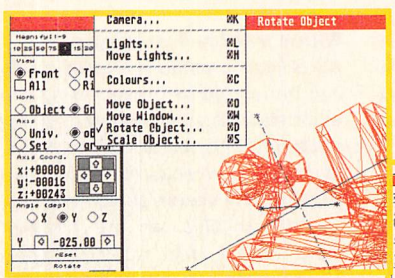


Select the object(s) you want to edit using the right button, any changes you make in the toolbox are carried out on the object.

Using the object editor

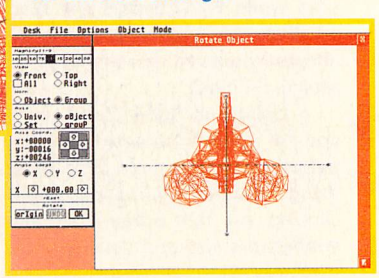
When you have loaded a 3D object and selected it from the Object menu it's displayed on-screen in the main work window. Although you can select many of the functions in the toolbox window they have no effect on your object, this is because an object has to be selected in order to edit it. You have to go back to the Select option and click on the object you want to edit with the right mouse button – this highlights the object name and greys out the text.

When you return to the main menu the editable object is displayed on-screen in a different colour, you can now use the various toolbox functions to rotate, move and scale the object and to move the window.



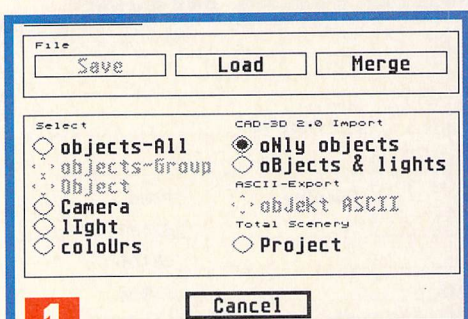
Above: The object you have selected is displayed on-screen, select Rotate Object from the Options menu and adjust the X, Y and Z settings in the toolbox window...

Below: ...click on OK and the window is updated with the object in its new orientation. Experiment with the other functions in the Options menu for different settings.

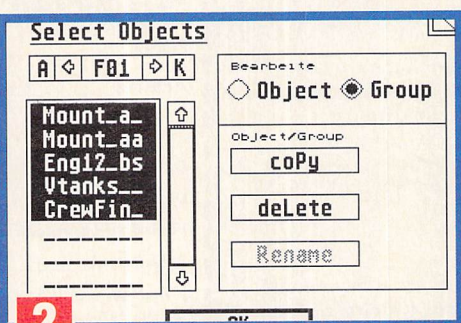


PREPARE TO (SUR)RENDER

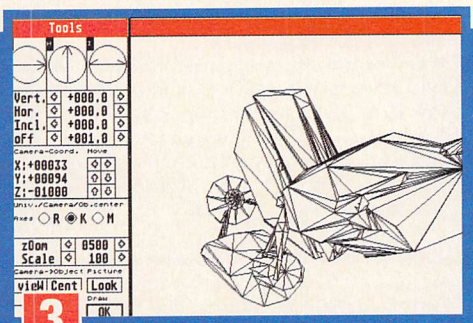
"Yes, but how do you actually render a picture?" we hear you ask. Follow these six simple steps for loading and rendering a CAD 3D2 drawing. CAD 3D2 objects are available from most PD libraries and BBSs



1 Go to the Main menu screen and click on Select in the file menu. Click on the "only objects" button of the CAD 3D2 import menu, when the file selector box appears choose the CAD 3D2 file you want to load, when it's loaded select Cancel. Here we're using a design from the CAD 3D Future Design disk.



2 The Sphinx ship model we are using is made up from five different CAD 3D2 objects, you have to use the Select function in the Object menu to initialise each part of the object or _Raystart_ ignores them. Highlight each part of the model and click on the Group button to ensure all the parts are acted upon.



3 Remember that you have to highlight the objects with the right mouse button if you wish to edit them. Once you are happy with the orientation of the model select the Camera function from the Options menu. Select the K button in the Axes area of the toolbox and move the camera about until you have the view you want.

OVER

JARGON BUSTERS

Camera – Specifies the point of view of the screen, you can move the camera around in the 3D universe to view scenes from different angles.

Co-ordinates – Expressed in three dimensions, the X, Y and Z co-ordinates describe whereabouts in the "universe" an object is. The camera and lights are also positioned in the same way.

Objects – Part of a model, different simply shaped objects can be designed and added together to build a more complex shape.

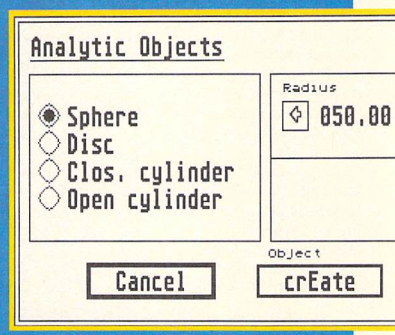
Raytracing – A method of drawing that calculates the path of each individual ray of light from a lamp and every possible reflection of the ray of light. This kind of calculation makes raytracing a slow process.

Textures – Different patterns can be assigned to objects to give them a textured look using a mixture of two colours.

Analytical objects

Raystart **contains functions to generate objects in two distinct forms, either as standard polygon based objects or as analytical objects. Analytical objects are different to standard objects because they are not built up from polygons. For instance, a sphere may be constructed of 200 polygons to give an approximation of a smooth curved shape and the light rays are reflected from each individual polygon when raytracing takes place. This is a very long and slow process.**

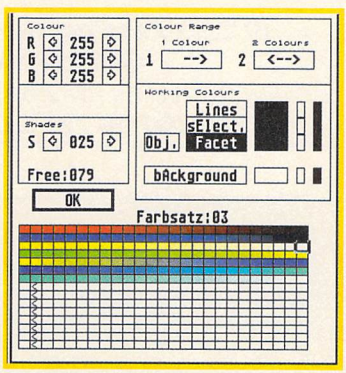
With an analytical sphere the object is made up of a base object, a centre point and a radius – this results in very fast raytracing because only a single base object is used for calculating the complete sphere instead of hundreds of polygons.



You can create analytical objects from the Analytic. Objects option of Objects menu, a dialog box pops up so you can choose the object type and determine the radius.

Selecting colours

When you run *Raystart* the default colours are set, 25 shades ranging between red and black and 25 shades between blue and black. If you render an image using the default settings you just end up with a red object on a black background, not the most realistic results. *Raystart* enables you to assign different colours to different objects from a special dialog box, although the colour dialog box can only be called if there are at least 16 colours available for selection, it's not available in ST medium or high resolutions.



This is the box where you create the colours that are assigned to different aspects of the raytraced image, colours are actually assigned to objects in the Material or Colour option of the Object menu.

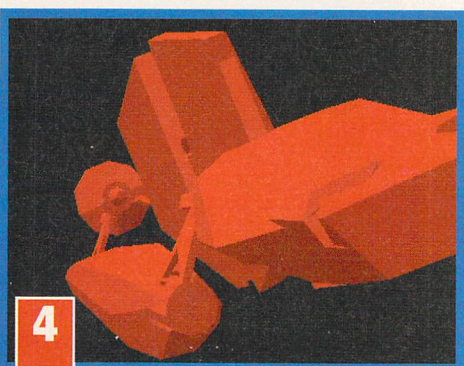
Select Colours from the Options menu and you are presented with a dialog box which determines all the colours used by the program when it creates a raytraced picture. At the bottom of the box you can create a series of 25 graduated shades between two different colours, you define the start and end colours and *Raystart* calculates the shades in between.

To set up a range of colours click on the first square in any row on the grid and then click on the Shades option, enter 25 and press <Return> and the row of squares turns black, square by square. Now use the three sliders in the Colour box at the top of the dialog box to set the colour of the last square in the row, then click on the first square in the row and use the sliders to set the start colour.

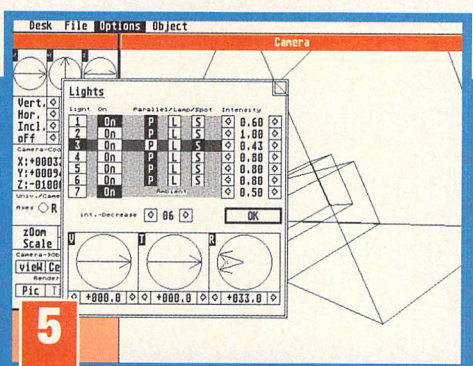
Finally, go to the colour range box and click on the two Colours box, *Raystart* now calculates a range of shades between the two you specified. If you create a palette you like, save it to disk using the Colours option of the save menu. So now you know your way around *Raystart* a bit better, why not send your best efforts into Pixel Painting? ***stf***

Special offer

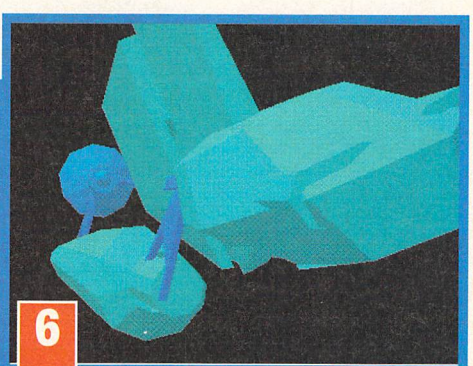
ST FORMAT and 16/32 Systems have got together to give you the chance to get the complete version of *Raystart* for just £65 – saving £24 on the full price. To get your copy of *Raystart* send your *Raystart* Cover Disk (and a cheque for £65) to: 16/32 Systems, 173 High Street, Strood, Kent, ME2 4TW by 31 December 1993.



4 **Now perform a test raytrace. At the bottom of the camera toolbox there's a button called Pic, click on this button and *Raystart* gets into action. The picture generated uses the default settings and colours and takes ten to 20 seconds to draw and gives you a rough guide to the positioning lights.**



5 **Experiment with the lights to achieve the best effects, there are seven available light sources for you to use, six of these can be used as parallel lights, lamps or spots, the seventh is used for ambient lighting only. Each light's intensity and direction can be altered to give different effects.**



6 **Experiment with the various parameters of the program, changing the lights, colours, textures and orientation of your models. There are three levels of raytracing available, hidden line, scanline and raytracing. You can assign attributes such as mirror to individual parts of the model.**

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Calamus Bureau

Bureau Price List - December 1993

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1 - 24	4.00	6.00	7.00	9.00	9.00	12.00	15.00	18.00
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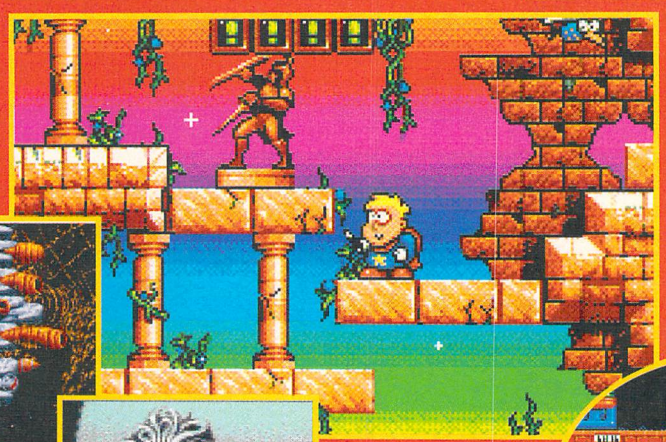
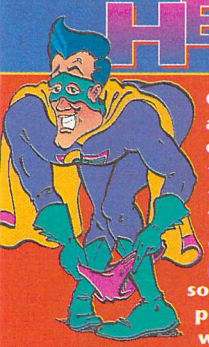
SCREENPLAY

Check out the following pages for the best reviews of all the latest full-price and budget ST games



MAGIC BOY
Empire branch out into the colourful platform genre with *Magic Boy*. What happens when you look further than issue 52's Cover Disk demo? Find out in our massive review starting on page 70.

HELP!



Go to pages 82 and 86, and you find four pages of the finest hints and tips for ST games, under the title of Gamebusters. There's the final part of our *Chaos Engine* solution, part two of the *Ishar 2* solution, and loads of snippety bits to help you along with your games. Captain Blunder, apparently the ST Gaming Wonder, has been incorporated into the Gamebusters section. He was getting a bit lonely out there on his own you see, poor love. Um, oh great, here come the charts...

XENON 2
It's huge, has colourful graphics, stonking sound, is set under water and is a Bitmap Brothers classic. See page 74.

SPEEDBALL 2
Another Bitmap Brothers game is released on budget. This has violence and, ooh, loads of other exciting things... Turn to page 74.

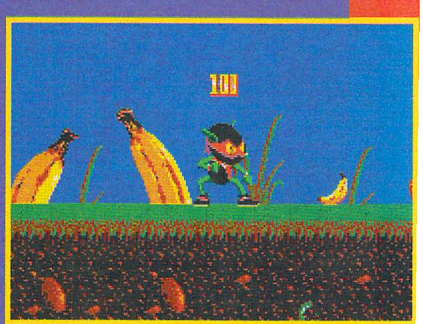
PARASOL STARS
Bub and Bob continue their *Rainbow Island* frolickings. Turn to page 76.

CHARTS

Your guide to the top-selling games throughout the UK...

This month	Last month	Game	Publisher	Price	*STF* Rating
1	(1)	Sensible Soccer 92/93	Renegade/Mindscape	£25.99	91%
2	(2)	Premier Manager	Gremlin Graphics	£25.99	85%
3	(4)	Championship Manager '93	Domark	£29.99	80%
4	(10)	Nigel Mansell's World Championship	Gremlin Graphics	£29.99	69%
5	(9)	Streetfighter 2	US Gold	£27.99	91%
6	(3)	Zool	Gremlin Graphics	£25.99	89%
7	(18)	The Addams Family	Hit Squad	£9.99	74%
8	(11)	Prince of Persia	Hit Squad	£7.99	90%
9	(-)	Striker	GBH	£9.99	N/A
10	(14)	First Division Manager	Codemasters	£7.99	64%
11	(17)	Treasure Island Dizzy	Codemasters	£4.99	82%
12	(8)	Lemmings 2	Psygnosis	£29.99	96%
13	(7)	Dogfight	MicroProse	£34.99	83%
14	(-)	Championship Manager '94 data disk	Domark	£9.99	80%
15	(-)	Jimmy White's Snooker	Virgin	£29.99	94%
16	(-)	Lotus 3	Gremlin Graphics	£25.99	75%
17	(13)	Pirates!	Kixx XL	£12.99	74%
18	(-)	Graham Taylor Soccer Challenge	Buzz	£9.99	79%
19	(9)	Formula One Grand Prix	MicroProse	£34.99	81%
20	(-)	Knights of the Sky	Kixx XL	£16.99	83%

Well, what a surprise. *Sensible Soccer's* our Christmas number one (round of applause), so don't expect to see that released on budget *quite* yet. *Street Fighter 2's* still enjoying huge success, and you should see it climb even higher next month because of its release on the Kixx XL label. No *Monkey Island* yet, though – perhaps soon?



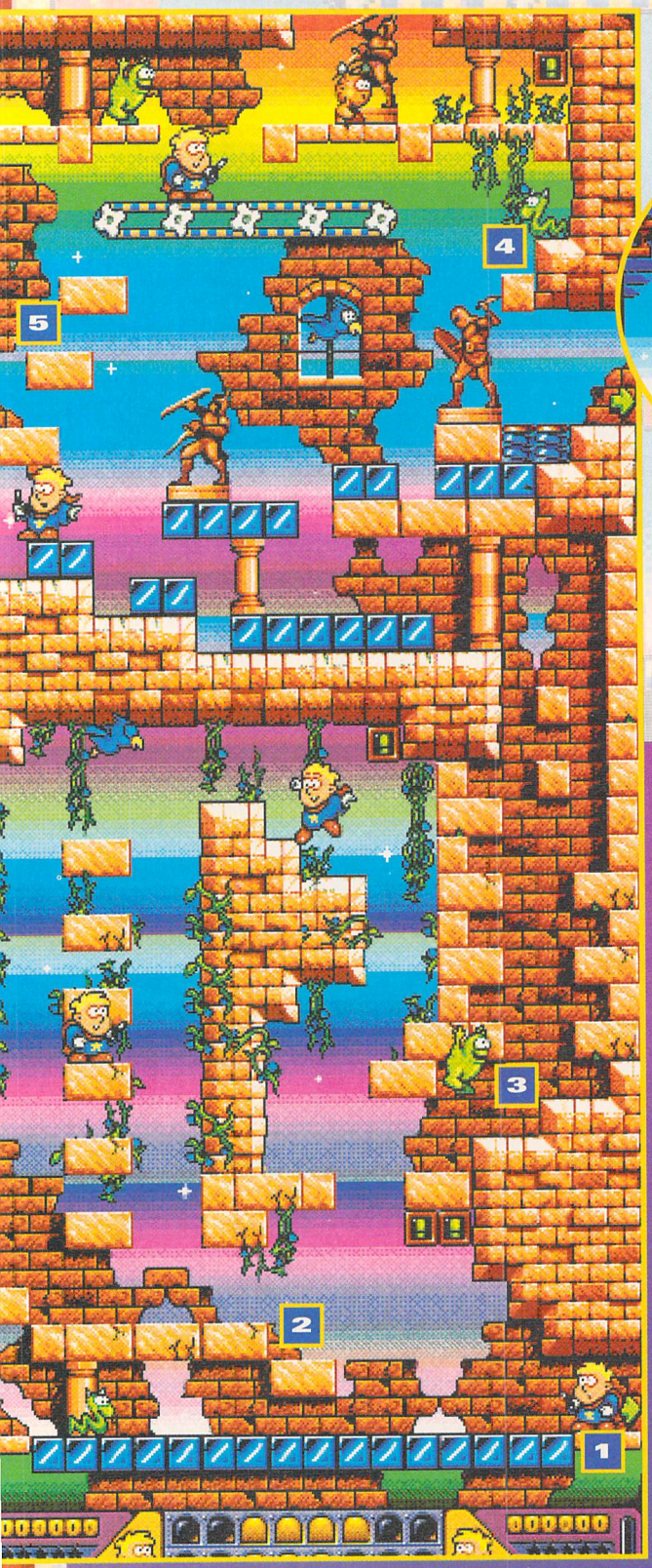
■ The fantabulous *Zool*, posing for our cameras, er, yesterday. He's still holding his own at number six - expect to see him back up soon.

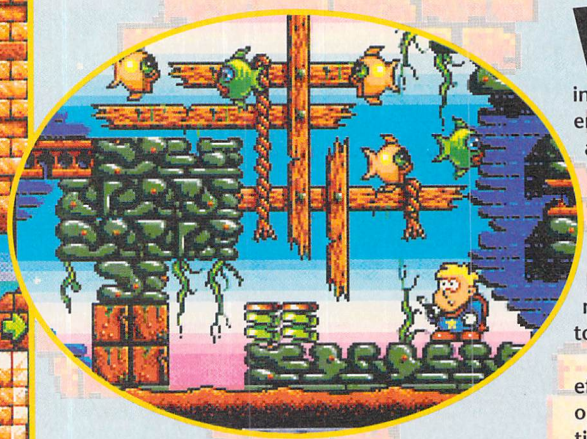
***STF* REVIEW POLICY** – It is *ST FORMAT* policy to only review completely finished games – that is, games you could actually buy in the shops, never incomplete or demo versions. We won't be rushed into reviewing unfinished games to beat our "competitors." We assume all games run on 520 STFMs unless otherwise stated.

Magic Boy and his little wand. A simple and addictive platform game. What more could you want? Well, apart from the obvious stuff: health, happiness and lots of chocolate fudge cake.

MAGIC

Platform games, we remember them, trying to work out how to walk down stairs without falling over was a particular favourite





Lots of fish in Wet World. What are they thinking behind that dispassionate gaze? Are their heads full of esoteric trains of thought on philosophy, theology and quantum mechanics? Or are they just really stupid things that swim about in water? We probably won't ever know.

SEA OF SAND

You start the game in Sand Land, it has a sort of deserty look to it, although the creatures don't look like they're from this world. This is Level Three, still fairly easy so if you get stuck you're a big girl's blouse. Sorry to cast aspersions about girls' blouses and masculinity there, it's all in jest of course. It's important to accept all aspects of your character, so what if you do like dressing up in girls' clothes? As long as you're happy. I have a particularly nice blue... Er, watch out for the ice blocks, you slide along out of control when you jump on them

1. Go to the left otherwise you can end up sliding along the ice blocks and straight into the snake chap. Not wise.
2. Grab the bonus upward firing magic to make taking out the parrot and green meanie above you easier.
3. Be sure to watch out for this bouncing chap, he really is a swine.
4. Shoot the snake from the conveyor belt before you use the springs otherwise you leap straight into him.
5. Up these blocks first, it's much easier, honest, it is.

What is it about platform games? They don't educate or stretch your intellectual capacity. However sickeningly cute the main character is and improbable the plot, there is something hideously addictive about a good one. Time seems to disappear into a mysterious vortex as you wrestle with the joystick fighting your way to the next level, leaping from platform to platform.

Magic Boy has that sort of effect, there is nothing too radical or original, but it grabs the attention and won't let go, until you get

> ***"There is nothing too radical or original, but it grabs the attention and won't let go"***

really frustrated with a difficult jump that has zapped you seven times in a row. It is at times like this, as you attempt the jump for the eighth time, that you wonder if you are quite normal.

The plot, ahem, you are Hewlett, an apprentice wizard. You stayed behind at sorcery school to finish some class work and accidentally tripped over the trap door to

The boy with

Below the screen is the customary bar of icons. The most useful is the indication of the number of creatures left to collect. When you get the hang of things you can start aiming for those bonuses

1. This shows the time left for any bonus item you've picked up.

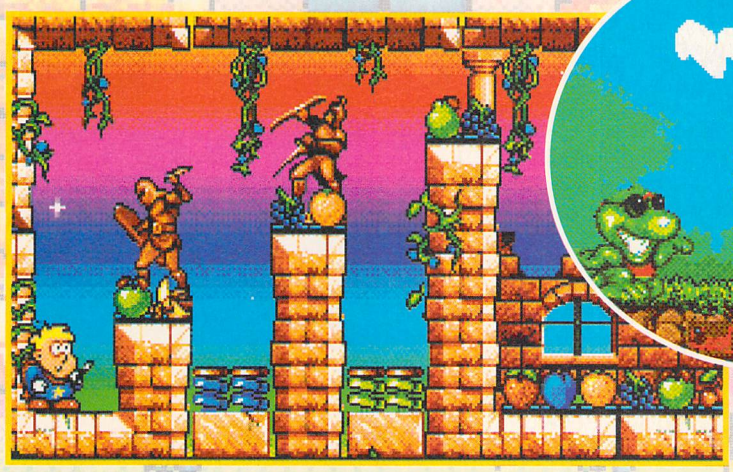
BOY

Green and cool

Nestling inside the *Magic Boy* box you find the game *Cool Croc Twins*. It's a simple platformy sort of thing where you control a little crocodile chap as he tries to headbutt little platforms. Your croc's best trick is walking on ceilings, press the fire button and he zooms upwards, or downwards and sticks to the first surface he touches. There are little nasties to avoid and 60 levels to battle through in one or two player mode.

The sprites are tiny and, at times, unresponsive to the fire button leading to impromptu swearing as your reptilian hero is sent spinning off the screen when you know you pressed the fire button in time. When you die you get thrown back to the first level which is another opportunity to try out your vocabulary of blaspheming.

When originally released *Cool Croc Twins* scored an uninspiring but respectable enough 61% in *ST FORMAT*. It's not brilliant, but it's a pleasant distraction between bouts of *Magic Boy*. Gift horse and mouth etc...



■ **Get out that magnifying glass and take a look at these crocs, cool or what? *Cool Croc Twins* is a welcome bonus and playable enough but not exactly scintillating.**

■ **Hidden throughout the game are these bonus screens, grab as many goodies as you can within the time limit and give yourself a pat on the back for being such a smartie pants for finding it.**

the basement where the Grand Wizards keep an assortment of wacky creatures. They all escape into the magical landscapes that surround the school. You have to sneak off home and think of a good alibi for the next day. No you don't, you have to travel through the magical lands capturing all the creatures before somebody finds out and gives you a hard time. There, it all starts to make sense now, doesn't it?

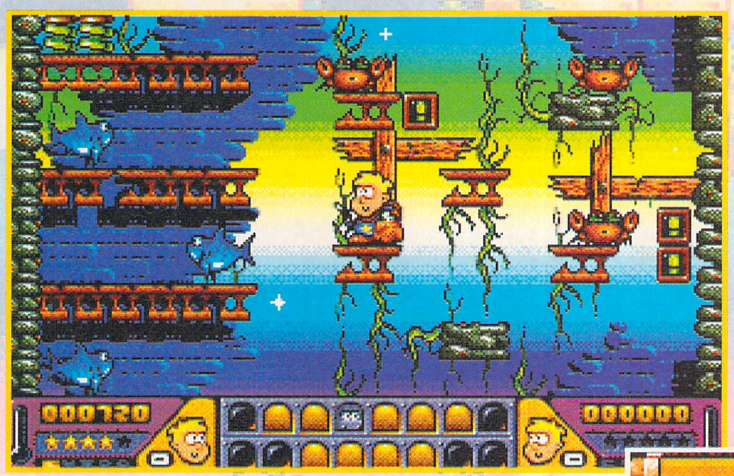
The game is set over four worlds: Sand Land, Wet World, Plastic Place and Future Zone. Each world is divided into eight levels. Initially, you can access the first four levels of Sand Land, you can complete them in any order before moving on to the next world. The game is joystick controlled, you can jump about and fire little magic bolts from your wand that stun the creatures. While stunned you can pick them up and zap them back to the basement. Collect all the monsters on a level to finish it. The levels scroll vertically, you usually start at the bottom and have to work out how to climb up the level as well as nabbing the creatures. You start out with three lives and three continues. Simple enough, so far.

> *"The first thing that strikes you is the graphics. They are really rather good. Dead sexy, in fact"*

Like any self respecting platform game there are bonuses. When you collect a creature a bonus flies off and lands nearby. Shooting the little boxes with an exclamation mark also releases a bonus. These bonuses range from simple point-earning fruit to meaty power-ups for your wand and invulnerability potions. You can earn extra continues and lives too. You can play for maximum points or just concentrate on getting to the next level.

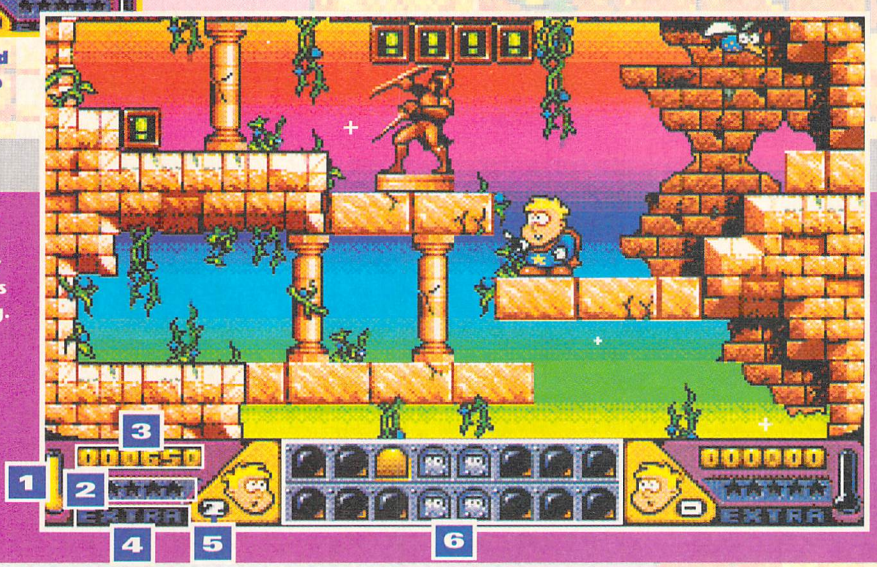
Pretty boy

The first thing that strikes you is the graphics. They are really rather good. Dead sexy, in fact, even if they are cute, they're not completely sickeningly cute. In the background is a clever raster effect that puts lots of bright colours on-



■ **Water holds no fear for you in Wet World, you don't even need a cossie. You don't appear to be able to swim about either. The graphics for each world are varied and most pleasing.**

the magic touch



2 Any star tokens you've picked up appear here, collect the set and you earn an extra continue and a set of glass tumblers.

3 Your score using a numbers style system to indicate general playing skill.

4 Collect the letters to spell out the word bonus and you get yourself another life. You lucky person.

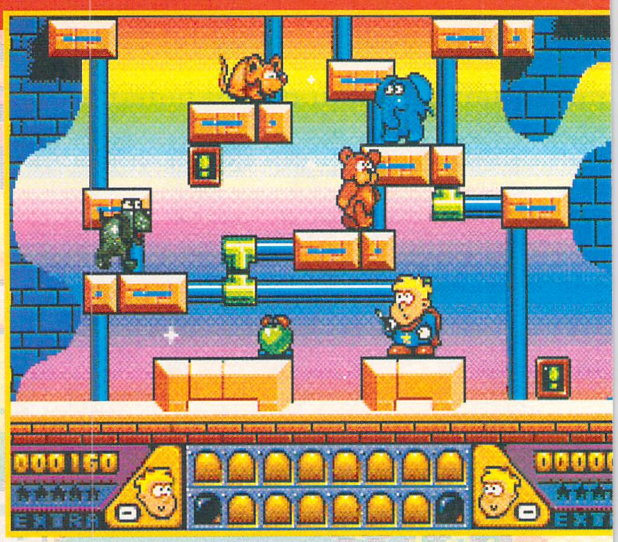
5 Number of lives left. Yes, of course you only really ever have one, but it's an arcade game thing.

6 The number of creatures you need to collect are represented by little empty rooms here, after you grab them, little pairs of eyes appear, cute.

screen, loads more than the usual ST limit of 16. The sprites are charming, loads of comical creatures and a wonderful little wizard figure. Each world has a different set of monsters and backgrounds.

There is some surprisingly smart music and sound effects to add to the atmosphere. The game looks exceedingly smooth and well screwed together. There are no time limits and the creatures don't home in on you, so the game lacks a sense of urgency. You are left to take your time working through a level. No complaints over the accuracy of the control over your apprentice chap.

Everything moves very smoothly. The levels start off fairly easy and work their way towards bloody difficult. There are some ghastly jumps to make and working out the route can sometimes take some experimenting. Touch an unstunned creature or fall onto a trap or some other nasty thing and your character flies off screen looking rather surprised. You then find yourself back at the start of the level, which can be frustrating when you've just battled your way to the top only to get caught out by the last creature.



Plastic Place, plenty of creatures, precarious jumps and plastic things. The levels are varied and imaginative and only occasionally terribly frustrating.

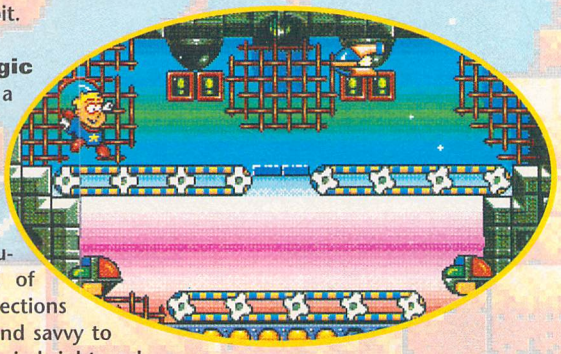
Among the goodies that you encounter are dissolving platforms, ice blocks, springs and conveyor belts. The dissolving platforms are the worst of them all – as soon as you land on them they start to disappear and you have to make a quick decision which way you are going to jump. If you fall back down again you can get completely stuck as there is no platform left to get you to the next bit.

It's a kind of magic

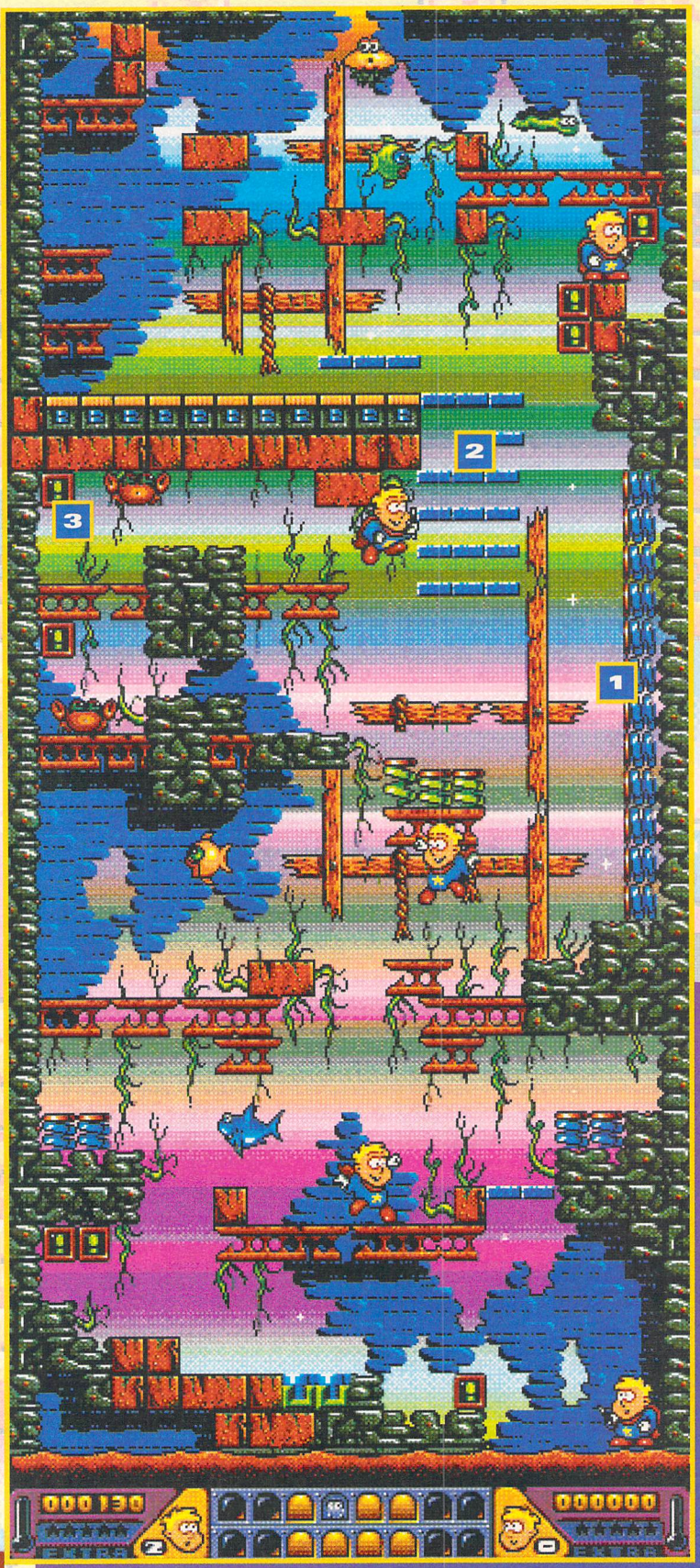
Despite being such a simple game format *Magic Boy* is seriously playable and hazardously addictive. The levels are graphically sumptuous and chock full of heinously designed sections that take dexterity and savvy to get past. The screen is bright and colourful without being too cluttered or confusing. Top marks for sound too, the music and effects are a notch above the usual beepy warblings that accompany games.

All said and done it's just a platform game, albeit a good one. But then there's something about a good platform game, isn't there?

CHRIS LLOYD



Future Zone, a world where robots rule and everything has a wipe clean surface. Watch out for the tanks, they shoot you dead. Well, what's the point of being a tank if you can't shoot things?



Wet wet wet

Anything could happen in the next half hour. Wet World is set underwater, that's why it's called Wet World. Things are starting to get a bit trickier now, the grey matter needs to be put in gear to suss how to get to the top and collect those creatures, that last jellyfish is a swine.

1 Jump onto these springs to be catapulted across the level and onto the other springs to fire you upward to the next bit.

2 Dissolving platforms, you need to be quick getting up these. They don't reappear either, so if you use them all up that's you stuffed.

3 This bonus releases a bomb which you can use to zap the last three creatures, it's pretty damned hard without it.

Magic Boy

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All STs

Highs

- Wonderful simple and addictive gameplay, a time eater if you're not careful.
- Particularly pretty graphics.
- *Cool Croc Twins* game as an extra bonus.

Lows

- Throws you back to the start of a level when you die.
- You can get yourself completely stuck.

STE RATING 84%

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Maximum resolution in dots per inch	300 x 300	300 x 300	300 x 300	300 x 300	400 x 400
Windows 3 Driver @ 400 dpi	-	-	-	-	YES
Print Speed	6ppm	6ppm	4ppm	8ppm	6ppm
Straight Paper Path	-	NO	(ONLY FACE UP)	YES	YES
PCL 5 Printer Command Language	-	YES	-	YES	YES
HP-GL/2 Vector Graphics included	YES	YES	-	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES	YES
Standard RAM	1Mb	1Mb	512K	1Mb	2Mb
Full A4/300 dpi graphics with standard RAM	-	-	-	-	YES
Warm Up Time	33 secs	25 secs	<60 secs	60 secs	45 secs
First Page of Text Output		15 secs	31 secs	18 secs	<15 secs
Document Description Language included	-	-	-	-	YES
Flash ROM	-	-	-	-	YES
Flash ROM Upgradeable Firmware	-	-	-	-	YES
PCMCIA Card Slot	-	-	-	-	YES
Scaleable Resident Fonts - in HP LJ III Emulation	0	8	0	8	8
Resident Bit-Mapped Fonts	10	14	2	14	14
AGFA Intellifont Scaleable Font Technology	-	YES	-	YES	YES
HP LaserJet III Emulation Included	-	YES	-	YES	YES
EPSON FX Emulation Included	-	YES	YES	YES	YES
IBM ProPrinter Emulation Included	-	YES	YES	YES	YES
Standard Tray Capacity	200	150	70	200	100
Protective cover on standard tray	YES	-	YES	YES	YES
Cost per copy**	1.9p	2.0p	2.1p	2.2p	1.65p
Min-Max Paper Weight in gsm	60-163	60-157	60-105	60-135	60-169
Able to print on OHP Film	YES	YES	YES	YES	YES
Able to print on 169gsm card (Manual Feed)	-	-	-	-	YES
Standby - Noise Level	38dB(A)	35dB(A)	<43dB(A)	<43dB(A)	<38dB
Printing - Noise Level	50dB(A)	46dB(A)	<53dB(A)	<53dB(A)	<48dB
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SPEEDBALL 2

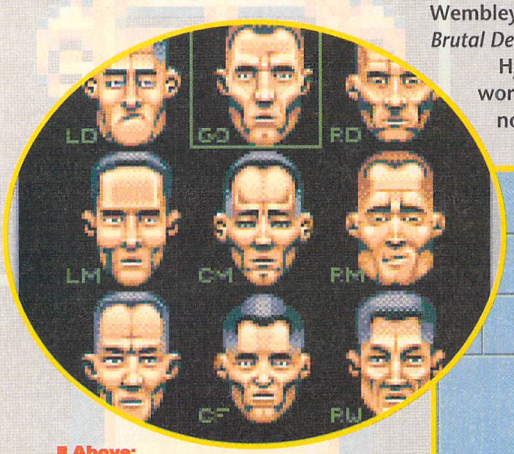
Imagine *Sensible Soccer* with bigger players, a metal ball, and lots of violence and aggression. Got it? That's this, *Speedball 2;* American football/rugby/soccer/Gaelic football, played on a surface that looks like your mum's lino but is in fact sheet steel (honest), played by teams that make Jason and the Gladiators (or whatever) seem like a bunch of nibble-pibblies (wimps, really.)

The Bitmaps were at it again, a year or so after the release of *Xenon 2* (see below); they produced a game which grabbed the ST world (then the Amiga world, then the console world) by the hairs and swung them around; a game which took famous sports personalities, put a helmet and armour on them, stuck them in Wembley Arena and called them *Brutal Deluxe.*

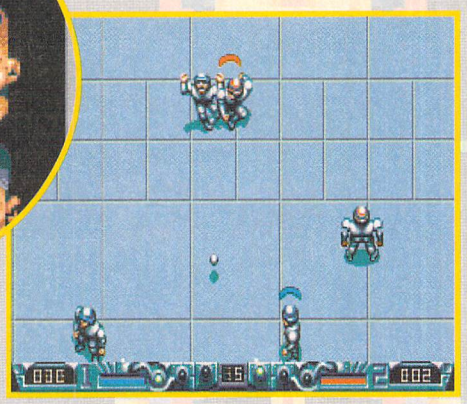
Hype, yeah, that's a pretty word, but believe us, this is not a pretty game. OK, the now-infamous Bitmap graphics are there, giving a polished feel, but underneath the bright chrome finish lies a game with underpants of steel, a game which can take on all comers, a game which no others have bothered to imitate because they couldn't come close.

Speedball 2 is as close to perfection as they come: a one-player game, loving every minute of being on your ST, exuding its radiation at you with the smug satisfaction of knowing it's bloody difficult to beat; a two-player game over which wars have been settled, battles have been won and lost, family arguments have been started ("Tommy, get down here for your tea this minute!"), and innumerable joysticks have been laid to rest. Possibly the ST's finest hour to date; at just under 30 quid a must, at just under a tenner a sheer, unprecedented sine qua non. Buy it.

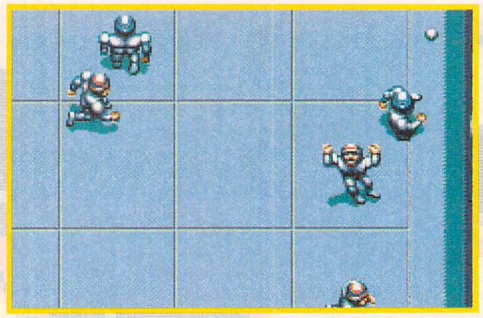
ANDY NUTTALL



Above: If you saw any of these men lurking around the Trowbridge Spar on Saturday night, please get in touch. We are waiting for your call.



"Cooeeee, Mr Referee. That bully just hit me in the ribs. That's not allowed, is it?" In his time of crisis, Billy's team-mates turn their backs in embarrassment.



Reds gain in strength as Robert shirks off a challenge by pinwheeling his arms and falling over. That's brave stuff from the young chap.

Speedball 2

£9.99 Kixx XL
☎ 021 625 3388

Highs

- **Well, there's the graphics for a start; then the sound, the presentation, the playability... how much space have we got left?**

Lows

- **Erm, the disks are a bit too square?**

XENON 2

Ah, the first of two Bitmap Brothers classics, re-packaged and re-released through Kixx XL for less than a tenner. What's that, never heard of the Bitmaps? Well, let's see... Development House Renegade, who the Bitmap Brothers are affiliated to, also happen to be the sister company of Rhythm King records, publishers of early '90s chart-toppers Bomb The Bass (Tim Simenon, yes. No? God, where have you been?)

Right, so we've got these cool dudes who hang around with popsters all day long, and who also happen to produce some damn good games, the recent smash *Chaos Engine* being their latest release (ah, getting familiar now, are they? Good.)

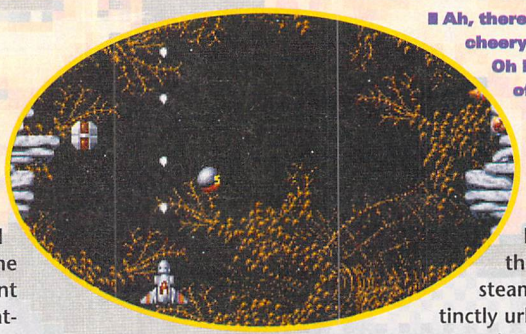
Now, one of their older games was *Xenon 2.* It's regarded as a classic, because it hoisted lots of good bits from out of arcade coin-ops, and stuffed them inside little ol' ST himself – including a stonkingly good rendition of Bomb The Bass's *Megablast,* probably the best music you can hear on the STFM.

You might have played the original *Xenon* in one of your many storming sessions with your ST. Let it be known that the *Xenons 1* and *2* are utterly different creations of the same team – *Xenon 1* being the inferior of the two.

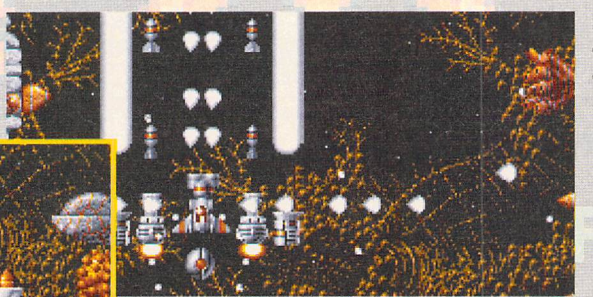
Also let it be known that if you have not the *Xenon 2* in your own house at the present, you are indeed an ignoramus and should proceed to the software shop with tenner in hand forthwith. We could wibble on and bore you for weeks about the excellent graphics, the steamy-hot sound, and the distinctly urbane gameplay; but we're not going to. It's a vertical scrolling shoot-'em-up, and that's all you need to know.

Oh and that *Xenon 2,* and *Speedball 2* (see above), make up an entire entertainments package that, together, costs less than one entire full-price game. It's Christmas, isn't it?

ANDY NUTTALL



Ah, there's nothing better than a cheery day out by the seaside. Oh look at him, let's see him off with a bit of gunfire.



Right: I've had enough of this. Let's see their little faces when they argue with this mother. Super Nashwan Power's the name, Armageddon's the game.

Left: Er, perhaps that wasn't a good idea - it seems all his friends have come out in his defence. Well, let's crank this beast up a little, eh?

Xenon 2

£9.99 Kixx XL
☎ 021 625 3388

Highs

- **An all-time classic shoot-'em-up.**
- **Brilliant in every respect.**

Lows

- **Hasn't got crap anything.**

WIN! WIN! WIN! WIN! WIN! WIN!

GOODIES FOR GRABS

Kingmaker's not just about plague and pestilence, it's also about music, t-shirts and er, board-games

■ The *Kingmaker* board-game, invented in the '70s, has sold millions of copies worldwide. And you could win one!

You read the review of *Kingmaker* last issue and slavered over the thought of getting the game. Well, sorry, but you're going to have to get someone to buy it for you for Christmas, we haven't got any to give away. But we do have eight sets of other stunning *Kingmaker*-related goodies for you. First off there's a fantastic t-shirt modelled on these very pages by our smiling Art Editor Helen. Any fan mail you'd like to send her shall be gratefully received.

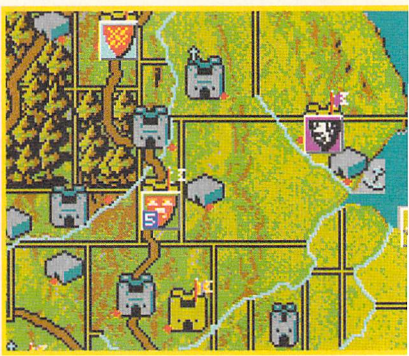
Anyway, the t-shirt's a tasteful shade of grey – on the front it says "To hell" and on the back it says "with hum drum." It's absolutely ideal for any occasion you'd normally wear a t-shirt in the middle of winter – to bed, under a jumper or even on its own in an over-heated house. The choice is yours. Then we've got eight copies of the band Kingmaker's new CD, *To Hell With Humdrum* and then there are the board-games. A game of *Kingmaker* is as good a way as any to set yourself up for the new year and is guaranteed to give you and your family and friends hours of endless fun.

Just answer the following questions and send your entry into Kingmaker Are My Favourite Band, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW by Friday 14 January 1994.

1 **What is the name of the software house responsible for *Kingmaker*?**

2 **In what time period is *Kingmaker* set?**

3 **What is the ST version of *Kingmaker* based upon?**



■ If you fall in love with the game you might just have to go out and buy it, because we're tight like that. Ha, fooled you - because we've got several hundred pounds worth of *KM* gear to give away!

■ Fame, fortune and loads of glamour can be yours if, er, you're the Art Ed of *ST FORMAT*. Hmm, that didn't really work. Try again. This t-shirt can be yours if you enter our amazing competition (Helen promises to wash it first).

COMPO CATCHING-UP TIME

Over the last couple of months we've run a few compos, three to be precise. Now's your chance to discover whether you've won a day out with Codemasters, a flying jacket or a copy of One Step Beyond

I'm so Dizzy

To win a day out with Codemasters finding out what life's really like as a games tester we asked the following questions and wanted the appropriate replies. These are they: 1. Name three of Codemasters' games. We would have accepted any of their games including any Dizzy games, *Bignose the Caveman, Firehawk, Captain Dynamo, Kwik Snax, Super All Stars...* 2. How many games testers do Codemasters employ? *Two.* 3. Who are they? *Steve Wyatt and Dave Ward.* 4. Who is Paul Anson? *Codemasters' Software Development Manager.* 5. Where are Codemasters based? *In a farmhouse in Warwickshire.*

And the lucky winner is Ben Kendall of Sheffield – well done, Ben, we shall be in touch with you soon to sort out a convenient date.

Er, I'd like a flying jacket please

For the chance of a flying jacket worth £150 and one of ten copies of *Dogfight* from MicroProse we wanted to know 1. What is your rallying cry when a German Aircraft flies towards you? *Eat lead, Fokker.* 2. Who's the raving lunatic in a Flying Circus? *Baron Manfred Von Richthofen* and 3. The British spelling of manoeuvre is rather like that, actually. The lucky winner of the flying jacket is Nick Edmunds of Bristol, and all the rest of these get a copy of the game: José Luis Martin of Zaragoza in Spain; Mark Gorton of Shropshire; David Allen of Lurgan in County Armagh; Daniel Waite of Penmachno in Gwynedd; Chris Hurley of Hornchurch; Michael Sim of Peebleshire in Scotland; Seth Grimbly of London N4; Daniel O'Keefe of Huddersfield and Graham Dear of Dorset.

Go One Step Beyond!

For one of ten copies of *Pushover* or one of *One Step Beyond* we asked 1. What sort of snack does Colin Curly like? *Quavers.* 2. What sort of animal is Colin? *A dog.* 3. What sort of games are *One Step Beyond* and *Pushover*? *Puzzle.*

The winner of the copy of *One Step Beyond* is Liz Mutch (yes, a girl) of Edinburgh and copies of *Pushover* go to: Paul Burrows of Wisbech; John Man of Essex; Peter Augier of East Grinstead; David Hazelden of Winchester; Paul Brattesand; Mark Hickford of Lancs; Paul Skyrme of Pembrokeshire; Allan Smith if Glasgow; Roger Hannaford of Shropshire and Tania Wilson of Leeds. (Blimey, another girl!)

PARASOL STARS

Ah, *Parasol Stars, Parasol Stars, Parasol Stars.* (*Yeeeesss?* – Ed.) Yep, that would appear to be the name of the game. And what an awful game it is too. No gameplay, useless graphics, nothing going on.

No no no, just our little joke. It's actually a ripsnorting belting behemoth of a game, a mighty raging torrent of good times with a tang of mint freshness. *PS* is the sequel to the ancient *Rainbow Islands* and once again stars Bub and Bob, a couple of abnormal-looking blokes with parasols – or, as we call them, umbrellas. What happens is this. B and B ponce around the platforms on each level bashing away at the enemies, be they rabid pianos, annoyed triangles or upset woodland creatures, with their umbrellas. Said enemies then turn into fruit, which can be collected for bonuses. The B brothers also catch droplets of water/fire/phlegm on their brollies and flick them at baddies, to much the same effect. Catching lots of drops builds them into one superdrop which washes down the screen causing havoc. This happens across seven worlds, with many of the levels being two or three screens high.

That big girl's blouse at the bottom left, hiding behind his "parasol," is Bub. Or maybe Bob. And that thing in the middle is a piano. Do you really need us to tell you this?

Now this is Bob in this one. (Or Bub.) And there's a bit of water in the middle which he's just sploshed. And, um, some triangles below it. Please can I stop this now?

Verdict

That's all. Sounds crap, plays great. The graphics are intentionally bright, simple and cartoony with a look of the consoles about them, and the sounds burble insanely away to themselves in the background quite inoffensively, leaving you to get on with the maddeningly addictive game.

If you've never played *Parasol Stars* before (a) why not? and (b) you really ought to. For a very reasonable slice of dosh a game can be yours that brings untold hours (well, three or four) of supreme enjoyment into this sad little game of ours we call Life. (Ahem.)

ED RICKETTS

Parasol Stars

Hit Squad
☎ 061 832 6633
£9.99

Highs
- Easy to play, addictive and as daft as three big brushes combined to make one huge brush.

Lows
- Gets slightly repetitive after a while, but then so does everything.

F-29 RETALIATOR

Great! I've found the base which... I... just... took off from. Oh, bugger.

The F-29: sleek, sturdy, fast, everything a modern car should be. Oops, sorry, plane. Everything a plain car should be. Oh dear, excuse us, we had better start again.

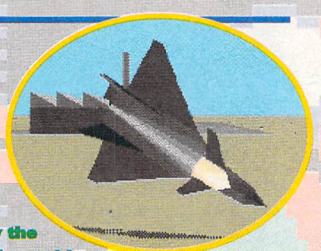
Right. The F-29: sleek etc etc. And that's the one you get to fly in this two and a half year old flight sim by Digital Image Design, the bods behind *Robocop 3* and *Epic*. Obviously back then Digital Image Design were still somewhat moist behind the ears, which is why *F-29* is a little rough around the edges.

It's yer basic flying/fighting game – you know, hop in the plane, get a bit of briefing, fly off seeing nothing for hours, whack a few missiles into the side of a hangar and crash into a field just outside Todmorden. While there are plenty of interesting armaments on board to play with, it's the "seeing nothing" bit that is worrying; most of the landscape is dead flat without even the odd cow to excite interest, and when you do get to the target area the buildings, ships and planes are blocky and not overly impressive. Still, the plane itself is suspiciously easy to fly – this isn't one for the techies who love to set their radar beacons, it's more about air combat, and plenty of it – 100 missions in the Middle East, the Pacific and Central Europe.

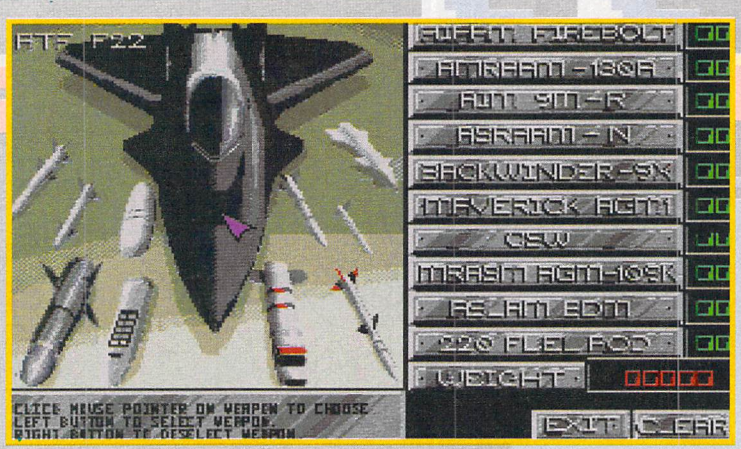
Verdict

There's no way *F-29* stands up to such modern classics as *Thunderhawk* but for this price it's worth a bash, especially if you like the idea of air combat but not the fiddly technicalities of flying a plane. If you fantasise about being an air traffic controller at Heathrow during a blizzard, however, you might want to give this a miss.

ED RICKETTS



Only the foolish would interpret this as a pic of my plane hitting the ground. Far from it.



"Right. Give me a couple of those stripey ones, three thin ones, and those ones that go whooshity-whoosh-whee as they explode, killing lots of folk."

F-29 Retaliator

Hit Squad
☎ 061 832 6633
£12.99

Highs
- Fast and fairly smooth with tons of missions.

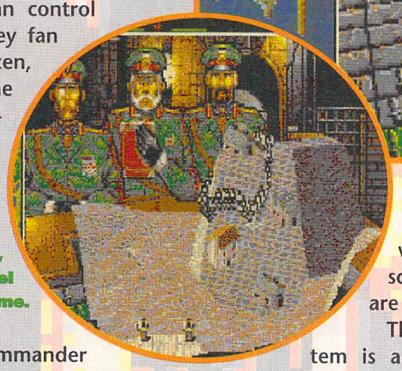
Lows
- Singularly minimalist graphics most of the time, and a bit shallow.

POWERMONGER

WITH WW1 DATA DISK

Now then. *Populous* was a bit of all right, but was laid open to the ridicule that there simply wasn't enough genocide in it. Obviously, genocide ranks among graphics and gameplay as vital ingredients in some people's minds, but Bullfrog, it seems, listened to them.

So, at a much more reasonable price, you can control your armies as they fan out across the frozen, sun-baked or the slightly-overcast-with-a-chance-of-clearing-up-later worlds. You start off with one commander (youself, in fact), and by judicious destruction of entire cultures, you can get yourself loads of admiring followers. The aim is to have a two-thirds percentage control over whichever scenario you are playing.



■ The Generals, Tom, Dick and, er, Julie admire a model of their summer home.

■ The villagers went about their daily business, little suspecting the slaughter about to happen. Fools. Ha!

The control system is an annoyance, especially as there is a lot of clicking on small, barely visible things in order to annihilate them. Sometimes even Christiaan Barnard would have trouble. But if you steady your hands enough to get used to the controls, you see the subtlety and addictivenes of the whole thing. The worlds do behave like, er, little worlds, and you realise that your great skills as a general and prime minister can make a great difference to the quality of life there. You can kill all your enemies for a start.

Verdict

The *WW1 Data Disk* is exactly the same as *Pushover* but with WW1 graphics. It's actually a more fun game rooted, as it appears, in history. But both provide ample amounts of that keep-on-playing atmosphere. Why are games like these most fun late at night?

JAMES LEACH

Powermonger with WW1 data disk

£14.99
Kixx XL
☎ 021 625 3388

Highs
- Control entire worlds!
- Be strategic and tactical simultaneously!

Lows
- Piddly little icon controls demand pointless mouse accuracy.

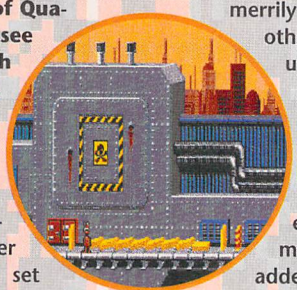
ST FORMAT RATING 89%

PUSHOVER

■ Here's Colin. Who, er, delegates his responsibilities. To an ant, for God's sake.

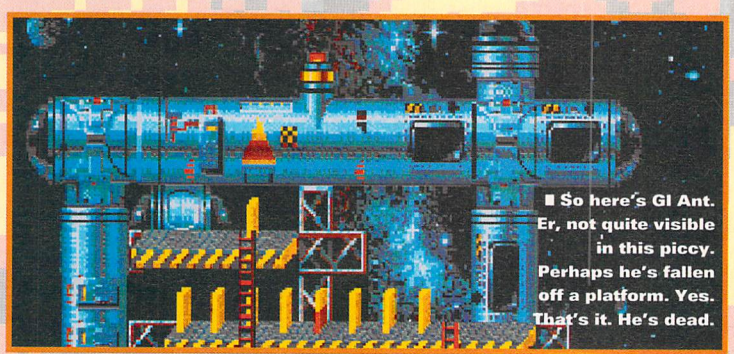
What's the problem here? Well, if we can ignore the exceedingly tenous link between *Pushover* and Colin Curly out of Quavers Crisps, we can see that we're faced with something of an ant.

Now this ant has got a problem. He lives in a world where the domino effect is king. Everywhere he goes, in order to progress, he must set up rows and stacks of domino-type things to knock over, triggering the key to his release. However, this isn't as simple as it sounds, because on many of the levels there are special dominos which do other functions. For example, some just merrily roll along and yet others, get this, fall upwards! Amazing.



There are about 50 levels of this centre-of-gravity-related nightmare, and as you'd expect, more and more elements are added the further into the game you get. And presiding over the whole shebang is Old Father time. Well, Old Father Annoying-Digital-Readout-at-the-Bottom.

Pushover is a diverting little number. It's not quite sophisticated enough to be a classic game, but it's certainly more than a match for any oversmart domino pusher from Ilford, or indeed anywhere else.



■ So here's Gl Ant. Er, not quite visible in this piccy. Perhaps he's fallen off a platform. Yes. That's it. He's dead.

Verdict

Aside from the answered questions regarding the whereabouts of Mr Curly on the night in question, and the subsequent query over why he saw fit to leave an ant in charge of his game, there are a few rankles with *Pushover*.

First, the control method is over-hard. Walking around, climbing on the ladders and general manoeuverings are fine, but when you come to try and pick up one of the blessed domino things, it all gets too tricky and finicky. Indeed, it's almost impossible to pick up a tile when you're getting panicky about the clock. Both the joystick and keyboard suffer from this irritating problem.

The other moan? Oh it's nothing really. Just a little gripe about the sameiness of the game. There really is little difference as you play. But honestly, don't worry your head over it; it's nothing. That movement and picking up thing is annoying, though.

JAMES LEACH

Pushover

£9.99
Kixx XL
☎ 021 625 3388

Highs
- Nice animations, and there's no puzzle spoiling jerkiness.
- 50 levels should just about see you right.

Lows
- It's tough to pick up the tiles. It sounds wimpy, but it is.
- Don't worry too much about the sameiness. Most puzzle games suffer from it. Go to sleep.

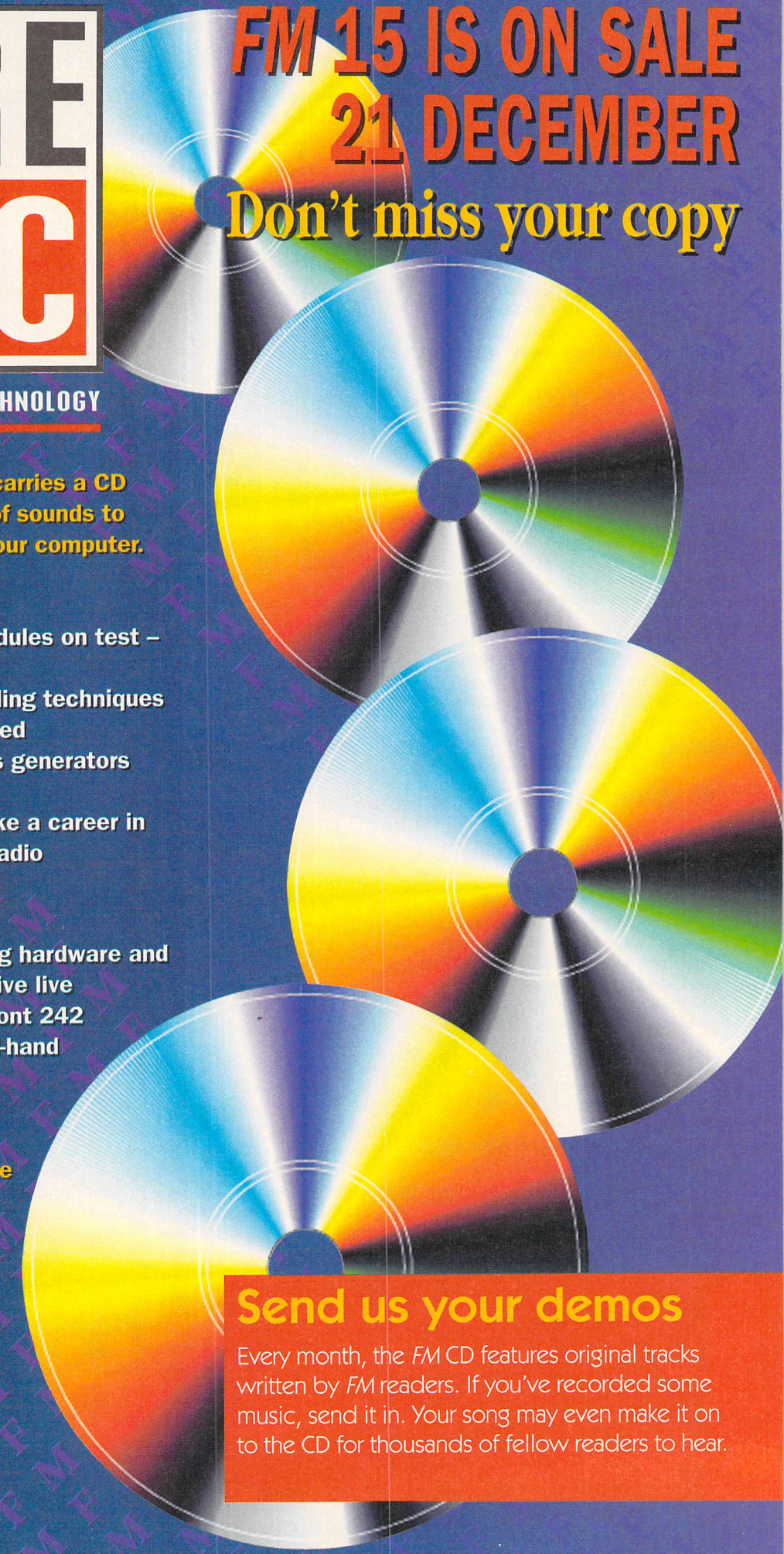
ST FORMAT RATING 72%

FUTURE MUSIC

MAKING MUSIC WITH MODERN TECHNOLOGY

FM 15 IS ON SALE 21 DECEMBER

Don't miss your copy



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MAG*SAVE

TOPOLOGIKA'S ADVENTURE

Black writing on white backgrounds – can adventure games like this absorb you more than bright colours and sampled sounds?

Eat, drink and be merry, then walk the wrong way down the road and die an unfortunate death. Such is the end of life in Shakespearean *Avon*.

Text adventures, you either love 'em or hate 'em. They're more cerebral than shoot-'em-ups and beat-'em-ups but the graphics and sound are non-existent. Accept that and pretend that you couldn't care less about aesthetics and just relish the challenge of getting your brain stuck into some serious puzzle solving.

All these adventures have the same basic mechanism and elements – it's only the plot of the story and the difficulty of the puzzles that really change at all. If you've never played a text adventure before you need to know that there are no pictures, the text's in two simple colours and they're rather like interactive books.

Your ST alters specific elements – this means that there are randomly selected questions and observations which vary each time you play the game – although they don't actually alter the gameplay enough to make you want to play again. *Topologika's Adventures* also have a very handy Help option which gives you clues when you have to admit that you're stuck – just type in the requested hint number that you find in the playing guide and the game gives you a series of hints. How many hints you get depends how complex the puzzle is; you're usually given a warning before you reach the very final solution so you can keep puzzling if you want to.

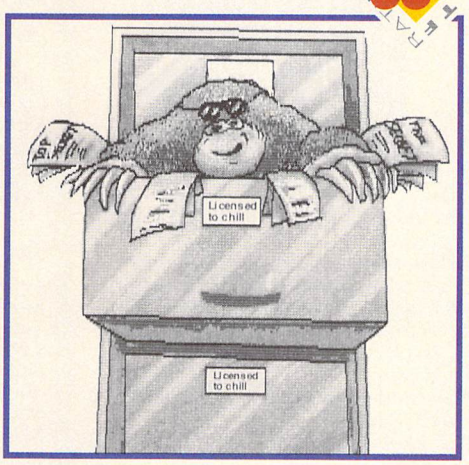
Be warned, though, if you've only got a short attention span and want your games to be full of activity to entertain you, these games are not for you – you have to do a lot of the work and the puzzles are not usually easy or obvious by any stretch of the imagination. So, choose the one that you think most suits your temperament and your interests and get adventuring. **stf**

You can get all these games from Topologika Software ☎ 0733 244682 - add £1 to each price to cover postage and packing costs.

SPY SNATCHER

PRICE: £15

If you've always fancied yourself as a short moustachieod Belgian or Miss Marple, this is for you – you have to work out who the spy is at MI7 and then catch this person. There are plenty of clues about – and you must suspect everyone you meet and note carefully every trace of their existence. Of all the games here, this is the one in which you feel you can have the greatest involvement – perhaps this is because you're dealing with people who make mistakes and leave trails rather than the less obvious inanimate clues – and perhaps because the scenarios are closer to those you've seen on TV.



Written following the publication of Peter Wright's *Spy Catcher*, *Spy Snatcher* sends you on a mysterious whodunit.

GIANT KILLER

PRICE: £15

This one's an extension of maths puzzles – there's a story loosely woven around a series of a selection of logic problems, and the disk comes with a handy booklet in which you can do your scribblings and try and solve the problems of how to make enough money to buy a pig on the various market stalls. Aimed at ten year olds and over, *Giant Killer* enables you to progress further than some of the word puzzles, because there is a definite and blindingly obvious question to answer that enables you to progress, compared to the others' more obscure puzzles where you have to discover first whether some comment is a puzzle or not and then what you even have to think of to enable you to begin to solve it. A good introduction to text adventures.

PHILOSOPHER'S QUEST, COUNT-DOWN TO DOOM, RETURN TO DOOM

PRICE: £30

Three huge games, the main one being *Philosopher's Quest* in which you're landed in a cave and have to go and find some treasure following your random – and mistaken – waving of a magic wand.

The *Doom* games centre around the planet Doomawangra which has its own defence system and a volatile atmosphere so your equipment corrodes easily – the first is *Countdown to Doom* which has you trying to collect objects against the limit of 400 time units.

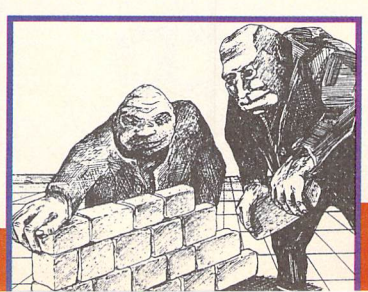
Concentrate and keep your mind off the knitting needles in her hair.

Return to Doom follows this rather challenging feat but provides you with a newly refurbished spaceship. A tough combination to keep you thinking for months – you need plenty of tenacity to stick with it.

AVON AND MONSTERS OF MURDAC

PRICE: £20

Avon's billed as a "Shakespearean tragedy of our time" with slightly poetic language and characters from Shakespeare's plays. You've woken up around the end of the 16th Century in Stratford and want to get back where you came from. Look out for clues and read into everything that's slightly out of the ordinary. There are plenty of bad jokes like "the baker seems to be out, probably loafing around somewhere." You don't need to know anything about any of the plays to get lots from this game, although there are references and characters from them.



Along with *Avon* comes *Monsters of Murdac*, a complex jaunt in which you need to plot your movements very carefully if you're to remember where you've been.

The *Monsters of Murdac* were obviously into conservation and the renovation of dry stone walls.

GASTEINER

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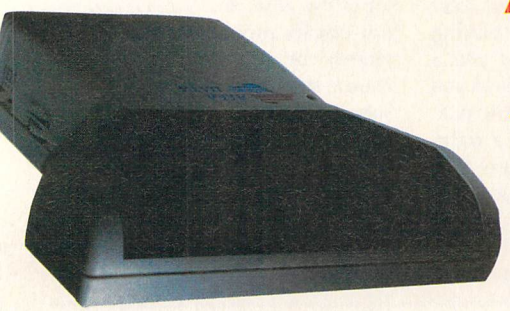

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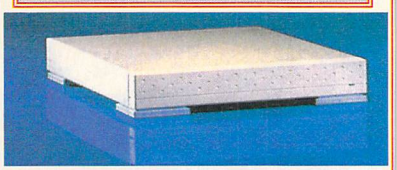

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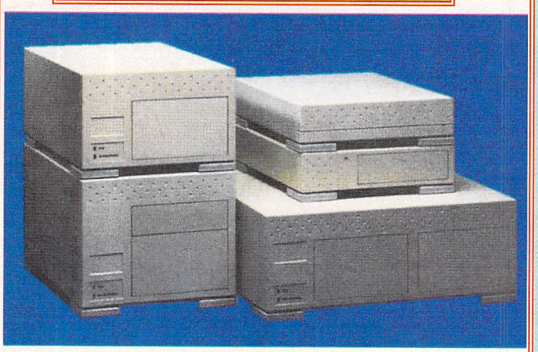

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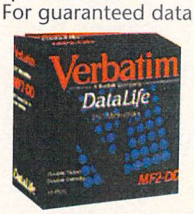

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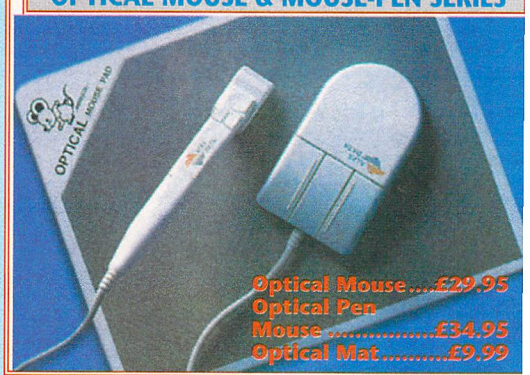

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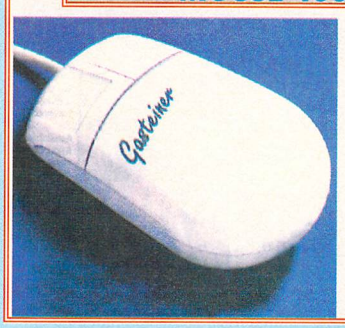

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GAMEBUSTERS

You've finished that last mince pie, the gin bottle's empty, and you're stuck on that last level of Alien Wings from the planet Turkey. What now? Relieve your stress with Gamebusters...

TOKI

HIT SQUAD

During the intro, press <Esc> before the guy turns into an ape, then type "poortoki." On Level One, type "killer" to get infinite credits. Pressing the function keys during play takes you to the relevant level.

▮ Pity "poortoki," for he has been turned into an ape. Actually, he didn't look much different beforehand - although he was a bit taller.

HERO QUEST

GBH

This long-winded cheat from **Edward Little** of **Lincoln** takes ages to complete, but it's definitely worth it because it gives you loads of gold pieces...

To obtain 5,000 gps in this game, select the Castle of Mystery and find the mine entrance. You should find 5,000 gps there which, when you exit the quest, you are told it is fool's gold and worthless. But, when you find the gold, get killed. Then, when you return to the menu you still have 5,000 gps, so buy everything while you're still dead. Save your hero to disk, then renew your character and select

The Chaos Engine RENEGADE

Hooray hooray for the final part of our epic Chaos Engine solution is here, direct to you from the Bitmap Brothers themselves

World Four,
Level One - Sewers

A room in this level contains Revolving Domes. If you shoot them you just push them about, so just avoid them. Collecting Gold Keys 1 and Gold Keys 2 reduces the number of Domes.

At point 1 shoot the lever, then collect Gold Keys 3. The room at point 2 contains a manhole which teleports you to point 3. Shoot the cracked pipe at point 4, which drowns the monster generator to the south.

If you choose to go north – at point 1 – activate both nodes at the top of the map, then go down to point 5. The Domes are invincible, but they move too quickly to dodge. You can push them down the corridor by firing at them and – if you can get to point 5 – you can collect a shield token.

The pulsating field at point 6 can be knocked out by shooting the node at the north-east of the room. Shoot the wheel at point 7 so that it turns twice, cutting the water supply and then draining the pit at point 8.

World Four,
Level Two - Pump Room

The start point to this level – A or B – depends on which exit you took from Level One.

Start B: collect Silver Keys 1. There's an extra life at the eastern end of the corridor. This route joins the main one at point 8.

Start A: shoot the first node outside the start room. Collect Gold Keys 1, then take the shaft at point 1 to teleport you into the secret area to the north. Leave by walking into the pipe at point 2.

Shoot the lever at point 3, closing the western pipe and drain-

CAPTAIN BLUNDER

Sing to the tune of Good King Wenceslas: "Now you've bought all your Christmas treats, And put up all your lights, It's time to rest your weary feet, And dance with the man in tights; For he is Captain Blunder the bringer of good cheer, And good tidings of comfort and joy...

Persian skippers

Please could you tell me a cheat for skipping levels in *Prince of Persia?*

V Devarsen, London

CB: *Certainly. Simply hold down <Shift> and hit <I> to skip to the next level. Next?*

▮ Tired of hanging around in *Prince of Persia?* Follow our tip for easy tripping between levels.

Supremely elusive

I hope you can help me. I've been trying to get hold of the games *Space 1889, Supremacy* and *Mega lo*

USTERS

him for a quest so he becomes "in play." Now load in your hero and he is alive.

To regain all of his energy, select a team consisting of the hero and a wizard. Select a quest where the exit is in the starting room, and use the wizard's magic to heal the hero. Leave the quest and save your character.

Put the hero back into the Castle of Mystery quest, and exit straight away. This enables you to attack and defend again (while carrying your gold you are unable to attack or defend) and boost your gold pieces.

Bought *Chase HQ 2*? Try this cheat for size. It might not make the game any better, but at least you reach the end quicker.

CHASE HQ 2

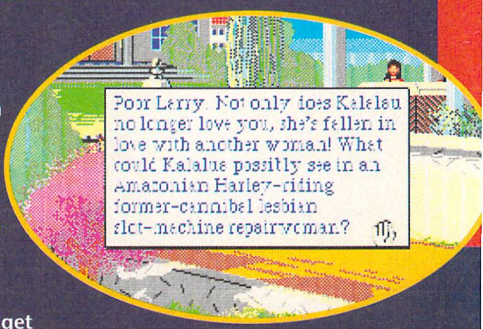
HIT SQUAD

Type "INAGARDENIN", then press "t" to reset time. Press "n" to go to the next level.

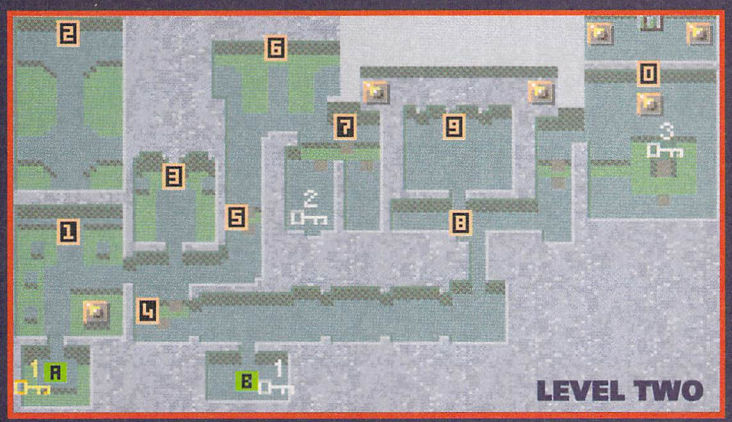
LEISURE SUIT LARRY

KIXX XL

Another Kixx XL budget release, *Leisure Suit Larry* has some very odd cheats indeed. To jump to different parts of the game, simply select the load game option but don't put a saved game disk in the drive. Instead, put in either disk 1, 2 or 3, and you shoot to another position. Pressing <Alt> and "D" gets you into Special



Kalalua, or Kalalau? Either way, she seems to be bad news, and best avoided at all costs. (Oh, and before you write in this pic is from Larry 3, not Larry 1)



ing the pit at point 4. The lever flips up shortly. If you shoot it again, the eastern pipe closes draining the pit at point 5. Cross the pit at point 4, which leads into the short cut area next to Start B. The pit at point 5 gives access to the main route onwards.

At point 7, destroy all of the pipe outlets to drain the water out the pit at point 6. Start by shooting the one on the left, then the middle one and finally the right one. In the pit below point 7 you have a choice of routes. If you take the western ramp you enter a large room which contains some treasure. Collect Silver Keys 2 to rejoin the main route.

At point 9, shoot the middle switch to flip it down. Now shoot the left, and then the right. Activate the two nodes on the ledge above the switches. The node at point (1)0 is only present if you began at Start B. Collect Silver Keys 3 to open the door at point (1)0 and to get to the exit.

World Four, Level Three - The Hall of Machines

Enter each room and solve the puzzle there to open the next barriers. Room 1 contains a circle of small pits. Collect the Gold Keys in the centre of the circle. Shoot any of the rocks which appear until you destroy one. Note the number "1" on the north wall. This a clue for later. Shoot this digit so it changes into a 4, which is a clue to a puzzle in Room 3.

Room 2 contains a spinning wheel. To solve this puzzle simply shoot the wheel to stop it spinning. If you manage to stop it when the contacts are touching, the wall to the east cracks, revealing a shortcut to Room 4.

Room 3 contains tough Half-tracks. Destroy them all and the generators. Note the set of numbers on the north wall. Shoot 1 to open the barrier. If you got the extra clue in room 1, shoot 4 to open a short cut into room 5. Room

Mania. Do you know if these games are still available?

Matthew Brown, Stanmore

CB: *I've had some luck with tracking down these games. First of all, Space 1889 is available from Wizard Games (☎ 0723 376586) and costs £9.99. You can get Mega lo Mania with First Samurai in a pack for £22.95 from DataGEM (☎ 071 608 0624). What a bargain, eh?*

Supremacy has proved a little more difficult to find, though. Anybody out there know where Matthew can get it from?

Lotus position

Help Captain! Do you have any cheats or tips for *Lotus Turbo Challenge*? I'm finding it difficult to get to the harder countries.

Nimesh Patel, Wembley

The Lotus Esprit Turbo can't quite take off, but it can certainly hold its own against a pack of marauding aliens...

CB: *Enter player one's name as "angle dark" and player two's as "harvest home," and you qualify easily. If you're more adventurous, type in player one's name as "monster" and player two's as "seventeen" to lead you to a secret game.*

Dual control

My friend and I recently bought a null-modem cable, and we're looking for games that are compatible with it. Can you recommend any software except *Populous*, *Flight of the Intruder* and *Falcon*?

Ben Bowen, Treorchy

CB: *As well as Populous, Bullfrog's two other god games can be linked up*

Mode. After the version number is displayed, type "tp" to jump to any room, or type "get all" (followed by an object number) to get any object. Also, you can press <Alt> and "x" to bypass the questions at the start of the game.

SQUIDGY 2

ST FORMAT COVER DISK 52

To zoom onto one of the other levels of our excellent Cover Disk game, follow these instructions: Copy *Squidgy 2* onto a blank formatted disk, then rename the file for your required level to Level One. For example, if you want to try out Level Five, rename SQUID1.LEV to SQUID1.LEX, then rename SQUID5.LEV to SQUID-1.LEV. When you run the game you start on Level Five straight away.

Don Fripp, Lymington

GUNSHIP

KIXX XL

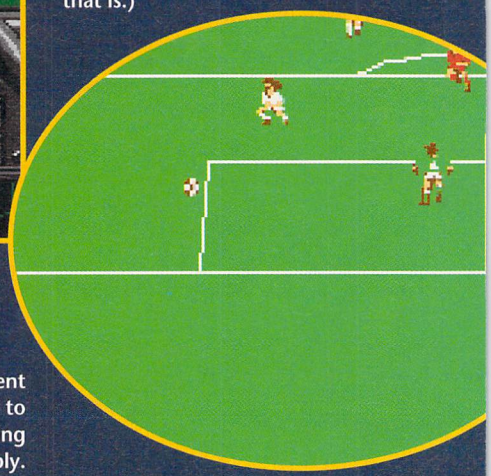
Follow this tip to grab loads of medals in Kixx XL's recent budget release, and zoom quickly from being a sergeant to a colonel. Select your mission, destroy the enemy, then land at your home base. Insert disk A, select End Game, then insert disk B when prompted. Take off vertically, then land again. Now you are showered with rewards.

■ ***Gunship's* easy. Actually, that's a bit of a lie. With our cheat, though, it's astoundingly simple - do nothing for a while, and reap the rewards.**

STRIKER

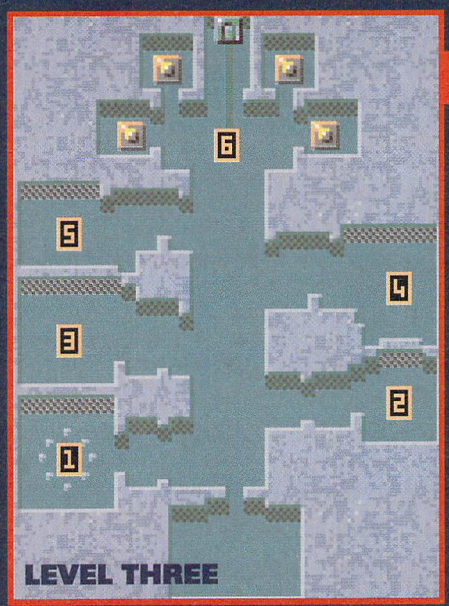
RAGE

Richard Robinson of Kendal sent in a cheat for *Striker* which is, sad to say, pathetic. In fact, we're going to start a pathetic series. Probably. "After selecting Friendly or Tournament, alter the wind strengths to Gale. While playing a game, give the ball to your goalkeeper, and he kicks the ball into the opposition's goal. This only works a couple of times per match. Brilliant eh? What a fantastic cheat. *(Note the sarky tone)* Obviously your favourite Saturday's entertainment is watching Wimbledon dry. Ever heard of dribbling? (Except down your shirt, that is.)



■ **Presumably, Richard's main strategy is to score two goals per match - both by the goalie. Well, that's more than good ol' Blighty did against San Marino, eh?**

World Four, Level Four - time for chaos



4 contains one uncracked dial. Fire at the button near this to move the needle. Kill all the monsters and move the needle one complete revolution to crack the dial.

Room 5: kill off the Half-tracks to stop the pistons and solve the puzzle. The map of the final section is a representation of the map of Level Four. Activate all the nodes at point 6. You need to shoot the Electrical Generator near the exit to open it.

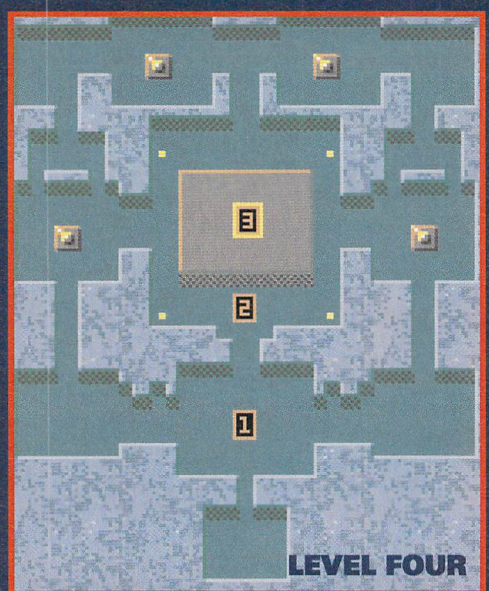
World Four, Level Four - time for chaos

The Chaos Engine is in the centre of the level at point 3, protected by a force field, generated by four activated nodes. Before you can attack the Engine you must disable this force field.

There are no normal nodes here; but four Electrical Generators. The position of these Generators are marked as nodes. Destroy them by shooting them in the base to cut the power supply to the level and shut down the force field. The control room at point 1 monitors your progress. When you shut down a Generator its set of pistons stops and its dial is destroyed. A Players Saved token is placed in Room 1 for every one you shut down. When you have destroyed all four generators a pulsing ring appears at point 2. Step into this to teleport to the final conflict.

The Engine itself has two stages. It has a protective shell which you should shoot until part of it dissolves away. While it is in this phase it cannot use the full force of its weaponry. When its innards are exposed it tries everything it can to protect itself. Simply destroy it to win the game and rid the land of Chaos. Easy, innit?

Next month we bring you the first part of the complete guide on Digital Integration's *Gobliins*.



– Powermonger and, of course, Populous 2. Vroom from UBI Soft (☎ 081 343 9055) is a good one too, it enables you to race head-to-head in a very fast car against your friend.

Address the problem

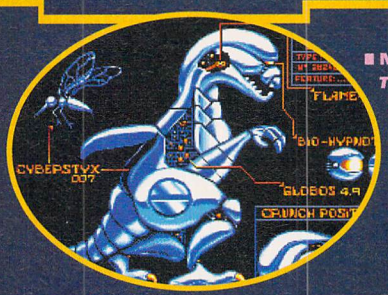
About a year ago, I bought *F16 Combat Pilot*. I though it was a great game, but I've lost the manual with the codes in it. Now I can't play it. Please could you give me Digital Integration's address?

CB: *Certainly can, matey. Their address in full is:*
Digital Integration Ltd Watchmoor Trade Centre, Watchmoor Road, Camberley, Surrey GU15 3AJ.

Scrap metal

I would be grateful if you could please tell me the cheat for skipping levels on *Metal Mutant*.

Devasen Vithilingum, London



■ **Not so much *Metal Mutant* as *Metal Tyrannosaur. Mutant* was written a long time before the Jurassic craze.**

CB: *To get to the desired level press <Alternate>, <Control> and <T> simultaneously, then <Alternate>, <Control> and <Y> simultaneously. Now type in the required screen and press <Return> to start at a new level.*

Budget Crown

Could you tell me if it's possible to get hold of *Defender of the Crown*, and if so, where from?

Colin Harris, London

CB: *Cinemaware's classic Defender of the Crown can be purchased from*

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ISHAR 2 DAZE/SILMARILS

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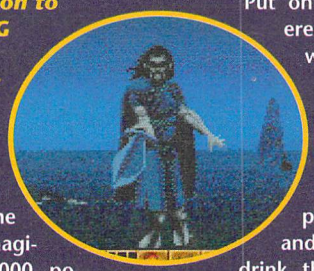

Go as far east as you can, then follow the east coast. Find a magician, give him 10,000 po, then send out the eagle. Pick up the mountain parchment. Return to the extreme west along the coast, and when you find the standing stones continue to the west end. Pick up the relic at the foot of the standing stone. When Golem wakes up kill him – remember though, most spells won't work on him – then turn round and fight Golem a second time.

Return to the harbour. In the direction of the mountains, take the landing stage to the south.

Jon's Island

In the mountains you must put on the fur coats. Take off the armour, and attach the ropes to avoid falling. Move east, pick up the cauldron from the snow, then set off in the opposite direction following the mountain road along the precipice. Go into the mountains, find a rhinoceros, kill it and take its horn (this is a bit steep, isn't it?)

Return to the landing stage. Select the mountains, landing stage to the north-west. If necessary, make a return trip to the town for repairs. On leaving the harbour, travel east. Follow the coast then take the passage to the west. Fight with two giants, pick up the living sword in a mountain hollow, then leave the passage again.

Continue northwards, and look for the priest at the end in a cul-de-sac. Prepare the Humbolg potion and give it to him, then pick up the tree island parchment. Return to the harbour and select the tree island. If necessary return to the town for repairs.

Thorm's Island

Put on the pendant recovered from the dead woman. Take the crossroads to the left, then to the north, and second on the right. At the end, find an ent. Prepare the Jablou potion and give it to him to drink, then pick up the pendant. Go down to the south again, go west and enter the village.

Visit the huts – two open huts give various information. Return to the harbour, take the extreme east then fight with the Ewoks. At the end, pick up the relic then return towards the harbour. Go north, east, north then east, follow the road and find the stone druid at the end. Place the horn on it, and give it the iron shield when it wakes up. Pick up the magic shield (protects against fire), turn round, then at the crossing go north, east, then first north.

Fight with the monster, then take the first west. Negotiate the labyrinth, avoiding false trails and aggressive eagles, to arrive close to the dead woman at the end to the west. Collect the key to the town hall from around her neck, then hurry back to the harbour.

Zach's Island

Go to the town hall (extreme north-west.) Enter the town hall and pick up the idol, then go to the temple (west of the bank), and give the idol back to the monk. Pick up the Air Elemental pendant, then go on to the bank and draw out some money. Buy arms and food (keeping 7,100 po), then eat and sleep. Return to the harbour, then go to the fortress.

■ Sorry about that last caption. It was a little on the sickening side and, quite frankly, tedious.

■ And here we see Kate Moss and pals, modelling Calvin Klein's new "Frontline" range of underwear.

Akeer's Island

Follow the left-hand wall, always moving north as far as the passage. In the circular corridor take the invisible wall to the north. Follow the corridors and enter the flooded area. In the maze, keep taking the corridors to the north until you leave the catacombs. Find three weighing scales and put exactly 3,550 po on the first two. Return to the catacombs, and hopefully the water has disappeared. Take the second to the south-east, then at the end follow the small underground passage.

In the large room, activate the handle at the south-east end. Take the treasure at the north-west end, then put on the Air Elemental pendant. Continue to the north-east end, take the first turning on the right, then fight with the mummies (fire-cloud and lightning are effective). At the very end, go to the south and pick up a skull. Return to the north, then take the access to the east. Stop in front of the wall, take the invisible wall to the south, pick up the treasure and the skull.

Return to your initial position in front of the wall, then cross the invisible wall still moving east. If blocked, sidestep to the south, then continue east. Enter the prisons. Remember: you can find other treasures if you pass other invisible walls at the end of the maze.

Follow the corridor to the east, kill the lion guard. At the eastern end, click the prison key in the lock and all the cells open. Turn around, and in the first cell to the right you can find treasures behind an invisible wall. In one of the cells is a blind girl, who you must recruit – so you must dismiss either the archer or warrio). In the second cell to the south, starting from the west, is a secret passage through an invisible wall. Follow the corridor and enter a vast room. This area is cursed – some characters are inverted. To un-invert (*! – Ed*) them, cast the curse-lifting spell.

Go to the middle of the columns and pick up the living sword. From the centre make the return trips to the north, then south, then west. At the end you find either invisible walls with treasures or a secret passage with a handle to be activated. Now take the passage to the south-east, pass the door, following the corridor to the south. In front of the grille, release the monkey then open the passage. Reach the landing stage, and select the entrance to the fortress again. ***stf***

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In the Club

Is there a game that is similar to *Street Fighter 2*, as I've heard that the ST version of is very slow. One other thing: on Cover Disk 52 I began using *Wordflair*, and found that I couldn't print because I haven't got GDOS. You said to look in the ST Club, but I can't find it.

Richard Findley, Leicester

CB: *Well, you could always try Final Fight, which looks very much the same as Street Fighter 2 but isn't as good; or the classic International Karate + (if you can find it); but... Hang on, what am I saying? Street Fighter 2's a great game – and pretty fast. The whole trick of Street Fighter 2, though – on any computer or console – is not the speed, but the apparent weight of the characters. The ST version's got that, all right.*

To get GDOS, all you have to do is phone up ST Club (☎ 0602 410241) and say "can I have GDOS please?," and, being the lovely people they are, they send it to you. Simple as that.

■ "Ooh, up a bit - no, left a bit; up a bit more. Right there! No wait, it's moved down." "Keep still, Blanka, you big ponce. And stop whining."

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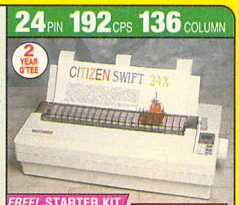

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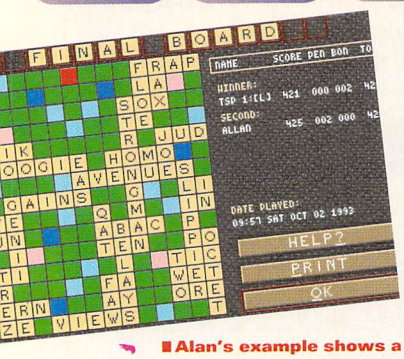


Alan's example shows a draw; a rare thing, given the score.

Are words such as DZO and QAT really words? Would you use them every day? Andy Nuttall spoke to three people who do, the professional *Scrabble* players...

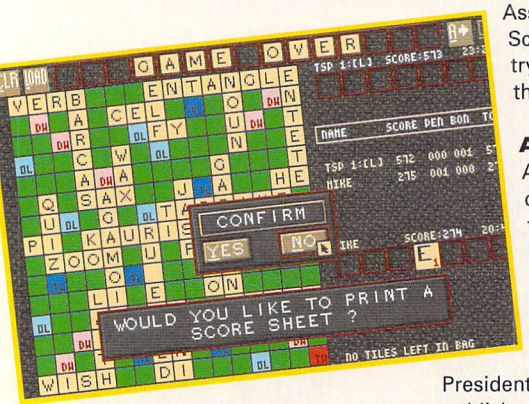
At some point in our lives, it's reasonable to assume we're all going to play *Scrabble* at some point. It's a board-game that's been around for years, derived from the crossword formula, and it's an enjoyable game and educational as a spelling and vocabulary tutor.

The first commercial *Scrabble* computer game was made by Leisure Genius for the Spectrum in the mid-80s. That was famous for its "dancing tiles," pretty letter tiles that shuffled themselves around the screen. Unfortunately it only had a very basic vocabulary, so if it came across a word it didn't know it would actually ask you to check that it's a legitimate word. You could cheat it into thinking that something like "XYZZORX" was a word, and it would believe you. Rack up those points.

Recently, as with most popular games, people have started to play *Scrabble* competitively, travelling all around the UK – and abroad – to pit their wits against other Scrabblers. The recent World Championship was held in New York, and other exotic locations are planned for the future.

To go along with the competitive side of *Scrabble,* US Gold devised *The Scrabble Player (TSP)*, a *Scrabble* program capable of taking on the top players at a competitive level. It doesn't use artificial intelligence or neural network techniques, but sheer word power. Built into the program is the entire Official Scrabble Words dictionary of 134,000 words – and it looks them up in a fraction of a second.

Just to test how much of a challenge it is, though, we decided to test *TSP* out at the top level. We asked three people from the Association of Professional Scrabble Players (APSP) to try it out for us, and give us their comments.



Mike's bugbear is this requester which covers many of the tiles.

Allan Simmons

As one of the top seeds in competitive *Scrabble* in the country, we reckon that Allan Simmons should be able to tell us a thing or two about *The Scrabble Player*. Among his many activities he's President of the APSP, editor and publisher of *ONWORDS,* a *Scrabble* enthusiasts magazine, and co-author of the Official Scrabble Lists book. And he's won the British Matchplay *Scrabble* championship three times since 1987. "I'm impressed with its *Scrabble* playing ability," says Allan. "It has 12 skill levels, but being a masochist I only play it at the top levels J, K and L – primarily to get in essential practice for top tournament play.

The Help functions give you a little push in the right direction when you're stuck with a single "I."

Here we see Mike being thrashed by *TSP* on level L - presumably it was Zoea that did it...

"At the topmost level, I'm winning around one in every four games, while on the other two levels, one in three. These levels represent an opponent with a perfect Official Scrabble Words vocabulary, and the ability to see all opportunities on any given board position. I'm nowhere near that capability, when I win a game it's a combination of luck and strategy.

"If I wanted to play the equivalent of an expert human player, level J is probably about right.

> ***"TSP's speed is both remarkable and unnerving"***

"*TSP's* speed is both remarkable and unnerving. It moves within a fraction of a second, unless it's playing at the topmost level and it has a blank to ponder. Then it might take several seconds before moving. Thankfully, you can delay *TSP's* moves to simulate human's thinking time. I've found that forcing it to take ten seconds per move is adequate, even though in reality opponents take up to several minutes to play.

"Practice games can be extremely useful, because *TSP* can find solutions for your racks to compare with your own choice. You can also reveal the *TSP's* letters, so you can use that to get a feel for its rack-balancing skills.

"*TSP* is an excellent challenge for serious *Scrabble* players, but equally it caters for players at the social *Scrabble* level."

Mike Willis

Mike's another competitive *Scrabble* player who started off playing with his family. He's a an all-round wordsmith and regularly does the Times and Guardian crosswords.

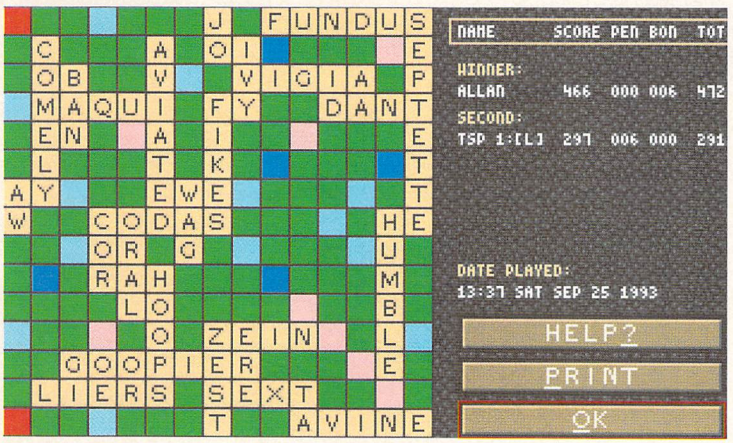
"I didn't realise there was any competitive *Scrabble* until I moved to Newcastle a few years ago," he says. "The local club there were advertising for *Scrabble* players, I went along, and really enjoyed it. When I moved back south I joined the London League, and now there seems to be one every week. In fact, there are three this weekend."

Given that *Scrabble's* such a popular game, and so many people belong to these *Scrabble* clubs (there are about 750 seeded players in the UK) it's surprising that it's not more recognised.

"There's nothing really holding us back, it's just that the people organising it have got families, and they don't get enough time. The members of the Scrabble Players Association is growing by 50 to 100 people per year, so we're getting quite big. I don't think there's another pastime with such a broad range of people, either."

"One of my gripes is that you're not actually playing against anybody," Mike says. "As it is, you can just give up on it, which is too tempting. If there was another incentive, such as recorded player statistics, then there would be more reason to complete a game.

AROUND



Hang on, that can't be right. (Quick rub of eyes) Yes, good grief - it seems that *TSP* can be vulnerable even on level L, at least when Allan's playing.

Mike O: here we see a practice game, which enables you to see *TSP's* tiles as well as yours.

"It is friendly and easy to use, though. You don't really need the instructions to use it at first – it's pretty intuitive, and it provides a very good challenge. Oh, another gripe: the type face is lousy – not very clear at all. Why did they use a fancy type face, when a clear one would have been so much better?"

Mike O'Rourke

Mike O'Rourke is 38 and lives in Cambridge where he's a computer analyst for the university. He's been a keen *Scrabble* player since an early age, now playing in Division B, compared to Allan and Mike above who are in Division A. In the British Championships there are four divisions.

"I've only been a member of the Cambridge club for about five years," he says. "In about 1988 I saw an advert in a paper advertising the *Scrabble* club, and it went from there."

Mike reckons the British prizes aren't bad, but they're certainly nowhere near the Americans. "For example, at the end of August Mark Nyman won the World Championship taking home $10,000. Mind you, they take it seriously. It was an American who created it, you see. His name was Alfred Butts, and unfortunately he died earlier this year aged 90. He was a marvellous old man who couldn't spell, and that's why he invented the game."

Mike bought *TSP* around three months ago, and he's found it to be extremely good for tournament preparation. "The majority of my games are level L," he says, "although if I really want to win I'll play on something less than J. I have beaten it on level L, but I'd say my success rate is around 10 – 15%. I did beat it quite heavily once, though, and that was by about 300 points.

"One of the more useful aspects is the Practice level, because it helps your vocabulary. And it doesn't challenge you."

As far as most players are concerned, though, their grandmother or whoever else they're playing with would give them a second chance if the word was wrong. It would surely be better to have an option to undo your move, even at competition level. "It would be nicer, more friendly, to give you a chance at competition level. But as far as I'm concerned, it would be too much of a temptation, and you would end up relying on it.

"It's a very good preparation for my tournaments. If I had a laptop I think my game would improve – but my eyesight would probably go worse!"

"The speed is good training for playing against somebody who's quick. An average competitor will take around 20 minutes to play a game, but there's one player called Andrew Perry, who plays his game in about four or five minutes!

At the end of a competition, your overtime is taken away from your score - so John's definitely lost!

Bey: a Turkish governor, apparently. When you know words like that you can really stuff *TSP* on level H.

> ***"He was a marvellous old man who couldn't spell, and that's why he invented the game"***

TSP usually plays in about three minutes, so it's a good trainer.

On the highest level, *TSP* brings in its tour de force: strategy. "The strategy is a very vicious thing. It's done on probability – it seems sometimes that it's more ESP than *TSP,* because it blocks your moves sometimes, which is very good but very frustrating. It's easier to beat on level K because there's no strategy element."

Although he's obviously a big fan of *TSP,* there are one or two things that Mike considers problematic: "Because of the small size of the squares you have to be tremendously careful where you place words. In some ways the mouse makes things much easier, though. The main thing I find a problem is that when the blanks are down, you can't see what they stand for – this is a bit of an oversight. Also right at the end, when you want to look at the board, it comes up with a big message saying 'do you want to print out your scores?' which covers up most of the letters! Finally, most people playing *TSP* may be surprised at some of the words that the program throws up, like ZO, DZO and OO. Do the players tend to know what the words mean? "Oh yes," Mike reckons, "not all of them, obviously, but you do tend to pick things up. Somebody with a photographic memory has a big advantage, though – there's a guy in Milton Keynes who's learnt all the two, three, four and five-letter words. Spear's are going to change the rules next year, I believe, so that you can't play a word if you don't know the meaning. QAT has got to be my favourite word, though. I believe it stands for 1/50th of an Avoirdupois pound." Ah...

Beerier? Sorry, Allan, but "More beery than?" Ah, the English language of today...

What's the verdict?

It seems, then, that *The Scrabble Player* provides an excellent opponent for the top-end *Scrabble* players. The three we asked each think that it's good idea to have a few games before a tournament, because it's a great way of imprinting words on your brain.

TSP uses strategy at the moment, and it's got a huge vocabulary, so it wins on word power and probability alone – almost like a photographic memory. Some sort of artificial intelligence wouldn't go amiss, so that the program looks at your moves, analyses them, and learns several strategies around them. It would be more like playing against another human player.

Oh, and also two of the guys commented on some cosmetics which could do with changing, such as the word Pause written across the tiles so you can't read them, and the printer requester which does the same thing. Apart from that and lack of learning ability, *TSP* gets the thumbs up! ***stf***

INDEPENDENT GAMING

If you want good software and you don't want to pay commercial prices then it's worth taking a look at Shareware, this month we review two games

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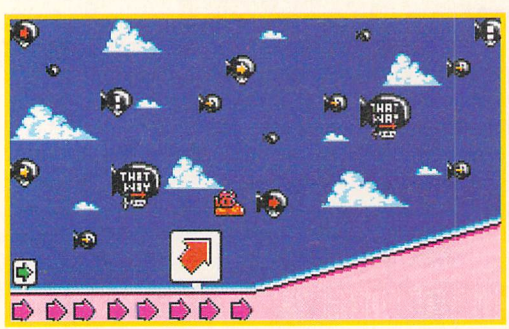
DEMO VERSION AVAILABLE FOR DOWNLOAD ON THE *STF* BBS 0225 465977 AND FROM PD LIBRARIES

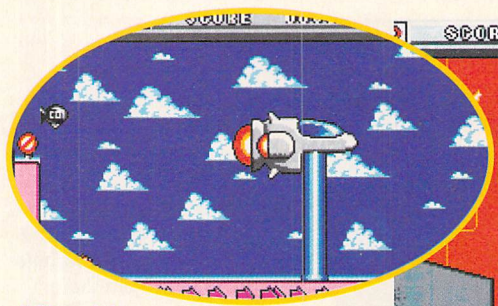
***Psycho Pig* is the saviour of the solar system, all his piggy chums are being kidnapped by mysterious space aliens from all over the galaxy; it's up to *Psycho Pig* and the fearless Super Psycho Squad to save the day and rescue the hostages.**

You can play one of eight characters in the game, each one having its own special weapons and characteristics. *Super Psycho Kart* is a speedy scrolling platform game with a bit of a twist, none of the characters can fire its weapon from within its kart. Instead, you have to land the kart and attack the enemy on foot if you want to get by, this can lead to problems if you fall into a pit because you can't jump while on foot. Luckily, the kart is equipped with a remote control homing device that you keep tucked away in your trousers.



See that tiny little flying thingy? That's you that is, as you swoop low over the weird world where all the little piggies are being held captive.

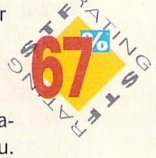
Zooming around in the kart is very fast, it doesn't actually fly but can jump to great heights enabling you to bounce over baddies and chasms that yawn unexpectedly before you. Be careful though, you can bounce straight into trouble when you zip into the next screen.



Okey dokey, here we are at the end of the first level against the vicious guardian. Fire your super mega blaster once and he's dead.

On to the second level where the scenery is dominated by large upright, er, things. They're probably plants anyway, so don't fret.

Super Psycho Kart is a good, fairly addictive platformer. While the main gameplay is very fast there are some annoying pauses while the end-of-level guardians are dropped into place, your sprite freezes completely until the guardian is in place. Also, it would make the game a bit harder if the guardian lasted more than a single shot and put up a bit of a fight. The later levels of the game get progressively more difficult to negotiate, mainly because of the speed of the karts and the awkward sprite control when your character is on foot. It would also be better if the sprites were a bit larger, but if you like weird platformer games featuring pigs then this is for you.

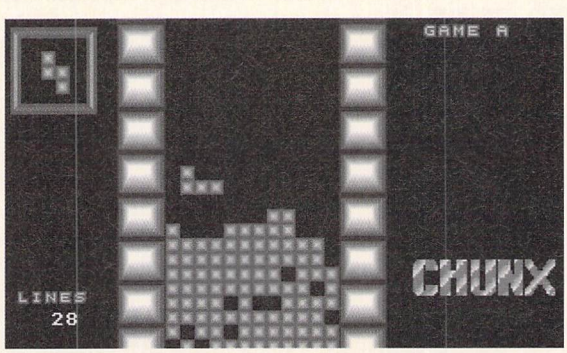


CHUNX

PRICE: £1
FROM: GERALD BROOK AKA "THE GAFFER"
CONTACT: 2 WYVERN ROAD, GOLCAR, HUDDERSFIELD, HD7 4BY

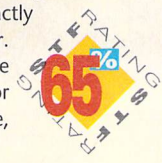
***Chunx* is, to all intents and purposes, *Tetris* under an assumed name to preserve its identity.**

Written and compiled in *STOS Basic* and using the Misty extension, *Chunx* is a reasonably good conversion of the standard *Tetris* game with a few other options thrown in for good measure. All the standard *Tetris* features are there with a few weird shaped pieces to catch you out when you're not concentrating. The gameplay itself is rather ordinary and after a few amusing intro screens – including an excellent rendering of the Gaffer from a TV advert for tea – the actual playing screen itself looks rather dull with no use of colour at all to liven it up. In fact, it could almost be a high resolution monochrome game running on your ST.



It's *Chunx*, it's great, it's little blocks falling down into a well in the time approved manner. Mmmm, those walls are a lovely shade of grey, aren't they?

Unusually for a game of this type there's a practice option and a pretty good sprite designer included, enabling you to create your own nightmare shapes to baffle your friends. The Gaffer has also included the full *STOS Basic* code for the game so you can investigate exactly how it's all put together. These features give *Chunx* the extra appeal it needs, and for just £1, including postage, you really can't go wrong.



BACK ISSUES

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ISSUE 53

DECEMBER 1993
Two disks: *Arabesque* – a vector graphics program worth £130, plus a useable demo of *Raystart* **Inside:** Falcon special issue and 1993 indexed!

ISSUE 52

NOVEMBER 1993
Two disks: *Wordflair* – a whole program; *Magic Boy* demo; **Inside:** Five DIY upgrades; scanning, digitizing and sampling; footie games.

ISSUE 51

OCTOBER 1993
Disk: *Zool* demo; *Fractal Playtime; STOS* extension
Inside: Games testing; colour printing; high and low end DTP; using fractals in art and music.

ISSUE 50

SEPTEMBER 1993
Disk: *Civilization* demo; *Supercard* database; *Mega Depack; Runes*
Inside: 50 inspiring ideas; Photo CD; 50 techie terms; *Legends of Valour.*

ISSUE 49

AUGUST 1993
Disk: *POV Raytracer* complete program and the *Chaos Engine* demo.
Inside: Discover the power of raytracing, and take a look at MultiTOS.

ISSUE 48

JULY 1993
Disk: *B17* demo, the complete *Prism Paint* and *Composer Two.*
Inside: Make music on your ST, summer sports, review of *DA's Vector.*

ISSUE 47

JUNE 1993
Disk: *Legends of Valour* demo, three more games, *DynaRAM, Picture Monitor.* **Inside:** Adventure games, upgrade your TOS, *Xenomorph* review.

ISSUE 46

MAY 1993
Disk: *Biz Accounts* demo, three games; *Kubes, Rayoid,* and *Balls* and two vector fonts. **Inside:** Be productive with your ST, floppy drive roundup.

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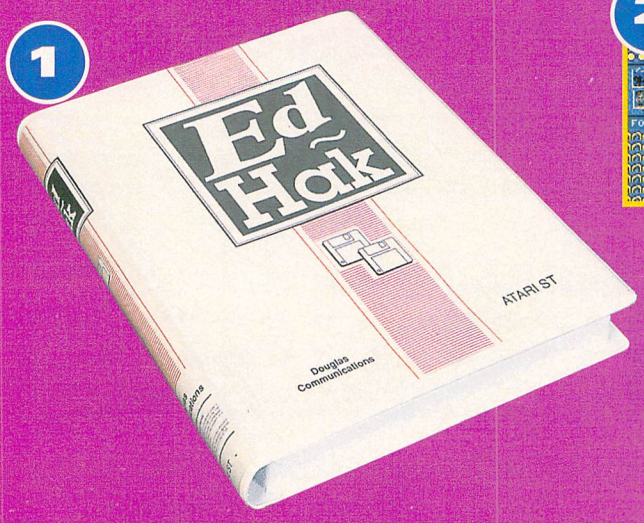

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BULLETIN

BBSs aren't exactly the hotbeds of sex, pornography and pirated commercial software that Roger Cook and the tabloid press would like you to believe. Clive Parker has been looking for years and has never found any

■ Using your ST and modem you can connect to BBS services all over the world.

It's possible to contact ST owners around the world from the comfort of your own living room using just your ST, a modem and your telephone line.

Armed with a few telephone numbers, some comms software and no worries about ultra-high phone bills, you can get all the latest PD and Shareware software as soon as it's available – often before it even reaches the PD libraries.

So what exactly is a BBS? Physically a BBS consists of a computer of some type, one or more modems and a series of large hard drives. What you see on your monitor screen when you connect with a BBS is the software side of the system, the BBS interface. Controlling everything is the SysOp (Systems Operator), usually someone who is running the BBS as a hobby. It's very unusual for a BBS to charge for services unless there are associated benefits such as access to more files, a newsletter or some other inducement.

There are commercial on-line services that charge for membership, CompuServe and CIX are the two biggest. CompuServe charges by monthly invoice while CIX uses your credit card number to get its money from you. The advantage of these commercial services is that they have hundreds of file areas containing hundreds of thousands of files, all available for you to download once you join.

What's out there?

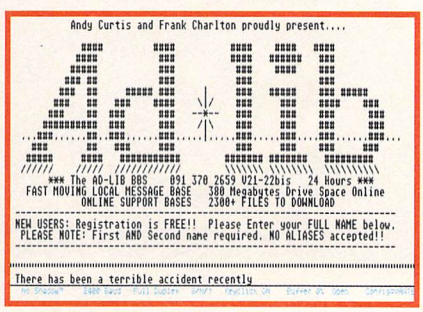
There are thousands of BBSs in the UK alone, so where can you call to be sure of finding ST interests on-line?

AdLib BBS

The AdLib BBS has been in operation for a just over a year and a half and is devoted to the ST and other Atari machines, the BBS uses the same Michtron BBS software we gave you on *STF* Cover Disk 42. The SysOp has installed a dedicated line for the BBS so you can call 24 hours a day, of course making your calls in the evening or at weekends is cheaper.

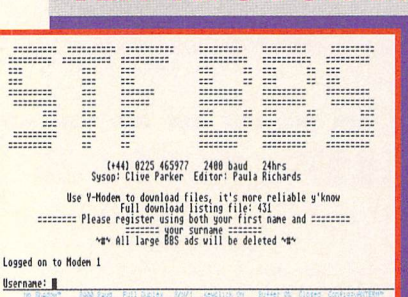
The board has a lively message base and a large file area dealing with specialist subjects including tracker files, MIDI, graphics, programming, utilities and *Star Trek*. There are almost 2,500 ST files already available for download from the board with plans to increase this to 5,000 files in the next six months including a large new Falcon030 section.

AdLib are planning to install a second line for the summer of 1994 using high speed modems, the line is to be used specifically for file transfers so that it doesn't interfere with the message areas used by the slower modem. The high speed line is to run at speeds up to 14,400 baud and is to be available for use by registered members only.



■ AdLib BBS is a popular forum for programmers, music and MIDI fans and Trekkies.

TEN TIPS FOR BBS-ING



■ Our very own BBS run by Clive Parker, your messages and letters can be uploaded directly to the *ST FORMAT* office.

1 If you can, always make your calls to a BBS in the evening or at weekends to save money. British Telecom calls at weekends are even cheaper than Mercury now.

2 If you can afford it get a fast 9,600 or 14,400 baud modem, data transfer is a lot faster enabling to you save time and money.

3 Make sure any software you upload to a BBS is either PD or Shareware, it's illegal to upload commercial programs to a BBS.

4 If you see any commercial software on a BBS leave a message for the SysOp informing him about it and ask for it to be removed. If it's not deleted in a few days then tell us about it.

5 Don't call any BBS or on-line services that use 0891 or 0839 dialling codes, these services operate at premium rates of up to 44p per minute leading to big phone bills and bigger arguments.

6 Use the text capture option of your comms program to save messages to disk, you can then use a text editor to prepare your replies off line and send them the next time you call the BBS.

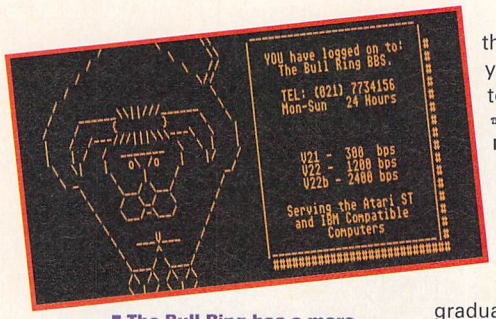
7 Most new comms programs are supplied with an off-line reader, this automatically grabs your messages and uploads to the BBS and then grabs any messages on the BBS and saves them to disk. It's a real money saver.

8 If you want to contact comms users world-wide then find a BBS that's part of a network. Networked BBSs are in regular contact with other BBSs and pass all messages to every other BBS on the network.

9 Don't get carried away using your modem, it's easy to wind up with a huge bill even if you use the line at night.

10 Contact the *ST FORMAT* BBS on ☎ 0225 465977 for all the latest news, info and gossip from around the ST world. If you've missed any Cover Disk software, the programs from issues 20 to 48 are available for download.

BOARDS



The Bull Ring has a more serious following with many Atari experts in various fields.

Another feature of the BBS is that it's an MNET node, part of a system of networked Michtron BBSs across the world passing messages and files to each other, this means that lots of ST news and software is available on networked BBSs before it appears anywhere else.

☎ 091 370 2659, 2400 baud, 24 hours

Bull Ring BBS

The Bull Ring BBS is another Michtron based BBS and is just about the most popular board in the Midlands, not only does it cater for ST enthusiasts but the board has a sizeable PC following too.

The callers to the Bull Ring BBS tend to be more "serious" ST users with lots of information, input and opinions about computers in general and Atari in particular. The message base can become very lively at times – with heated

> ***"It's a bit odd that the review of the Holyfield vs Bowe championship fight is under the theatre section"***

debates about machine types, upgrades, software, hardware, magazines and Shareware.

The main file areas are split up into the usual utilities, graphics and music areas with separate sections for ST and PC files. There are other areas on the board with more varied subjects, there's a reviews area covering everything from films and theatre to books, although it's a bit odd that the review of the Holyfield vs Bowe championship fight is under the theatre section.

Other areas include a large and informative text file area and the oddly named Beer Tent, you're going to have to log on to see what's in there.

☎ 021 773 4156, 2400 baud, 24 hours

The Holodeck

The Holodeck BBS started out as a test platform for developing BBS modules for Michtron systems and gradually evolved into a full blown BBS in its own right.

The SysOp decided that Michtron wasn't flexible enough for him so he switched to QBBs which enables external programs to be run from within itself while it's running.

The board is designed primarily as a wetware base where software can be tested on-line by the various members of the programming team affiliated to the BBS. So many people have taken an interest in the board that it is becoming bigger and bigger with more users joining every day. The board has thousands of files available with some very specific areas for programming and for the Falcon, in fact it's one of the official Falcon Owners Group boards that are now on-line and has a large collection of Falcon files already. Future plans for the board are another line and a direct network link to another BBS nearby.

Holodeck is really into the international networks with all of the following nets accessible; FidoNet, Nest International, Turbonet, Atarinet, Fishnet, TrekNet, ByteNzet and TechNet. This is one board where you can send messages all over the world for the price of a UK call.

☎ 0454 317047, up to 14,400 baud, 24 hours

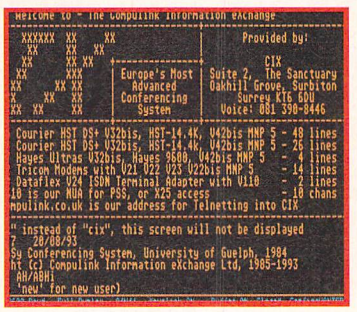
Computer Information eXchange (CIX)

CIX is definitely the big one when it comes to on-line services in the UK, with thousands of areas of interest and far too many files available to keep count of.

You can be pretty sure that whatever your interest or hobby is, it's covered in one of the message areas on CIX. Of course, none of the info on this huge database is yours for free, you have to pay for the time you spend on-line as well as paying your phone bills, so spending a lot of time on-line to CIX can cost you a lot of money. CIX organise their revenue by charging your credit card or charge card directly.

CIX message areas consist of large numbers of technical messages about all aspects of the ST, TT and Falcon. If you have any technical questions then this is the place to leave it. Many commercial developers use CIX for their official support lines for software and hardware and upgrades to the latest versions of software are normally available for download if you are registered. CIX also has large file areas covering hobbies, graphics, news, sports – in fact almost every subject you can possibly think of is covered.

☎ 081 390 1255 or ☎ 081 930 1255, up to 14,400 baud, 24 hours



CIX is a huge commercial setup with so many files you'd never be able to list them all.

Get in contact

You can also contact us at *ST FORMAT* through these other BBS systems.

CompuServe – ID number 100012,2571.

CIX 081 390 1255 or 081 930 1255, nickname Parker.

Bath BBS 0225 840060, leave E-Mail for *ST FORMAT*.

AdLib BBS 091 370 2659, leave messages in the *ST FORMAT* area or leave E-Mail for Clive Parker.

A ROUGH GUIDE TO ST BBSs

All of the following BBSs have ST areas and topics available to anyone who calls

Name	Number	Speed and times
Ad Lib BBS	091 370 2659	V22bis 24 hours
Atlantis BBS	081-715 5420	6,800 24 hours
Bath BBS	0225 840060	V22bis 24 hours
Bird Brain BBS	0305 860245	V42bis 20.00-08.00 w/e
Bull Ring	021 7734156	V22bis 24 hours
CDBBS	0397 704342	21.00-22.30
Chameleon	0454 881095	V32b V42b 24 hours
CyberZone BBS	0555 773420	2400 22.00-09.00
Desktop BBS	0782 541305	V22bis 21.00-08.30
<<DigImpBBS>>	0555-772016	2400 24 hours
DigiUndergnd	091-4140757	v22bis 2200-0900
Eagle Eye BBS	081-343-5928	V32Bis 24 hours
Fireball BBS	0932 850074	22bis 20.00-08.00
Fractal BBS	0305 266304	2400 24 hours
Indie Head BBS	051-449-1598	V22.bis 24.00-12.00
Internet	0296 395935	9600 24 hours
LONDON BBS	071 823-5437	2400 24 hours
LSI BBS	0925 415564	3/12/2400 24 hours
NICKELODEON	051 709 8508	v32bis 18.00-21.00
Nomad BBS	0392 426373	3/12/24 23.00-24.00
>>ONE TO ONE<<	0200 27183	3/12/2400 21.00-07.00
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Prodigy's Base	0509 852513	2400 18.00-21.00
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The Holodeck	0454-317047	V32Bis 24 hours
The Socrates	0207 290422	18.00 – 08.30
The Tavern	081-445-6514	v32bis 24hours
The Vault	0726 840000	V22Bis 21.00-08.00
USA Bird's Nest	0101 215 2810243	2400 24 hours
USA Buffaloe	0101 215 6771370	2400 24 hours

JINGLE

Radio jingles, advertisement music, supermarket Muzak. What do these all have in common? Easy - an ST is used to create them. Andy Nuttall wanders down to the South East to find out how it's made

Picture the scene: wandering into a roadside Little Chef, being seated at your little table, ordering your bottomless pot of coffee and lemon cheesecake. Everything's calm, collected, and conservative. Out of the speakers, tastefully positioned around the room, pours a seemingly endless stream of instrumental music – sometimes cover versions of hit records, sometimes original stuff.

Also, jingles. advertisement music, radio IDs. We all hear them, but do we ever stop and wonder where they come from? Who actually sits there and writes this music? We certainly have. Because the ST is used so heavily in recording studios worldwide, it seems obvious that whoever makes this music, someone somewhere must be using an ST to help them.

We chased up two of the most successful producers who create this type of music in Britain: Crocodile Music, purveyors of very fine jingles since 1979; and Alan Broadbent, a background musician who composes and publishes his music worldwide.

Commercial breakdown

"It's about babies, er, wetting themselves, basically." Matthew Faddy a studio manager and engineer at Charlotte Street recording studios in London. Andrew Coles is 26, a music programmer, working on a 1040 STE running *Cubase 3*. At the moment the guys are working on a Pampers commercial for Crocodile Music, which consists of two minutes of film showing damp babies' bottoms wriggling into their nappies. A rendition of Buddy Holly's *Raining In My Heart* plays in the background.

> ***"We spent two or three days working on a "moo" sound that Malcolm had done"***

"We recorded the music," says Matthew. "We just had to follow the original as closely as possible, and replace Buddy's voice with a bassoon. A bell was used at first, but they politely decided that was a bit too nice, and a bassoon would be more apt."

They are the advertising agency handling the Pampers account. The "suits," as they are politely known, spend thousands on research for a campaign which lasts months, before culminating in what we see in between *Coronation Street*.

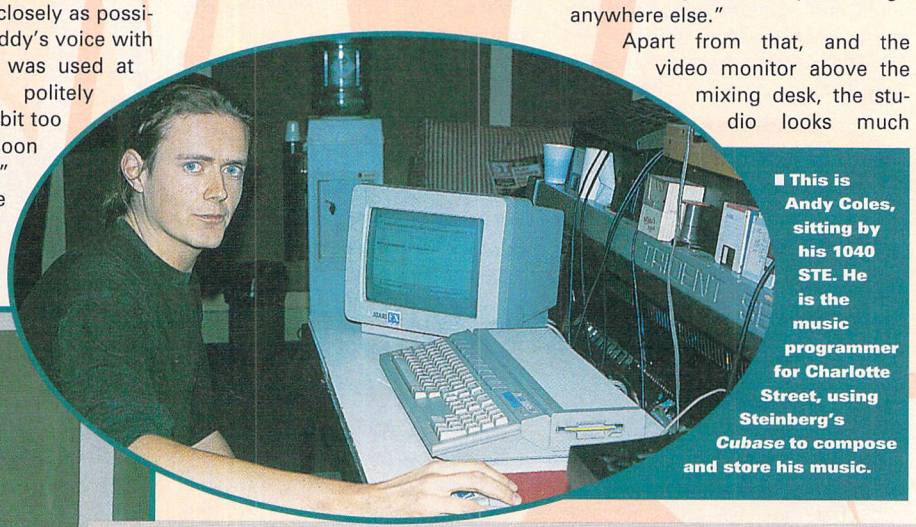
"Before they start a campaign," Matthew continues, "they'll try out a couple of ideas and do market research on them – basically play them to people and check their reaction. If they get a good reaction, they'll go ahead and make the commercial."

The Charlotte Street studio has been set up since the early '70s, when it was used by some famous musicians to make some equally famous records.

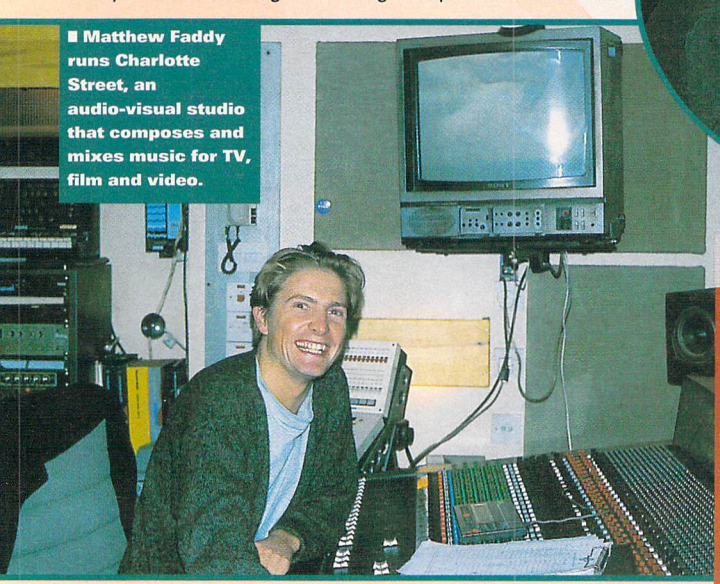
"It was originally owned by John Springate, who was a lead in the Glitter band. Mike Leander and Eddie Seager, who wrote all the Gary Glitter stuff, used to book the studio to record all their stuff. They're very superstitious about the piano that's in the music room – they say that every bit of success they've ever had has been from a song written on it. Whenever they do anything now, they won't go anywhere else."

Apart from that, and the video monitor above the mixing desk, the studio looks much

■ Oh, and you see that piano? That's the one the Glitter Band wrote all their tunes on, that is.



■ This is Andy Coles, sitting by his 1040 STE. He is the music programmer for Charlotte Street, using Steinberg's *Cubase* to compose and store his music.



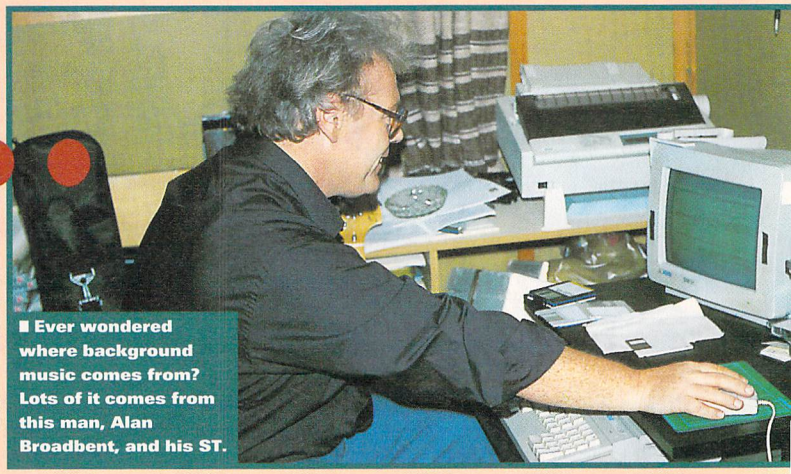
■ Matthew Faddy runs Charlotte Street, an audio-visual studio that composes and mixes music for TV, film and video.

Technicalities...

The 1040 STE is used at the heart of the studio, running *Cubase 3* which is synced up to the 24-track recorder using MIDI clock, and two Q-Matic video machines. Basically, the editing process is like this: The film editors send in the advert on Q-Matic video, with a time code on one audio channel. This time code is used to mark the parts of the film which need sound effects and music – say, a car door slamming, or perhaps a moody shot of a car disappearing into a golden sunset.

The music is then written using *Cubase*, and maybe some live instruments, and recorded onto 24-track. This is then mastered, along with the MIDI clock, to a Timecode DAT recorder. This has three audio channels, one for the MIDI clock data, and two for the stereo audio channels.

BELLS...



Ever wondered where background music comes from? Lots of it comes from this man, Alan Broadbent, and his ST.

like any other: mixing desk, lots of music gear, 24-track recorder, performance room; do they get any bands in for recording?

"There's no money in doing bands any more," says Andrew, "because the rates have been cut and cut again for studios. There are a lot of 24-tracks out of the town, but they can't afford to charge as much as we do because we're here in the middle of London. Most media people don't want to walk very far.

"The hours are bad for working with bands as well, because they have the nasty habit of starting work in the middle of the night. We're too old for that, really."

At this point Malcolm Ironton joins us. He's the founder of Crocodile Music, who use Charlotte Street studios for all their work – they are just around the corner, after all. How did Malcolm get into the business of jingles?

"I used to be an art director in an ad agency. When you're writing or working on a commercial from the artistic side, you do two things: one, you try to put palm trees in every storyboard you do, because then you get to go abroad; and two, if you like or play music, you make sure the advert has got music in it. That's how I got into the music side of things.

Are there any adverts you've done that people would recognise?

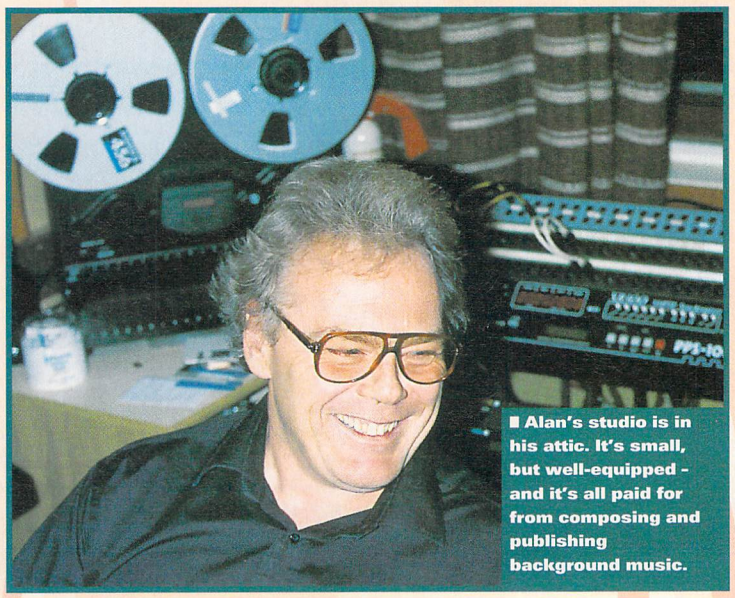
"There was the Wrigley's one, Follow the Spear, a few years ago. Oil of Ulay, Ariel, Seven Seas vitamins. We did *Lover's Guide 2* – the video. They liked the music so much, they've released it on CD! There are a few different radio station IDs as well. One station wanted a whole package of 120 different jingles, all suited to a different purpose: news, late-night, classical. Unfortunately those days of the big stations with big budgets have gone now. We do a lot of TV programme work as well; things like *Press Gang, Far Flung Floyd,* and we have a Richard Gere movie lined up in the next few weeks"

"Computers force you to think about music in a different way - they can stifle your creativity"

Is working in advertising different to working with bands?

"There are a lot of politics involved," says Matthew, "and you have to deal with some incredibly fussy clients sometimes. We did some stuff on Anchor Butter a long time ago – the very first commercial with the silly noises and those cows. We spent two or three days working on a "moo" sound that Malcolm had done. We remixed and analysed it for all that time because the clients weren't completely sure that it sounded like a happy cow! Apparently they had a board meeting with all these suits, all wondering whether the sound was right or not.

"Also, you could have worked on something all night, and they'll come here in the morning and say 'Well, actually, that's not quite what we had in mind,' and they'll completely change the brief from what they gave you in the first place. You've then got to start again from scratch."



Alan's studio is in his attic. It's small, but well-equipped - and it's all paid for from composing and publishing background music.

The Sound of Muzak?

"What I do is background and library music." Alan Broadbent, background musician, sits in his crowded home studio, and talks to *ST FORMAT* about his work. "I'm also involved in publishing background music. I fell into it by accident about six years ago, because I had been down the pop routes, and sessioning, but making steady money out of the music business tends to be a bit of a problem."

What exactly constitutes library and background music?

"Library music is audio-visual music, so it's the kind of stuff which gets used on television behind the production. Let's say you're a film editor, and you've got a program which has a short dead spot where nothing really happens. All you want to do is stick a piece of music in; so rather than get a piece commissioned, you just pull some off the shelf. It's used for creating moods.

Whichever way you look at it, background suffers from the Muzak syndrome. It's got a dreadful reputation for being twee, but Alan feels strongly about this: "Really the companies involved are extremely demanding, and the quality and styles of production that they demand is difficult for many musicians to achieve. The music must sound acoustic and natural. "For example, although I use the ST, I don't use it to the extent that the pieces end up sounding computerised. They are very much into more natural sounds, so being a guitar player helps. The use of heavy drumming or even repetitive patterns is out – it doesn't work. The ST gets used more as a MIDI tape recorder, really. I quantise things occasionally, but as little as possible.

"Computers force you to think about music in a different way – they can stifle your creativity. Having got used to the computer, you start off thinking 'this is God's gift to the musician,' and it takes quite a while to actually realise that you're doing it the computer's way, and it's ceased to be a tool. Now, the ST plays its part, but it doesn't feature too heavily in the music production.

"It obviously depends on the individual – if that's the type of music you want to create, then it's the perfect tool. But if it isn't then it can end up getting in your way, or you spend too much time editing on the computer when it's a damn sight quicker to actually go back and do it again. I'm an old guy, old fashioned, I suppose!

Do you hear your background music anywhere?

"I've heard loads, really. Most of it I've heard in the States, although I walked into a supermarket – I think it was Gateway – a couple of weeks ago and heard something of mine in there. There is something very nice about sitting having breakfast and listening to your own music, and thinking 'I'm getting paid for this!'" ***stf***

What's in your setup?

"I've got a 1MByte 1040 STFM, running *Cubase 3*, which goes through a DACS MIDI patch bay. The SY-85 is the basic controller at the moment, there's a Proteus, a couple of D-110s, an S900, a SOLO mixing desk, and a DAT recorder. Also an ancient DX7, which I haven't used for ages – it gets used as a shelf now."

Warning: your ST is less than a year old opening the case voids the guarantee

DOUBLE YOUR

A simple upgrade that adds high density capability to your ST. Clive Parker shows you how you can do it yourself

Atari are still lagging behind a bit when it comes to floppy disk capacity, Macs and PCs have been using high density (HD) drives as standard for around four years while the STE has remained with normal 720K double-density (DD) drives. Atari made a brief stab at including HD drives in their Mega STE and TT machines but the number of Megas and TTs sold is negligible compared to STE sales in the UK – out of around a million STs less than one per cent are Mega STEs or TTs.

So upgrade it!

Once again it's up to third party developers to come to the rescue. Analogic Computers have an easy to fit upgrade module that enables you to swap your 720K internal drive for a 1.44MByte HD drive – the upgrade costs £79.95 including the HD drive. The Bitz High Density Interface is compatible with both STFM and STE machines and requires very little soldering, the circuit board is soldered to seven pins on the drive controller chip itself and three other wires are soldered elsewhere on the ST's circuit board. The board automatically switches step-rates between 6ms (HD) and 3ms (DD) depending on which type of disk is in the drive, no software is needed to enable you to read HD disks.

Once you have upgraded to a high density drive you then have the problem of formatting high density disks. It's not that much of a problem though, if you have an STFM or STE with any TOS version up to v1.62 you can use the Bitz-copy formatter supplied with the interface. If you have an STE with TOS 2.06 installed the High Density Format option is available from the Desktop, if you have an STE with TOS 2.06 installed a small program placed in the Auto folder enables the High Density option in the Desktop menu.

All perfectly simple to install and use, now you have absolutely no excuse for you not to be using HD drives in your ST.

Buttons and things

Your new HD drive may not fit perfectly into your ST because it has a square eject button and your ST case has a diagonal hole, newer STEs have a square hole. If your ST has a diagonal hole then you must cut the case using a small hacksaw blade and a file so that the new drive button is not obstructed.

Floppy drive controller

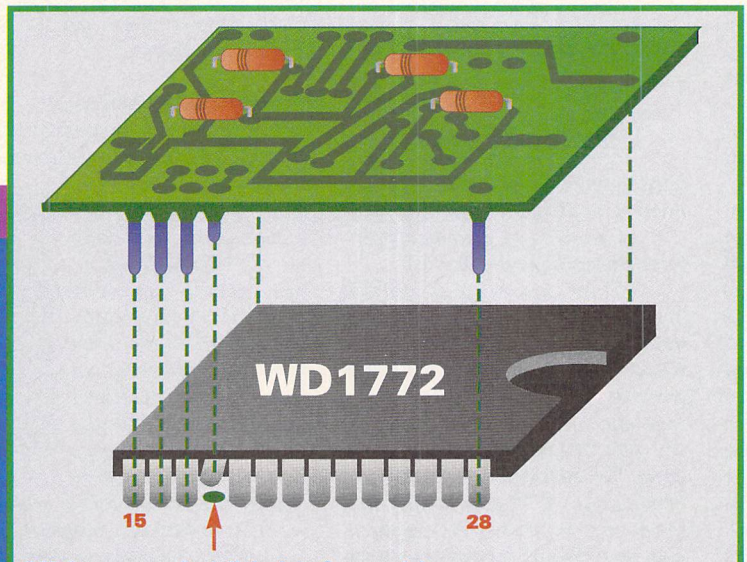
To enable your ST to read HD drives the floppy disk controller (FDC) chip must run at twice its normal operating speed, 16MHz instead of 16MHz. Before you rush out and order your high density drive upgrade you must check inside your ST and make sure that your FDC is suitable for use at 16MHz.

The chip number suitable for use with the interface is WD1772 PH 02-02, this version runs happily at 16MHz. If the chip number is WD1772 PH 00-02 then it is not suitable for use with the HD interface, you have to replace the chip before you install the module. ***stf***

Soldering to the FDC

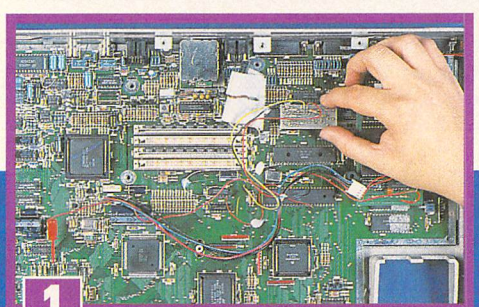
Soldering to the legs of the WD1772 chip is probably the most delicate part of the operation, it's vital that you fix the interface PCB the right way around. The FDC is located just beneath and to the rear of the disk drive with the notch facing towards the right.

Pin 18 of the FDC must be cut as near to the ST's circuit board as possible and then bent up, you then solder it to the short pin of the interface module. All the other connections are soldered directly to the corresponding pins on the FDC. See the diagram for exact placement.

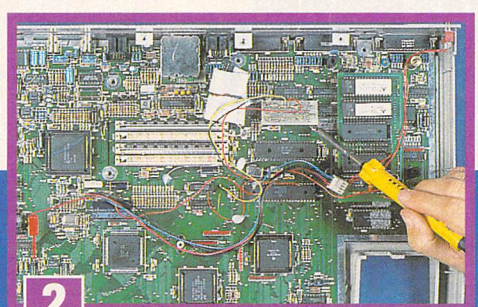


Make sure you install the interface module the right way round otherwise you may damage both the interface and your ST.

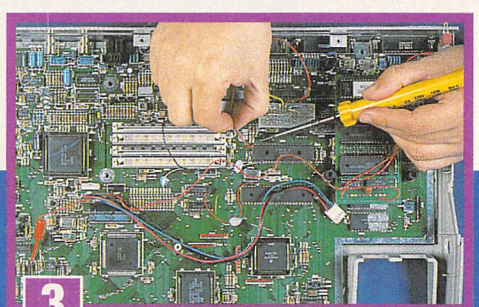
FIXING THE HIGH DENSITY INTERFACE



1 **Find the WD1772 FDC chip on the circuit board, it's just at the rear of the disk drive. Cut pin 18 of the chip and bend the leg up, once you have the interface module ready and you have tinned the pins with solder place it over the FDC.**

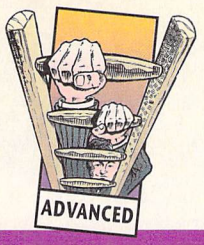


2 **Very carefully, solder the pins of the HD interface module to the legs of the WD1772 FDC. You must be careful that you don't leave the soldering iron in contact with the FDC for too long, excess heat can damage the chip.**



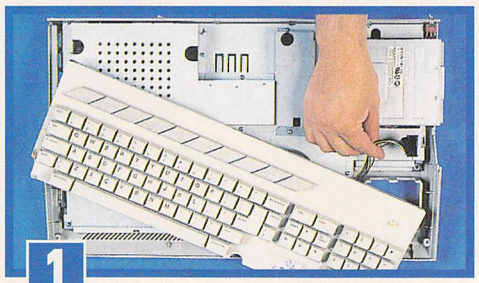
3 **Now locate the Yamaha sound chip, it's quite a large chip normally near the floppy drive marked YM2149 or AY-3-8910. Two of the wires from the HD interface module must be connected to pins 19 and 20 of the sound chip.**

DISK SPACE

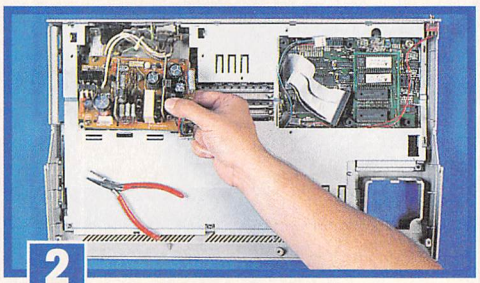


Rip your ST to bits...

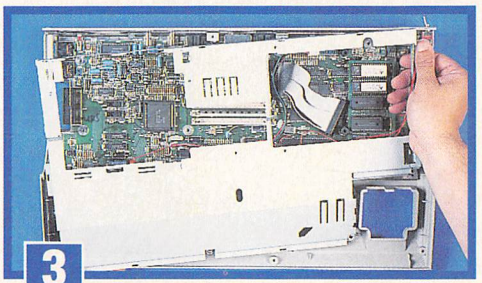
Now it's time to take your ST to bits so you can start on your upgrade, just follow these simple steps below and then you can begin



1 Disconnect everything from your ST, flip it over and remove all the screws underneath. The screws in the square holes hold the machine together and the ones in the round holes fix down the disk drive. Turn your ST the right way up and remove the top by lifting and sliding to the right. Lift the keyboard from the case and unplug.



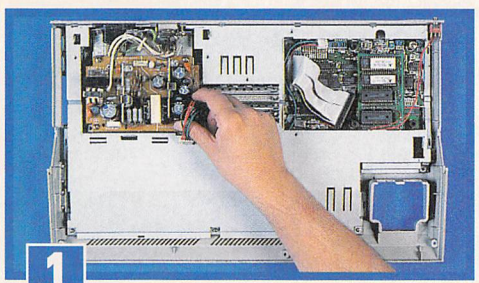
2 Remove the screws holding the shield over the disk drive and power supply (PSU) and remove the shielding. Lift the disk drive and disconnect the power and data cables. Remove the screws holding down the PSU, unplug the power cable connecting the PSU to the ST and lift the PSU from the circuit board.



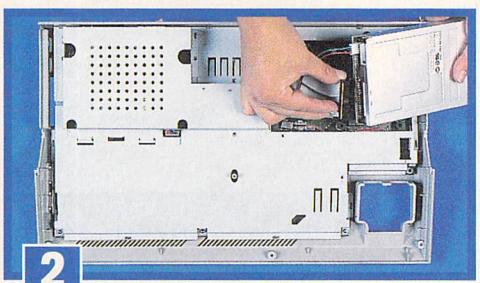
3 Remove all screws holding the shielding to the base of your ST, then untwist the metal tabs to lift the upper shielding clear from the base of the machine. Removing the shielding is the trickiest part of the job, you can struggle with it for a few minutes before you release it. You are now ready to start fitting the high density module.

...and put it together again

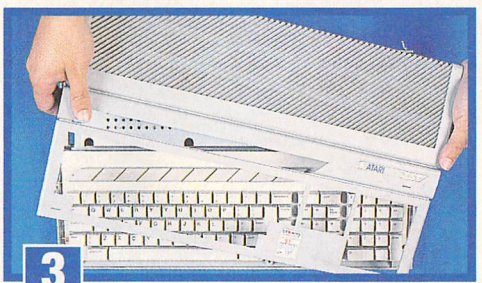
OK, the high density module is in place and tested and you're ready to put your ST back together again, so follow these steps to make your ST into something more familiar



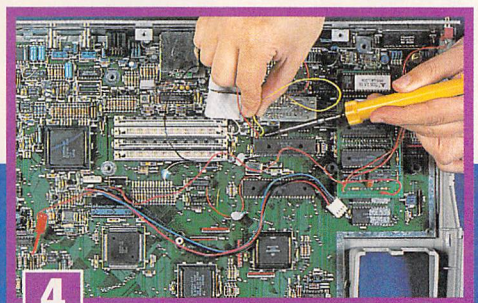
1 Get the upper shielding and fit it back into place ensuring that no wires are sticking out from the edge, secure all tabs and replace all screws. Now ease the power supply back into place, fix it down and reconnect the power cable. The PSU can be very awkward to get back into position, you have to jiggle it around until it slots in place.



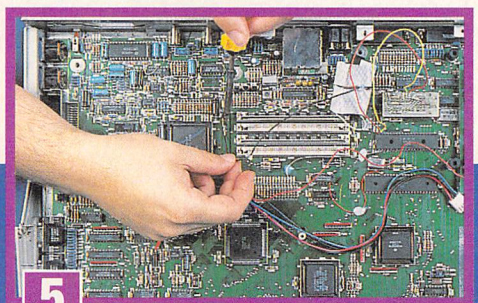
2 Replace the PSU shielding and fix it in place with the screws and tabs. Now you can get your high density drive and connect the floppy drive power and data cables to it. On some HD drives the data cable may have to be twisted through 180 degrees to make the correct connection. Screw the drive firmly in place with the fixing screws.



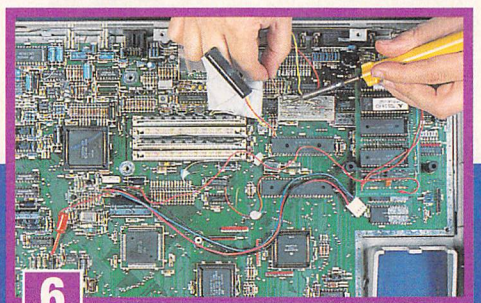
3 Replace the last piece of shield over the disk drive and fix it down, then replace the keyboard and connect it to the circuit board, make sure that the keyboard is correctly seated. Put the lid on and test the drive, if it works OK then turn your ST over and replace the fixing screws. You now have an ST with a 1.44MByte disk drive.



4 The red wire from the HD interface module connects to pin 20 of the sound chip and the yellow wire connects to pin 19. Once again, make sure that contact between the soldering iron and the chips is kept to a minimum.



5 In the STE there are three solder connections in a diagonal line to the left of SIMM socket U602, the centre connection is the 16MHz line. Solder the black wire to this connection. In an STFM the 16MHz signal is on pin 39 of the video shifter chip.



6 The last connection is the HD detect line, in most HD drives this is line two of the ribbon cable. Carefully cut line two only of the ribbon cable and connect it from the disk drive plug to the drive A select line of the hard drive interface module.

NEXT MONTH

- We ask: "Is *Atari Works* the only business program you need?"
- We tell you how your ST works
- We interview a key music personality
- We review the only multi-tasking system for the 520 ST

***PLUS!* NEW!**
In-depth Jaguar coverage - check out *Cybermorph*

ST FORMAT

ON SALE TUESDAY 11 JANUARY

DON'T MISS IT!

?

Take a look at the future of the ST

FEEDBACK

Got a problem? Got a moan? Go and talk to your friends then. We want sparkling wit, we want controversy, we want enthusiasm...

No help for beginners

I have just got my first computer; a 520ST with a 1MByte upgrade. The Atari manual supplied with it has not, in my opinion, been written for the beginner. I therefore decided to see what was available

> ***"I would have thought books would have advertised in your mag as it is THE Atari magazine"***

in my local bookshops to help me get to know my ST better.

In Dillon's they had over 1,000 books, in Waterstone's about 700 books and WH Smith's had about 100 books. Out of all this available literature the only Atari-related book I could find was the manual for the laptop ST Book. There were beginner's guides for just about everything on the market except STs.

In Dillons I picked up a free magazine called The Complete Computer Book listing. It listed 24 books under the Atari range and none of them was in the shop available for me to look at.

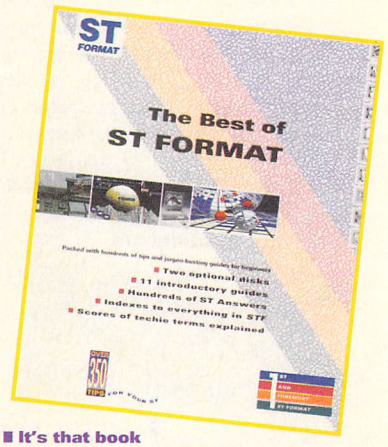
In issue 51 you gave away the Indispensable Buying Guide for your ST and not a single manual or book was advertised for the beginner. The books are not even advertised in your magazine when I would have thought they would have been as your magazine is *the* Atari magazine.

I am beginning to wonder if I have the right computer as there doesn't seem to be much enthusiasm in your magazine or in bookshops to provide the beginner with the incentive to get an Atari machine. I think you should target this audience and any helpful books should be permanently advertised.

A Duray, Nottingham

stf: *Unfortunately there is not a huge number of books available for the ST, as you've obviously discovered for yourself!*

However, we have produced our own book, entitled The Best of ST FORMAT which includes several chapters aimed at beginners and then later there are some more technical topics that you can progress to as you get more confident You can get this from our mail order department – just turn to page 104 for more details.



It's that book again! Get it - you need it.

BACK SEAT MARKETEERS

Back in issue 52 there were a couple of letters criticising Atari. Here, for the very last time on this topic, are a couple of Atari-supportive responses

In reply to Mark Harold's letter – I feel he is missing an important point. Yes, Commodore have bigger sales and larger ad campaigns [than Atari]. They also have much bigger debts – over £300 million this year so far, I believe. While I cannot condone everything Atari do, they do do an excellent job of controlling their finances. This may sometimes be to the detriment of adverts, glossy in-store posters and so on, but better to sell less and make profit than sell more and go bust, eh? And business does work that way! For example, spend £2 million advertising to sell 100,000 units of something like STs and you get 100,000 more users and a big loss – and I'm sure that giving away development units has the same effect! – especially since there is no profit for Atari in ST software, unlike the profits available from consoles.

Brett Calderwood, Essex

I am sick to death of the fools who think they know everything there is to know about Atari and their business. "It is time they launched an aggressive ad campaign" – rubbish! If Atari were to waste valuable amounts of money on a product that wouldn't make a massive amount of money anyway, how are they going to support the real money maker, the Jaguar, in the long term? They can't – it's impossible! If Atari were the richest company in the world, sure they would have the STE at £150, sure they would invest a cool £4 million in TV ads costing £25,000 a slot and £100,000 to produce for it and launch STE-only software, but Atari just can't at the moment.

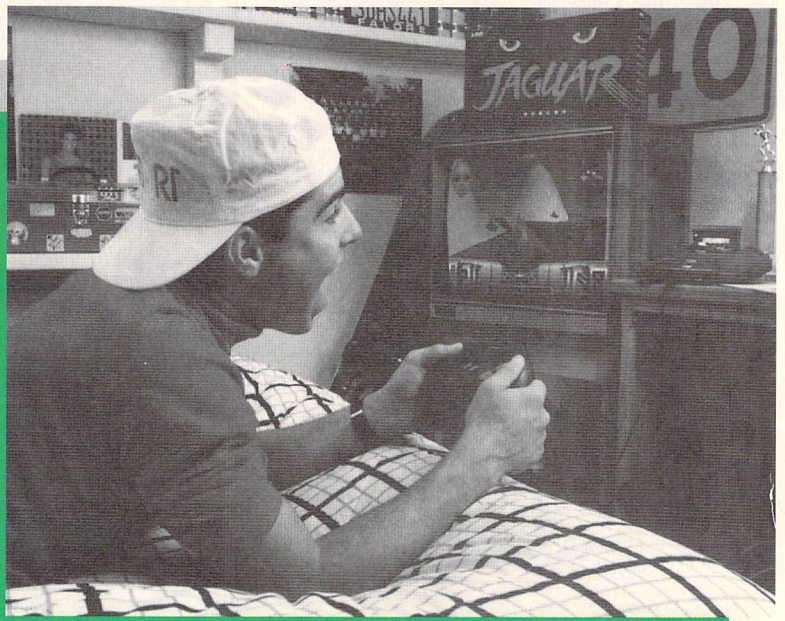
Atari are taking a big chance with this Jaguar, if they don't support it and struggle on with the ST range then they may sell a few more ST units – but are they better off in the long run? No, they are worse because the ST will continue to slide down the drain and there wouldn't be an *ST FORMAT* for short-sighted fools like Mark Brill to attempt to kill the ST market – it would be dead already.

However, if Atari puts everything they've got into the Jaguar, which is a true money maker (putting the ST and the Falcon to one side just for a short time), then are they better off in the long run if they succeed? Yes! Yes! Yes!

As for Mark Harold, Darryl Still wasn't trying to create a sob story, you know, no, he was just trying to right a wrong, something that Atari should be doing more of. Thanks, Mark, you've done 15 year olds a great deal of good – you've just shown the world why 15 year olds don't have executive jobs, because most of you don't know a thing about business.

You sound like a six year old shouting his foot in frustration! For once Atari plead for justice to be done, to right one of the many wrongs, and what happens? They are hanged by those who don't know a thing about what they are supposed to be talking about.

Richard North, Surrey



With promotional material like this, Atari show how they're keeping costs to a minimum - they'll all end up amazingly wealthy though, if everything goes well, and that kid will be famous.

Disgusted of Trimley

About three months ago I bought an STE Curriculum Pack 2 from Silica Systems through an advert in *ST FORMAT*. I was quite happy with my purchase until I started to buy from the Public Domain. I was disgusted to find both *First Word* and *Ani-ST* were Public Domain and had been for some time. Silica Systems claim prices for *First Word* and *Ani-ST* of £59.99 and £29.95 respectively when you can buy both for £1.50 from LAPD. It sickens me that I have been conned into buying something thinking I've received a better deal than I really have. I also question the prices of *First Basic* and the Tenstar games pack. If you truly are a magazine that represents the voice of the ST owning public, other than just being interested in money with no regards for your readers, you will print this letter. I have also sent a copy of the ad to the Department of Fair Trading.

T Zafari, Birmingham

■ **Whose responsibility is it to check whether an ad is still current while the industry changes?**

stf: *Thanks for your letter – I'm sorry you feel sickened by this advertiser but I think this is just a case of misunderstanding. I spoke to Silica who distribute the Family Curriculum Pack regarding both of these programs and they were unaware that they had progressed into the Public Domain, they claim that they always check the RRPs of the packages they include in their ads. First Word originally came from GST and they still have the rights to that program – they say that First Word shouldn't actually be in the Public Domain – so it looks to me as if you've got yourself a bargain.*

I queried the cost of the Tenstar games pack on your behalf, and Silica were very confident that the recommended retail prices are correct with that package.

Too simple by half!

I was most disappointed to read your long awaited DIY projects article. Being very capable with my sonic soldering iron, I quickly ordered a copy after seeing your next issue ad in *STF* 51. At last, I thought, they've found a hardware hacker to publish some serious electronic projects – maybe an accelerator or a modem for a fraction of the price all built from a pile of cheap chips and bits from the Maplin catalogues.

> ***"At last," I thought, "They've found a hardware hacker to publish some serious electronic projects"***

But no, it's a basic guide for fitting proprietory products already available. I wonder how many other techie hobbyists thought the same. I know prices have dropped and it would be hard to raw build for the same price, but this is not the rule. So far I have not seen this area exploited by an ST tabloid beyond small simple projects – perhaps you could be the first.

Mad Ad, Worthing

stf: *We are writing for, and largely read by, people who are interested in getting the most out of their computers – not people who have degrees in electronics. My own opinion is that projects of the nature you would have liked to see are far too complicated for most people to attempt for the first time without any previous experience – but if there's anyone else out there who thinks that these would be a good idea, do write and let me know.*

A matter of survival

Do Atari US think that the Falcon and/or the Jaguar are going to save them from a fate worse than death? I think not. The only thing that will save Atari now is to support the ST to the full, release STE-only games and sort their PR act out with customers new and old. If Atari think that just because the ST is no more so we'll all upgrade to the Falcon, they have it all wrong. As I see it, if there is no Atari support for the STE from its outset, then there will be no support for the Falcon.

I know we all have to move with the times, but if the computer you have has not had its full potential realised, you feel let down.

JM Hooton, Cleveland

stf: *Sorry to disagree with you, JM, but I think that the release of the Jaguar is the best thing that Atari have done for several years in terms of looking after their own longevity. Look at it from a practical business point of view – what good is releasing a few STE-only games going to do?*

Take the example of Sleepwalker. Yes, it was a brilliant game and it supported the STE – but it didn't do very well commercially, which, at the end of the day, is what software houses have to consider. Atari have moved with the times – ahead of the times, effectively – they accept that the home computer market has gone 95% PC (see the news story on page 7) and that the Falcon is just suitable for the very specialist niche markets. They don't necessarily expect you to upgrade from your STE.

> ***"The release of the Jaguar is the best thing that Atari have done for several years in terms of looking after their own longevity"***

WANT TO EDIT YOUR VIDEOS?

ST FORMAT **frequently encourages its readers to write to software houses, encouraging them to convert titles available on the PC or Amiga to the ST, so why not the reverse?**

We have a product, which is a video editing package called *CamLink Edit Mate*, and it's available for the Amiga and PC and we are contemplating releasing it for the ST. What we would like is for interested readers to write to us at the address below so we can see whether or not there is a demand for it.

Edit Mate **can control a video player (either a camcorder or a conventional VCR) and a video recorder using any combination of Sony LANC compatible edit control or infra-red remote control. This enables the user to edit their home movies and rearrange the scenes in any order, all under software control. The PC and Amiga packages also come with an audio mixer, enabling you to add music and narration to your footage. The price of the Edit Mate package for the ST would be about £200 and, assuming there is a market for it, could be available at the start of 1994.**

Derek Wallis
Lamba Group PLC
Lamba House
Unit 4 Apex Point
Travellers Lane
Welham Green
Hatfield, Herts AL9 7HB

stf: **Thanks for that, Derek, let me know what sort of response you get.**

You've conned me!

I wish to complain about the program Wordflair that you gave away on November's Cover Disk. I bought this particular magazine especially to use this software and I was disgusted to find that I was not able to install my own copy of GDOS which I obtained from *Timeworks*.

I searched all five master disks to try and find the files you mentioned without success. I do not like having to pay a further £4.95 in order to properly run the program when it clearly states in your magazine that it is possible to install the program by using an existing version of GDOS from another program.

I do hope you can do something to rectify this problem so that other ST users are not conned into having to pay a further £4.95 to run the software.

Neil Evans, Cheltenham

stf: *Calm down, calm down. All you have to do to run Wordflair with your existing GDOS setup is boot up your GDOS software in the usual way as if you are going to use Timeworks or any other GDOS compatible and instead of running your original program, run Wordflair instead. Simple, eh?*

■ **If there's anything you want to add to these ST-related debates, whether you want to reply to any of these letters or bring up an issue of your own write to Paula Richards, The Editor, Feedback, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.**

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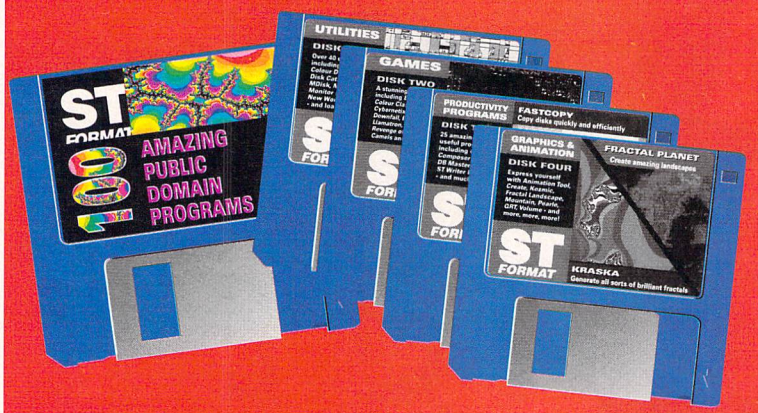

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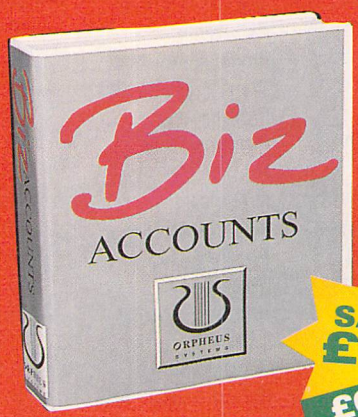

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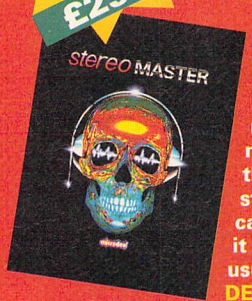

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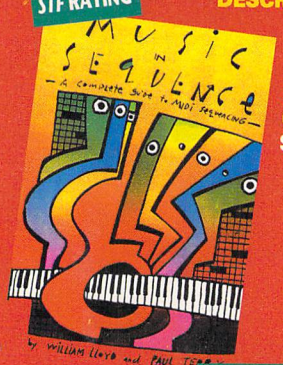

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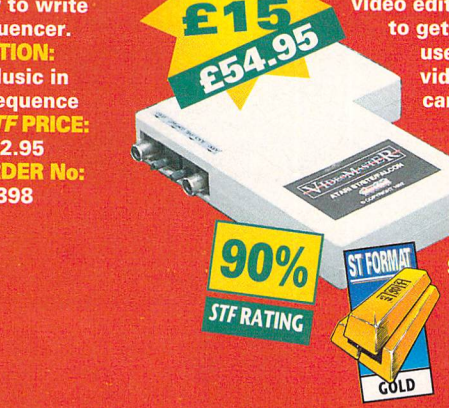

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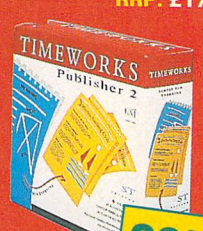

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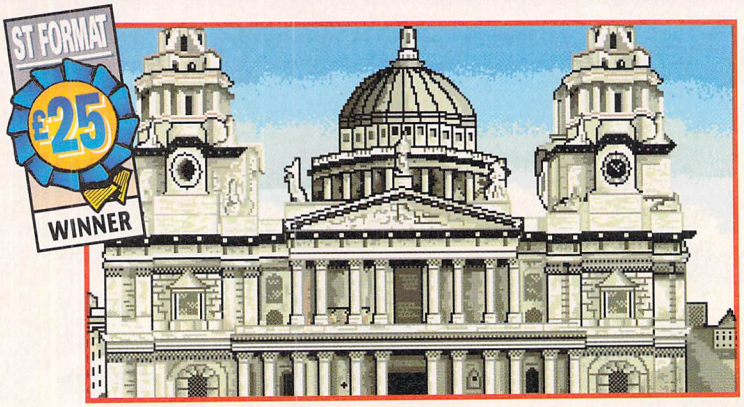
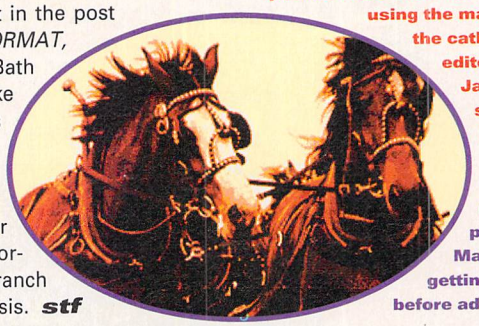
In keeping with the architectural theme established in last month's Pixel Painting, our winning picture is another famous London landmark. This time it's a superb drawing of St Paul's Cathedral created using *Degas Elite* by **Jarrod Gilmore** of **Norwich.**

It's not too hard to create your own masterpiece, so load up that paint program and get drawing. If your pictures are world class standard then stick them on a floppy disk and bung it in the post to Pixel Painting, *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW. Please make sure your picture is saved in either *Degas, Neochrome,* Targa, TIFF, GIF or Spectrum 512 format – all other picture formats are forwarded to Special Branch for psychological analysis. ***stf***



St Paul's Cathedral: Jarrod created his picture of St Paul's over three days using *Degas Elite* in low resolution. The main elements of the picture were drawn in rough sketch form and then worked on using the magnify modes of *Degas*. Similar areas of the cathedral were copied as blocks and then edited and retouched using magnify mode. Jarrod initially created his picture using several shades of grey, colour was added later when the drawing was completed.



Horses: Mark Almond from Merseyside came a close second with his picture of a pair of horses, again created in *Degas Elite*. Mark says that his biggest problem was getting the proportions of the horses correct before adding colour to the picture.

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STE TOS SWITCHER + 2.06 ROMS...£59.95

NEW STFM TOS-SWITCHER

with Hardware Switch

Solderless DIY Kit

£69.95

including 2.06 ROMS

MONITORS

AMITAR High Resolution Monochrome Monitor £129.95 including VAT excluding delivery

Philips CM8833 Mk II ..... POA

ACCESSORIES and EMULATORS

STE/STFM Scart Lead £14.95
STE/STFM Lead to Philips CM8833 II £14.95
Philips CM8833 Dust Cover £6.95
Twin Joystick/Mouse Port ext Lead ..£5.95
Squik Mouse £14.95
Dust Cover £4.95
Mouse Mat £4.95
10 Blank Sony Discs £9.95
10 Blank Unbranded Disks £5.95
Forget Me Clock £21.95
PC Speed £59.95
AT Speed 8 ..... £134.95
AT Speed C16 ..... £199.95

POWER SUPPLIES

STFM/STE Power Supplies (Service Exchange) £29.95
NEW STFM/STE Power supplies with ONE YEAR WARRANTY £49.95

DISK DRIVES

1 Meg 3.5" Internal Drive £44.95
High Density 3.5" Internal Drive £54.95
High Density 3.5" Internal Drive + Module £79.95

PRINTERS – HP510 £299.95 – HP550 Colour £549.95

- All prices include VAT and **NEXT DAY DELIVERY** subject to availability
- Fixed charge for repair does not include Disk Drive Replacement & Keyboard
- All prices subject to change without notice
- We reserve the right to refuse any ST Repair
- Please allow 5 working days for cheque clearance

Access VISA

GUARANTEED SAME DAY DISPATCH (subject to availability)

SPECIAL OFFER FOR A LIMITED PERIOD

PROTAR PROFILE SERIES II 50DC HARD DRIVE £249.95 compatible with complete ST Range and FALCON

Professional Service with no surcharge

WHILE-U-WAIT!!!

◆ MEMORY UPGRADES ◆ TOS UPGRADES ◆ DISK DRIVE UPGRADES ◆ EMULATORS ◆ ACCELERATORS ◆ many REPAIRS

power computing ltd

telephone 0234 843388
facsimile 0234 840234
technical 0234 841882
(technical is available from 2-5.30pm)

series 900

The Series 900 HD features a buffered through port, optional battery backed clock, high speed 20ms seek rate, write protect switch, power supply and ICD interface and utility disk.

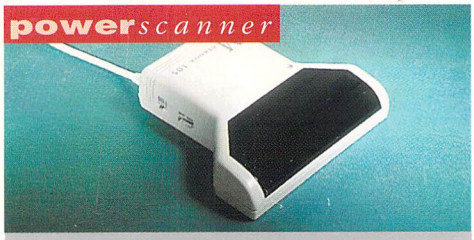
Series 900 52QMB **£299**
Series 900 120MB **£349**

icd link

The 'Link' from ICD includes an external SCSI host adaptor, allowing the Atari ST to connect to external SCSI devices e.g external hard disks, optical drives and CD-ROM drives which were originally designed for the Apple Mac, IBM PC etc. Just plug-in and no power supply is needed.

ICD 'Link' **£89**
AD SCSI Plus **£89**
AD SCSI ST **£79**
ICD Pro Utilities **£39.95**

power scanner



The award winning scanner from Power Computing allows you to scan up to 400DPI in real-time greyscale, with an autoscan rate detect. The scanning software included allows you to edit and manipulate any image you scan.

£99

floptical drive

The Floptical stores 20MB of data on a 3.5" disk. ICD 'Link' is required.

Floptical drive **£329**
Floptical disk ..... **£22** *each*

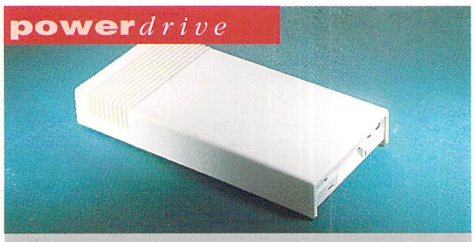
printer range

Huge range of printers available, Star, Citizen, Hewlett Packard and Epson. Please telephone for prices and your requirements.

miscellanous products

PowerMouse **£15**
Power Clock **£17.99**
Optical Mouse **£29.95**
Replacement Optical Mat **£10**
100 Branded Disks + Box **£49**
10 Branded Disks **£4.99**
Intruder 1 Joystick **£29.99**
Maverick 1 Joystick **£15.99**
Python 1 Joystick **£9.99**
Apache 1 Joystick **£7.99**

power drive



The award winning external disk drive which includes a virus blocker, built-in Blitz Turbo and is able to boot from drive B. This is the ultimate in external disk drives for the Atari ST computer.

£60

power drives

Power Computing manufacture many disk drives for the Atari ST, all of which are made from high quality components.

PC720P (Inc. PSU) **£55**
PC720I (Internal) **£39.95**
(360K upgrade drive, needs case modification)
PC720 OI (Official internal) .. **£45**
(720K replacement drive)

drive-b cable

If you have an internal drive that is not compatible with 'boot from drive B', this cable will solve your problem.

Drive-B Cable **£9.95**

blitz turbo

Back-up disks at lightning speeds, Blitz copies from the internal to the external drive and cleverly by-passes your ST's controller chip. In around 40 seconds you can back-up an ST disk, what's more you can now switch between your disk drive and Blitz Turbo without disconnecting your Blitz interface. Probably the best Atari disk copier on the market. (1988 Copyright act applies)

Blitz Turbo **£25**

supra modems

Supra Modems come complete with English phone cable, RS232 serial cable, heavy duty PSU and comms software, send and receive fax's, 100% compatible with industry standard 'AT' command codes, free trial offer to various services and V42 bis data compression.

Supra Fax Modem+ **£119**
Supra Fax Modem 32BIS **£249**

ring interruption

Use with Ultimate Ripper or SuperMon. Stop games or programs in their tracks, search for infinate lives and hack with the code. A press of a key and the program is restarted.

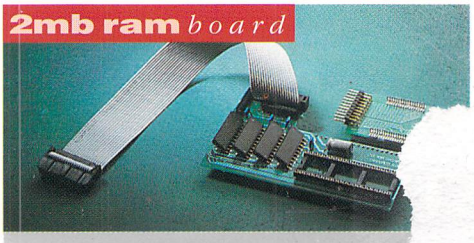
Ring Interruption **£15**

super mon

SuperMon comes with all the features of the 'Ultimate Cartridge' and more. Some of the features included with SuperMon are: Program Switcher- allows two programs to be in the memory simultaneously and switched between at the touch of a key, Printer Spooler- allows files to be printed at the same time as other tasks, Comprehensive Debugger- disassemble programs and step through them, intercept OS calls, search memory or find where a routine is called from automatically, Diagnostics Function- check the internal functioning of your ST disk analyser, custom format disks, read/write sectors, hide files, Utilities- the SuperMon also has many utility functions available, including reset proof RAM disk, mouse trap function, time display, screen snapshot and 50/60Hz display toggle.

Ultimate Cartridge **£25**
Including SuperMon **£35**

2mb ram board



The Atari RAM Board requires no solderin. plugs directly inside the ST using the latest capacity RAM chips. Full fitting instructions are supplied. The ST RAM Board is available either as a 2MB or 4MB RAM expansion.

£99

4MB RAM Expansion **£169**
1MB SIMM for STE **£35**
512K RAM STFM **£45**

order form

Return this order form to Power Computing Ltd, Unit 8 Railton Road, Woburn Road Ind. Estate, Kempston, Bedford MK42 7PN

Name
Address
Telephone No.
Description
System owned
I enclose a cheque/PO for £
Credit card No.
Expiry date
Signature

Make cheques payable to Power Computing Ltd

delivery *next day £5.00 2-3 days £2.50 Saturday £10.00*
deliveries are subject to stock availability

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