

ST FORMAT

**PUT THAT
ON PAPER!**

We review and
rate over 25
printers



MAKE IT MOVE!

We show you
how to create
your own
stunning
full-screen
animations



43 COVER DISK

ST FORMAT

FRACTAL LANDSCAPE
Fly through a virtual landscape using this stunning fractal generator

ANIMATION TOOL
Create animations, then compress them

CENTPEDE
Arcade fun is yours in this mushroom-blasting classic

STOS COMPILER FIX
No more incompatibilities!

NODDY'S PLAYTIME

The man with the hat is back in a delightful playable demo including the junior art package, Noddy's Paint Pot

NO COVER DISK?
THEN ASK YOUR NEWSAGENT FOR IT IMMEDIATELY

Are you power-crazed?
See how you can
make the most
of it!

THIS ISSUE: Visit Imagitec, creators of the Falcon's Space Junk
Look! Nine pages of hints and tips
Reviewed: Over 20 PD programs
See how to keep your disks safe!

Games rated:
Gobliins 2, Pool,
Sabre Team, Lethal
Weapon - and
many more!

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THE SUPER STARS RETURN



EUROPEAN RAMPAGE

TOUR

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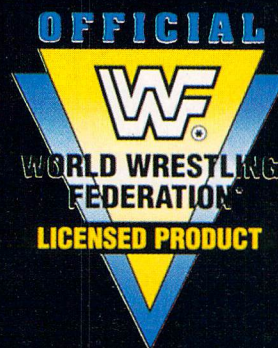
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Work with your team-mate to achieve
the ultimate goal - the



EUROPEAN RAMPAGE* TAG TEAM TITLE



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IBM PC & COMPATIBLES
COMMODORE 64



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ought for the month: perhaps we'll get an issue out on time
next year!

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secret to
creating
fantastic
animations?

MAKE IT MOVE!

Turn to
page 14 to
find out

(Psst - no - it's
dead easy!)



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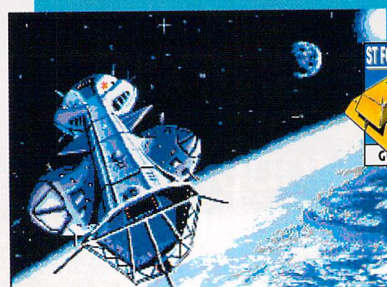
108 SPECIAL OFFERS

The offers we're offering you just keep getting better and better - there's no stopping us!

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Dyna Blaster
Goblins 2
Lethal Weapon
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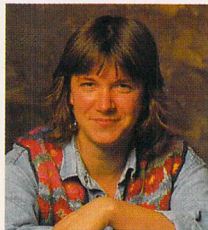
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Sabre Team
Sensible Soccer v1.1
Super All Stars
Superfighter

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Find out where this is in our review of Bat 2 on page 82 - it's brilliant!



Dyna Blaster's
a real
stormer.



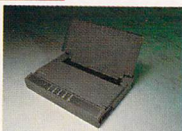
Paula Richards, Editor

WELCOME TO ST FORMAT!

Hello and welcome to this issue of **ST FORMAT**. You might not have seen me before, but I've been working on the magazine for almost a year and a half so I know what you're interested in. We've got a massive feature on full-screen animation and tied in with that are *Fracland* and *Animation Tool* on the Disk to inspire and help your forays into making your ST's screen move. You've probably noticed there's only one Disk on the cover this month, but that doesn't mean

we've lost interest in Disks - as you can tell by looking at this month's selection of programs, detailed on page 22, we're committed to bringing you the very best. Regrettably we've also had to increase the price from £2.95 to £3.25 but I think you'll agree that to have kept at £2.95 for over four years is pretty good going.

Anyway, this is a stormer of an issue, I hope you'll agree - write and let me know what you think. Have an excellent month - cheers!



PRINTERS

Question: where can you find 28 printers all in one place?

Answer: in our enormous printer roundup

Turn to **page 44**



HEAVENS ABOVE!

Find out how you can be a total mega-lomaniac!

Turn to **page 38**



SPACE JUNKIES

What are all those people looking at? Are you missing out?

Find out on **page 74**

HELP!

57 HELP!

Help us to help you. We would if we could but first we need to know what your problem is. Then we'll see what we can do.

58 ST ANSWERS

Our experts are just waiting to answer your technical queries - here's this month's selection - over 30 questions and answers!

68 GAMEBUSTERS

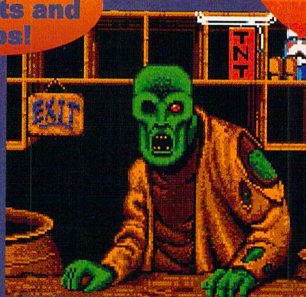
Stuck on a game? Need a helping hand? Try reading this - we might just have that very tip you've been searching for all these months.

Nine pages of hints and tips!

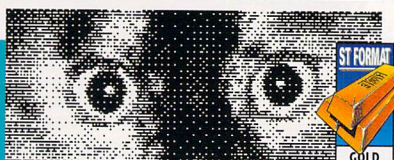
■ What's James Pond up to? Providing fishy clichés for captions?



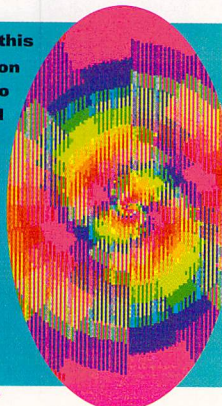
■ We cheat the second part in the *Voodoo Nightmare* extravaganza - can you bear the suspense?



■ Can the Power Scanner cope with this in real-time greyscales?



■ To recreate this effect, stand on your head, go cross-eyed and spin round.



79 REVIEWS SECTION

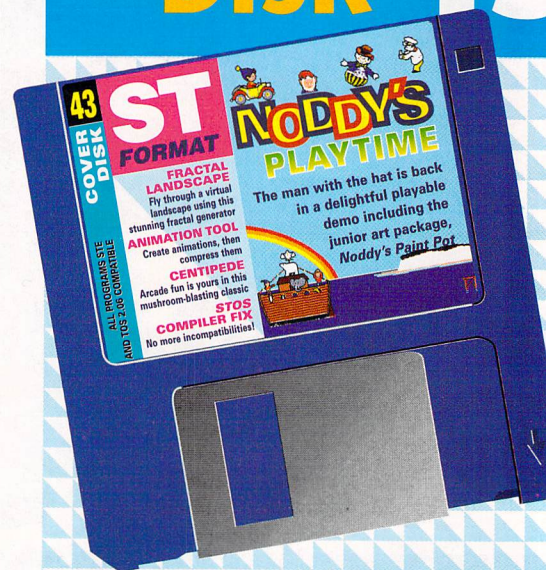
Our definitive reviews start here.

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THIS IS JUST WHAT YOU NEED!

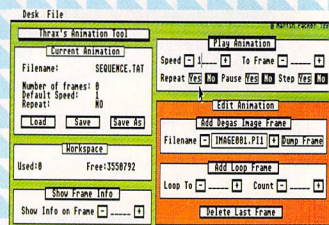
We've got a brilliant Disk for you this issue; as usual it's packed with the brightest, boldest and - er, most useful programs you could possibly want. First up, there's a playable demo of Noddy's Playtime - a great educational program for kids of all ages, this will bring back your childhoods!

■ Noddy loves to drive in his car - why don't you join him?

Then there's a fractal animation program so you can whizz around the mountains and dip into the fjords, and Animation Tool, an excellent utility to animate and compress your creations. And there's more...

■ Create mountains like these and take a ride through them.

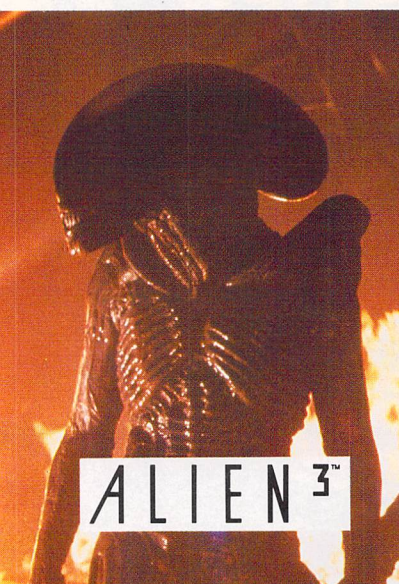
■ Animation Tool's just great - you can animate and compress your very own creations - excellent stuff!



TURN TO PAGE 22 VERY QUICKLY INDEED!

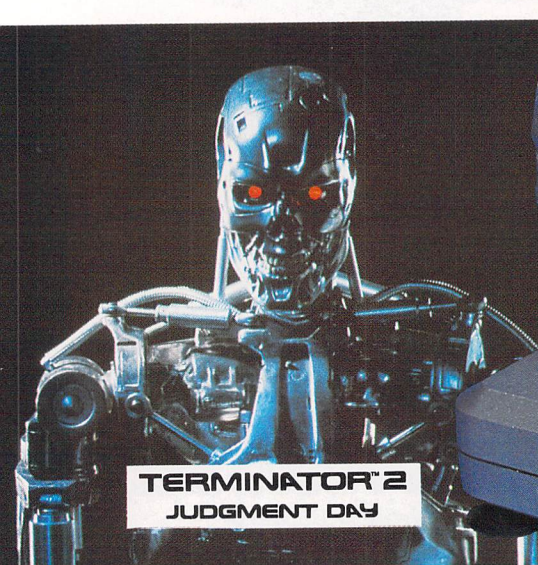
CHEETAH

JoySticks from the CharacteriStick range



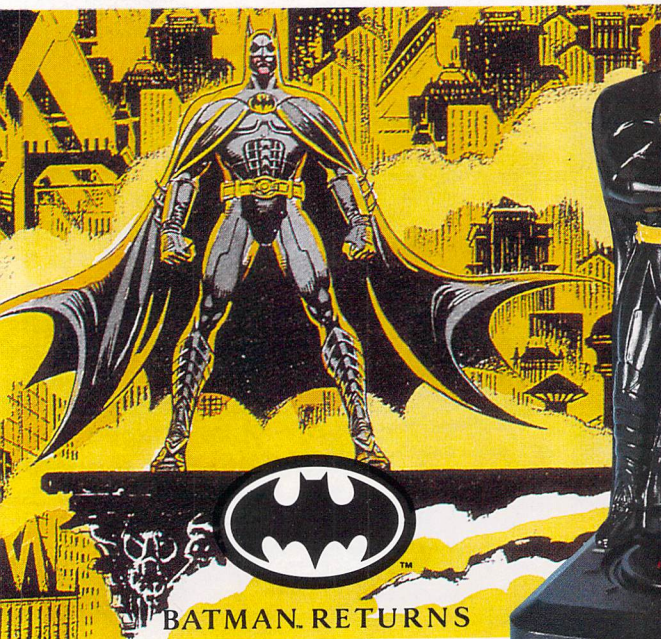
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FALCON ON TV

BY CLIVE PARKER

Atari have been showing off the Falcon to the companies who can give it the widest coverage, the TV shows *Gamesmaster* and *Bad Influence*. Armed with some excellent new audio and visual demos, Atari have been doing the rounds of the TV computer game shows. Darryl Still, Atari's marketing manager, visited *Gamesmaster* with a Falcon and showed the producers the Falcon's new true colour graphics and CD-quality sound animations. *Gamesmaster* are setting up a three way head-to-head comparison between the Falcon, the Amiga A1200 and the Acorn A3010 32-bit machine; it'll be shown as soon as some impressive software for the new Amiga can be found. *Bad Influence* have also received a visit from Atari and devoted a section of one of the programs shown a week



before Christmas to a demonstration of the Falcon.

Another program lined up to feature the Falcon is a new computer games show that's to be shown on satellite television. The new program is being produced under the working title of *The Game Zone*, although this may change before the program finally reaches the screen. The same company that produces *Gamesmaster*, Hewland International, are working on the Sky show which is to be shown Monday to Friday at 6.30pm on Sky One. The program is set to start at the beginning of March and is to run for five months; both *Gamesmaster* and *Bad Influence*

will have finished their present series when *Game Zone* starts.

One of the features of the show is going to be a game that can be played by viewers phoning into the show, with the tones generated by push button telephones controlling the computer in the studio. The Falcon is being considered as the machine which the game is to run on because of the ease with which it can process external information via the DSP chip. The Falcon is also being considered for an in-studio challenge competition, starting with five contestants on the Monday show and eliminating one a person a day until there is a winner on the Friday.

FALCON SNIPPETS

New demos

We've been looking at demos that show off the abilities of the Falcon - and it really does live up to all the hype...

■ Take a large building complete with Atari Fuji logo. The point of view zooms in at an incredible speed to the screen of a monitor displaying a raytraced animation of a large building complete with Atari Fuji logo... Get the picture? The animation loops at such a high speed that you begin to feel sick if you keep staring at it.

■ In a pre-production version of the Compo program, *Musicom*, (see news STF 42), samples can be loaded in at frequencies of up to 50KHz and manipulated in real-time - the DSP chip processes the sound sample data as it is being played. Voice samples can be echoed, lowered in pitch, raised in pitch and harmonised to produce a chorus effect of several voices at once. Contact Compo on ☎ 0480 891819 for more details.

■ Perhaps the most impressive thing we've seen, however, is a Desk Accessory animation player from France. The animation player is part of an animation program still being worked on enabling photographic true colour animations to be combined with CD quality sound samples to produce brilliant animations. The quality of some of the computer generated and raytraced animations is easily as good as anything seen on Channel 4's *Formations* series. Digitised video or TV sequences can be imported and combined with sound to create stunning demos. These animation demos impressed the TV shows producers more than anything else - see top left.

Joystick ports

Don't worry about the inaccessible joystick ports on the Falcon. A 21 button joypad style controller is being developed which uses the analog joystick ports at the side of the machine. It is similar to a Sega or Nintendo control pad, looking rather like a mini Lynx without a screen. Game developers have prototype versions of the controller which feature a direction pad similar to a Lynx, three fire buttons, pause and reset buttons and 16 programmable buttons laid out like a numeric keypad.

Development machines

There are now over 100 leisure developers in the UK working on Falcon games, that's over 150 leisure developers working in Europe. Another 50 machines were sent out to new UK developers before Christmas to ensure that plenty of software is available for the machine.



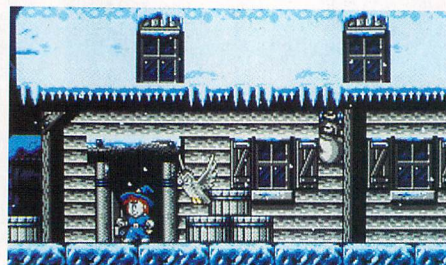
Not so much of an RPG, more of an arcade adventure, *Super Cauldron*

casts you in the role of Zmira, a cutesy witch who has to rescue her kingdom from the forces of evil.

There are three different worlds for you to negotiate with

SUPER CAULDRON

plenty of collectibles in the form of spells - useful for beating the goblins the Evil Sorcerer sends your way. At the end of each world you are rewarded with a key which enables you to unlock the secrets of a Magic Book and pass on to the next world. *Super Cauldron* is available now from Titus Software ☎ 071 700 2119, price £25.99.



■ The spell collectibles in *Super Cauldron* enable you to unleash fireballs, lightning and circular saws.

SPRECHEN SIE DEUTSCH?

LCL have sold so many of their GCSE educational courses in other subjects on the ST that they have produced *Micro German* and *Micro English*. Both consist of 24 program courses which are suitable for beginners from the age of eight through to GCSE level standards. The programs cover writing, reading and oral communication, with sub programs dealing with spelling, vocabulary, grammar, advanced spelling and note making. The *Micro German* program also covers other aspects such as travelling, signs, students and business German for enterprising youngsters who plan to take advantage of the single European market this year.

The programs contain aspects designed to appeal to

children to make learning fun, puzzles and graphic adventure sections alternate with more serious programs on grammar and verbs. Excellent graphics and digitised speech are also featured in an effort to make the programs easier to follow.

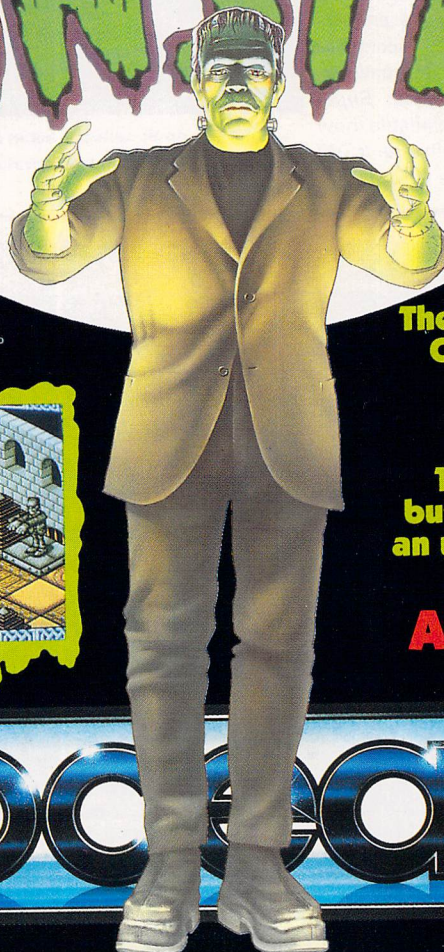
Also on the way from LCL is *Micro Science*, a National Curriculum Integrated Science course which takes beginners in science up to GCSE level. The program is aimed at older primary school children and GCSE students, covering Physics, Biology and Chemistry GCSE courses. *Micro Science* is due to be released in May.

The *Micro* series runs on all STs and cost £24 (plus 99p postage), call ☎ 0491 579345 to order direct from LCL.



■ This young lady is obviously keen to get to grips with the German language using *Micro German*. Her mother has already bought her the appropriate national costume to enhance her mood while learning the language.

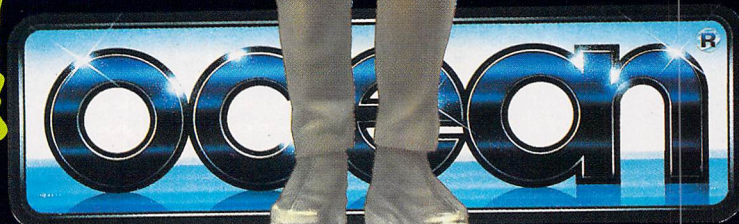
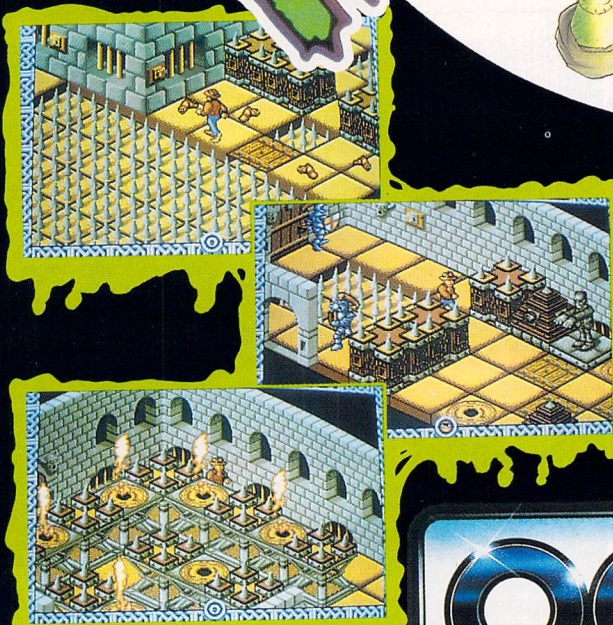
THEY LIVE AGAIN



Dracula, The Frankenstein Monster, The Mummy, The Wolf Man, The Bride of Frankenstein and The Creature from the Black Lagoon. Classic monsters from a movie age gone by. But more than that... creatures from our oldest dreams and our darkest nightmares. They have met and battled before, but now they are back. Back to form an unholy alliance to make our worst fears turn into a terrifying reality.

ATARI ST . CBM AMIGA

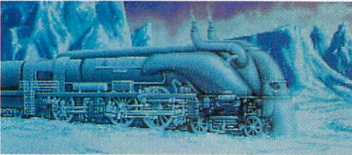
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TRANSARCTICA



■ Trains like the *Transarctica* are the only means of transport for the isolated populations in a frozen world.

By the beginning of the 21st Century, the earth has been badly ravaged by the Greenhouse effect. In a bid to create rain and deflect the heat from the sun, a team of scientists take the drastic step of deto-

nating nuclear devices at the two poles. Unfortunately, the operation goes terribly wrong and the planet is plunged into the depths of a nuclear winter.

Hundreds of years later, the world is controlled by the Viking Union – an organisation which controls the only means of transport, huge snow-beating trains. You are the captain of one of these trains – the *Transarctica* – and determine to save the world from its unenviable fate.

Transarctica has been developed by Simarils, the masterminds behind *Storm Master* and



■ Looks cold, here – you'd think they'd have heating at the HQ.

Ishar. A cross between a strategy game and a simulation, the game uses the familiar click-and-point mouse interface. *Transarctica* is available from Daze ☎ 071 490 2944. It should be in the shops right now, priced at £25.99.

SLEEPWALKER



Ocean Software have teamed up with Comic Relief to produce the first Red Nose computer game.

Sleepwalker is to feature voice-overs from Lenny Henry, flying noses and celebrity "guest" appearances with about £5 from the sale of each game going to Comic Relief. Every copy of *Sleepwalker* comes with a sponsorship form and suggestions for raising more money by organising game challenges and school matches.

Ocean are hoping that game sales alone will raise £500,000 for the charity. If you want more info, phone Ocean on ☎ 061 832 6633. Red Nose Day 4 happens on Friday 12 March 1993. *Sleepwalker* should be on sale now, for £25.99.



■ ... All the red noses settled down for a peaceful night, dreaming of erotically shaped vegetables.

HERO QUEST 2: THE LEGACY OF SORASIL



■ Here we have the plans for the new out-of-town shopping centre at the foot of the Shadow Mountains.

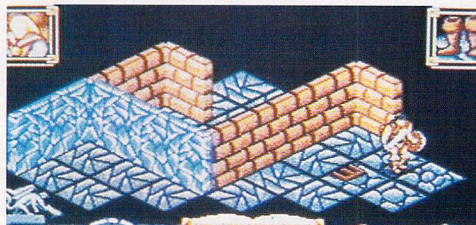
Just when you thought it was safe to hang up your trusty sword and toast some orcs over a heart-warming log fire, you're called to retrieve two magic talismen and save the land of Kolcoth from disappearing up its own bottom.

The Legacy of Sorasil is a new chapter in the *Hero Quest* saga. Up to four players can take part in this RPG adventure which now features forests, swamps and

dungeons for you to explore in your search for the lost Healing Amulet of Tambor-Rin and the Oracle Stone of Legend.

The game retains the graphical and gameplay qualities of the original which received an STF rating of 78% when it was first released. *Hero Quest 2* is being released by Gremlin Graphics ☎ 0742 753423 in mid-January, price £25.99.

■ Clerics, rangers and paladins hoping to embark on the *Hero Quest 2* must first enrol on a 18-week City and Guilds course in Mediaeval Bricklaying.



SHORTIES

Music-tivity

How would you like to know more about *Cubase*? Well, now you can, there's now a bi-monthly newsletter and ST formatted disk dealing with all things *Cubase* related; Proteus Communications have set up an independent *Cubase* User Group, which aims to provide advice, tutorials, reviews, examples, mixermaps and MIDI files.

A one year subscription costs £14.95 for six newsletters and disks,

while a sample issue with disk costs £2.75. Proteus are on ☎ 0642 300903.

FIGP has a double

Apologies go to Microtime Media on behalf of MicroProse for the screenshots and accompanying captions of the *Formula One Grand Prix* cheat that appeared in *Gamebusters* in STF 42. Unfortunately the screenshots came from another game entitled *FIGP* but originated from a lesser known company, Micro Value.

Microtime Media would like to point out that, while they do incorporate relevant product brands into games, they would never consider including tobacco products into any of their games in any shape or form.

They also emphasise that the apparent quality of the game pictured is far below that of MicroProse's *Formula One Grand Prix*. You can be assured, however, that the cheats we featured are applicable to MicroProse's version.

ST SNIPPETS

Calamus font editor

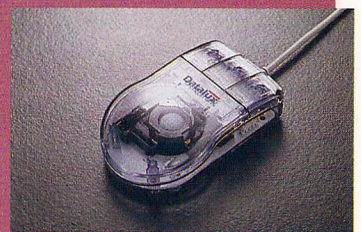
Fonty is a program designed to create or edit *Calamus* CFN outline fonts and contains all the tools required to create new fonts from scratch. Features include manual and automatic kerning, grids and grid lines and all the usual creation tools. A separate program enables Postscript Type 1 font files to be converted to *Calamus* CFN format, and when used in conjunction with *Fontkit Plus* or *C-Font*, *Fonty* can also generate bit-mapped fonts for use in other major ST applications. *Fonty* is a bargain at £11.95 and can be obtained from the ST Club on ☎ 0602 410241.

A friendly modem?

A new easy-to-use range of modems has been announced by Racal-Datcom. Instead of messing about setting up the modem from within your comms package, you can simply select one of eight previously defined settings by pressing a button on the front of the modem. There are three modems in the Maxam MXF range offering speeds from 300 baud up to 38,000 baud using compression routines and are suitable for use with fax software. The price of the modems ranges from £275 to £645 making them just a tad overpriced for logging onto the ST FORMAT BBS. Call Racal on ☎ 0734 669969 for more information.

Nude spot

There's now a transparent mouse available from Spectravideo that you can add to your bizarre peripherals pile. The rodent has a resolution of 200dpi, large friendly buttons and is smooth and accurate in operation. The Datalux See Thru mouse costs just £22.95 from Spectravideo on ☎ 081 902 2211.



■ The Datalux See Thru mouse is an ideal conversation piece; place it in a prominent position and wait for a reaction.

Rubysoft don't have it in for the ST

Following our article entitled "Who's got it in for the ST?" in STF 41, Cliff Clark of Rubysoft points out: "We haven't stopped supplying ST software and probably never will – we've only stopped supplying ST machines. We have a large selection of software and peripherals available for the ST."

SNIP, SNIPPETY, SNIPPET

Not just another fairytale

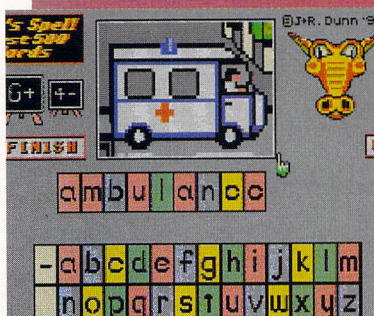
Squirrel Soft have recently relaunched their animated story maker, *Magic Storybook*, which we gave away with STF 39's Cover Disk – turn to page 66 to order your copy if you missed it.

The *Magic Storybook Collection* now costs £12.50 and includes 0.5MByte and 1MByte programs, five complete stories and two demo stories. The *Collection* also comes with an illustrated 20,000 word manual, a tutorial and teachers guide. For further information contact Squirrel Soft on ☎ 0926 833311.

Complete spell out

Those busy Squirrel Soft people have also recently added another title to their popular *Let's Spell* series of spelling games.

Let's Spell 1st 500 Words features 500 words in English and French, 25 spelling screens, synthesised speech and a comprehensive editor which enables you to alter or replace any screen or word. There's also a customisation option so you can use the game as a spelling or vocabulary tutor. The program costs £10 and is again only available through Squirrel Soft. A playable Shareware demo of the program is available from Goodmans Enterprise ☎ 0782 335650.



■ The spelling screen. Use the mouse so you can choose the letters you want to include in the word. Click on the flags to toggle between English and the French language versions.



■ Let's Spell's main icon screen.

Click on any of the icons to access the themed spelling screens.

500,000 people can't be wrong

Europress Software recently celebrated half a million sales of their Fun School educational programs with a kids' tea-party.

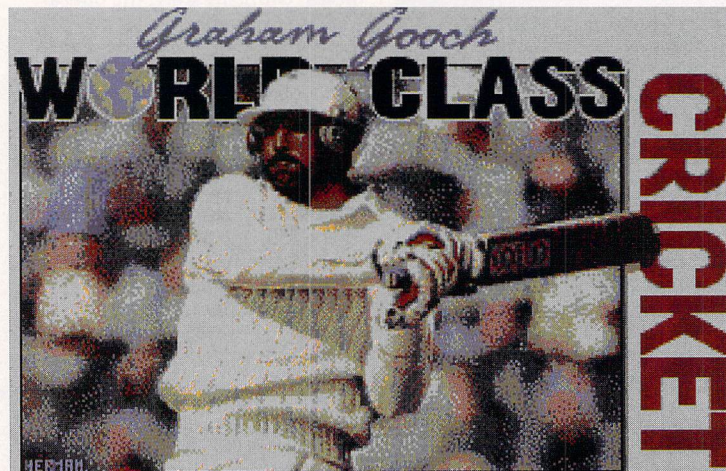
Local children, school Information Technology advisers and parents were invited to Europress's offices near Macclesfield to try out some of the software and take part in the fun. Sales manager Clare Barnwell explained that the company had taken the lions' share of the educational software market, with ST owners accounting for 11% of Fun School sales.

The *Fun School* series is aimed at children from 3 to 11 years while the *ADI* series – developed by Coktel Vision, the company responsible for *Goblins* – take them up to GCSE level. Europress were keen to stress that all their software has been developed in conjunction with educationalists and meets the needs of the National Curriculum. For further information about *Fun School* or *ADI*, phone ☎ 0625 859333.



■ Adi's the lovable alien who features in Adi's Maths and English.

GRAHAM GOOCH WORLD CLASS CRICKET



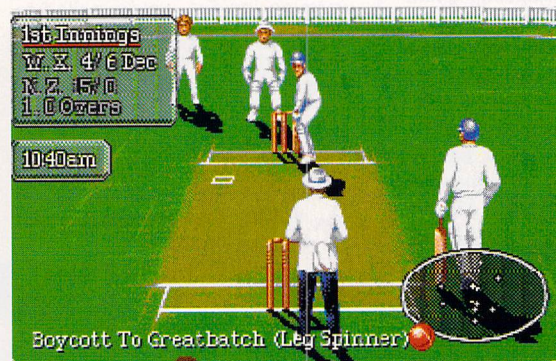
■ If you're sick and tired of playing football or managing football teams you might find that a game of cricket is precisely what you need – especially with the thought of the long hot days of summer... this game is the place to start.

Summer is soon going to be upon us – long lazy afternoons spent sipping tea and listening to the crack of leather upon willow. But that's enough about next door's sexual habits, how's young Graham getting on?

World Class Cricket from Audiogenic (☎ 081 424 2244) looks like being a real stormer, and a pleasant change from all those footy games. It can be controlled by either mouse or joystick and up to two people can play. You choose

from a number of international sides, including a World XI. Other menu options enable you to pick your favourite players. When you're playing the game, you get both a 3D and a bird's eye perspective, so you can see what's going on on the pitch. Depending on the outcome of the toss, you either control your batsmen or bowlers. Look out for the full review in a future issue of STF.

World Class Cricket is going on-sale in February, price £29.99.



■ "For Heaven's sake, can't you hurry up and bowl that bleedin' ball? My cucumber sandwiches are going all dry and curly at the edges."

WEIRD CITY



■ Is this (a) the main control column the ore refinery freighter *Nostromo* (b) the rarely seen long-necked Hereford stag beetle or (c) another weird joystick from Cheetah?

Cheetah continue their tradition of producing strange looking joysticks with the advent of the Argostick and the Bollistick. The Bollistick is shaped like those strange kidney shaped joypads that console freaks make such a fuss about, while the Argostick looks a little like something H R Giger dreamt up during a particularly bad nightmare; the whole thing is designed to have that distinct bio-mechanical look pioneered in the *Alien* films. The Argostick is £12.99 for the standard version and £14.99 for the microswitch version, while the Bollistick costs a reasonable £9.99. Next month we will be having a full review of both of these joysticks, and five lucky readers will have the chance to win a Bollistick. If you can't wait for the compo to try and get one, you can contact Cheetah on ☎ 0222 867777.



■ This is the new Bollistick joypad style game controller from Cheetah. Looking rather like a stylish remote controlled boomerang, the Bollistick is the latest addition to the ever-growing range of joysticks and controllers.

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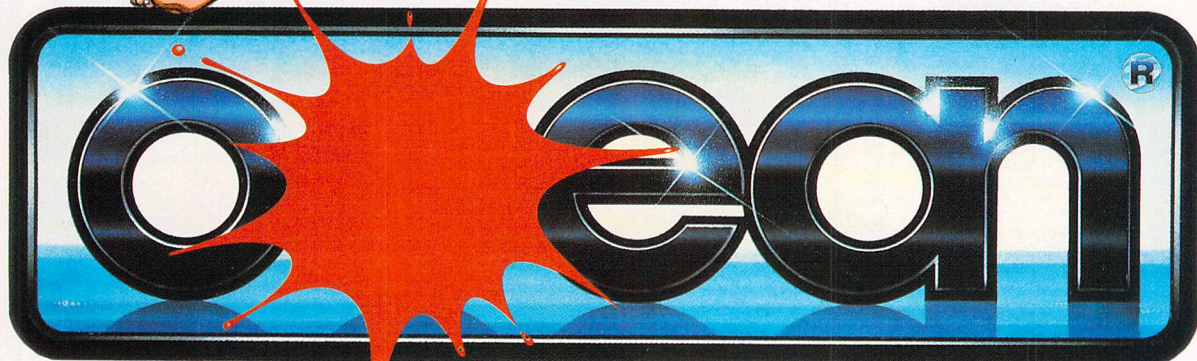
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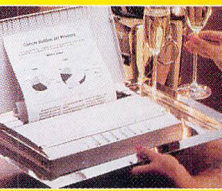
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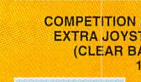
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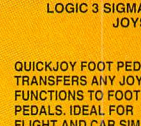
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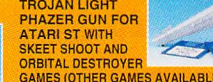
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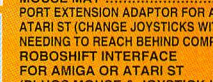
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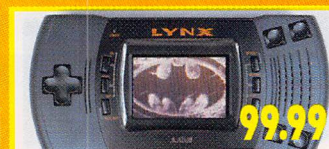


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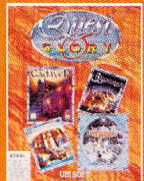
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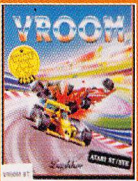
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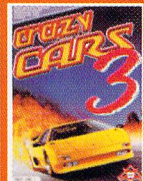
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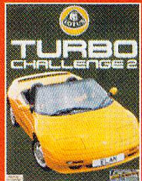
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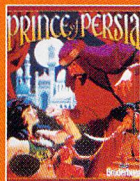
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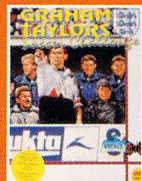
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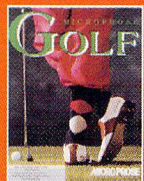
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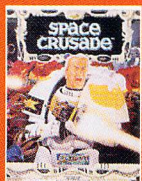
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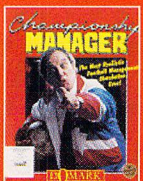
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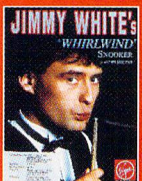
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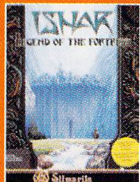
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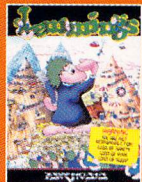
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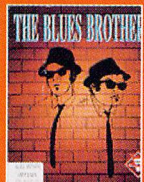
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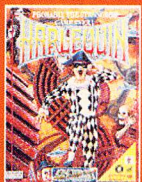
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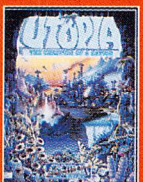
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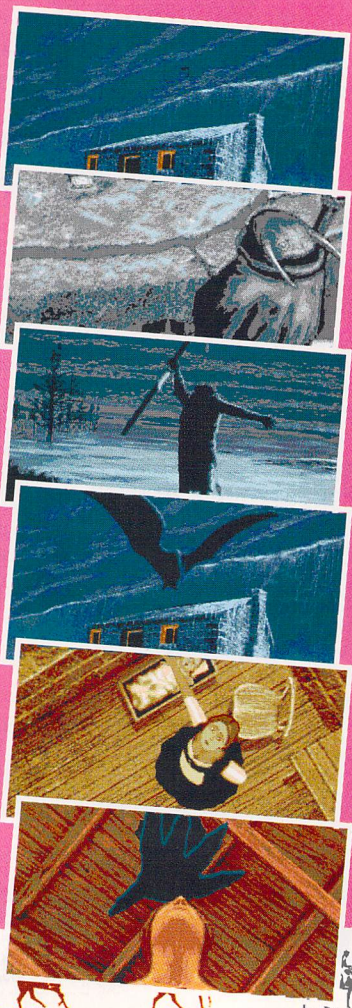
FROM SINGLE CELL TO PIXEL

The art of film directing - well, nearly - has come to your ST. Follow Chris Lloyd and Clive Parker in their search for fame and fortune

INTRODUCING INTROS

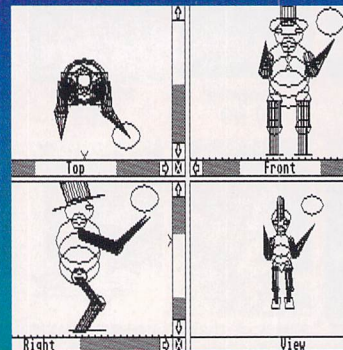
Some of the best animations you can see on your ST are tacked onto the front of commercial games. Often hefty affairs a few hundred K long, these intro sequences show off what your ST, mixed with snazzy graphics and a reasonable smattering of talent, can do. These sections are often put together by freelance programmers separate from the main game, perhaps there's a chance here for a budding and talented ST artist - that's you, that is.

■ This is the pretty damn good sequence from the *Shadow of the Beast 2* by Psygnosis. A good example of an effective storyboard, bags of atmosphere and brilliant graphics.

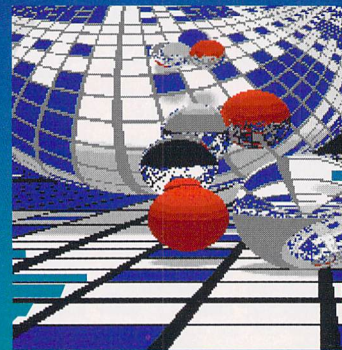


CATCHING SOME RAYS

The exclusive domain of computers, raytracing is a horribly complex and mathematically intensive process capable of producing some of the most impressive screens going



■ The wondrous world of the GFA Raytrace editor, 3D objects built from primitives, attributes assigned and lunches with wine taken on expenses a speciality.



■ Mirrored balls on checkerboard floors, eh? Pearle lacks finesse but can produce an unlimited number of frames and features simulated gravity, so they bounce beautifully.

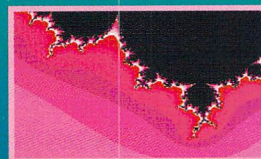
Welcome to Toon Town. Get that hat with the green-tinted peak on your head, a huge megaphone in one hand, a cigar in the other and a canvas chair with "Director" written on the back, it's time to get animating. With your ST you can take complete control over your own animations. Let

your artistic bent and imagination out of the box and loose on your screen. Don't worry if you're not a whizz at pixelated painting, there is more than one way to skin a cat. So they say.

Many of the graphics you see in ST programs consist of static or scrolling pictures with little sprites bouncing around. That's all well

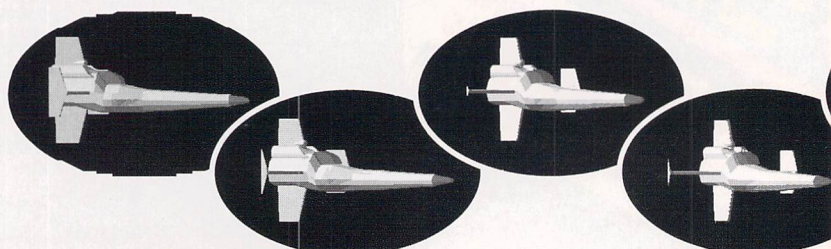
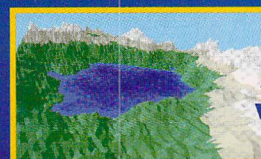
TOTAL CHAOS

■ Frames zoom into the organic swirliness of the Mandelbrot set using Fractal Engine from STF 41. Just set the parameters of the first and last frame and let it chug away.



Fractals are beautiful graphical representations of some horribly theoretical maths involving impossible things like the square root of minus one. The most famous is the Mandelbrot set named after the clever-clogs who coined the term "fractal." The result is a seemingly chaotic swirling mass of colours with an order all of their own.

■ A ride over a world of fractal mountains using Fractal Landscape. Frames can be generated as you zip about between way points you've defined in your fractal scene.

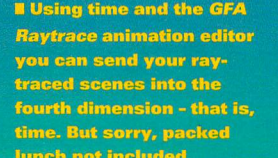


First you need a 3D scene to work with. These are built up from objects and shapes such as spheres or cylinders. Each object is assigned a texture, reflective value, colour, then the all-important light sources and observer positions are added. You can then let fly with the heavy-weight raytracing algorithms. These trace the paths of rays of light working out how they bounce around your 3D world before they reach your observer viewpoint. All the sub-

tleties of the lighting are worked out – shadows, reflections, refractions and the works. The result is a stunning realistic image. You can add in a ground, sky and even texture-map pictures onto objects. Start animating the scene over a few frames and things get impressive.

By far the best raytracing number is *GFA Raytrace*, as featured with *STF 35*. It has a sophisticated 3D editor and the final pics boast 512 colours – there's even a built-in ani-

mation editor. You can move the observation point, lights or objects over a series of ten frames making gorgeous graphics. Another raytracing program capable of animation is *Pearle* from Cover Disk 33. Although it only offers 16 colours and you have to construct your scene using a script file, it does enable you to make animations of any length and produces standard *Degas Elite* P11 screens you can use and manipulate in other programs.



■ Using time and the *GFA Raytrace* animation editor you can send your ray-traced scenes into the fourth dimension – that is, time. But sorry, packed lunch not included.

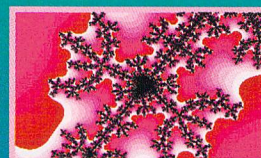
and good, but they can't hold a candle to full screen animations, where you are free to change any detail you want on each screen. Adding the dimension of time breathes life into your graphical creations and it's no harder than producing a static screen – er, apart from the fact you have create lots of screens instead of just one.

Adding time breathes life into your graphical creations

Imagination's the key

Get an idea in your head of the effect you're looking for and plan a simple storyboard. Use a big dollop of imagination here – it's pretty pointless trying to recreate the work someone else has already produced. Since the number of screens or frames of your animation is going to be limited, it's a

good idea to design sections for the whole thing to loop cleanly. An animation of a man running might only take a dozen frames, but you can repeat it quite a few times without anyone noticing how few frames there are. You don't get the restrictions of more conventional graphics; you don't have to have a static background or keep your



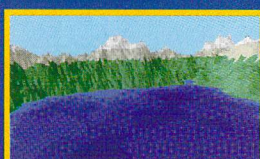
Because the pictures are mathematically formed, you can zoom in on them indefinitely revealing more swirling mystical views.

There are dozens of fractal generators around producing these wacky wonders, from the amazingly speedy *Handy Bendy Mandy* from Cover Disk 34 to the comprehensive *Fractal Zoom* (Goodmans PDL). *Fractal Engine* from last month's Disk also has animation. Animating fractals is just a question of generating a series of screens using different parameters – instant

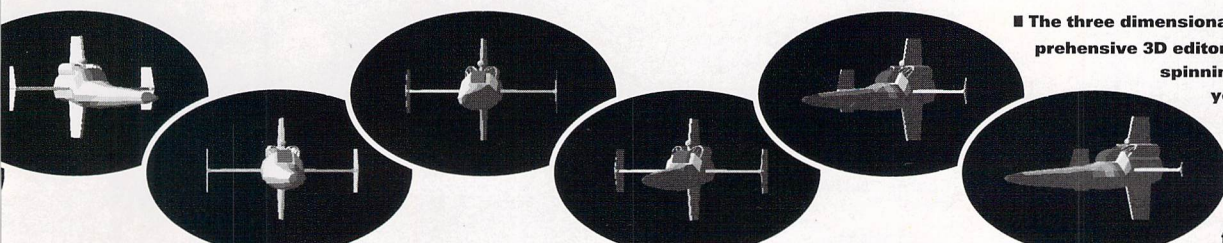
stunning animations. Well, not quite stunning, the maths is intensive and your ST is likely to be kept busy for quite a while.

Another way to persuade the fractal dimension to work for you is within the world of fractal landscapes – that's the weird world of fractals mimicking the real world. Again it's just a question of setting up the parameters and encouraging your ST to do all the hard parts. On this month's Cover Disk is a rather spiffing fractal landscape generator that takes

you on your own exhilarating sweeping helicopter rides over crisp and clear fractal mountains and lakes. Fractal animations make a great place to start building up a psychedelic animation, swooshing colours and shapes, lovely.



■ The three dimensional power of the *Cyber* series – a comprehensive 3D editor and rendering package. A world of spinning and tumbling 3D objects awaits you enticingly. Once you've designed the objects with *Cyber Studio* you can write script files using *Cyber Control*, the whole lot is then rendered and saved as a large file containing delta compression frames of your animation.



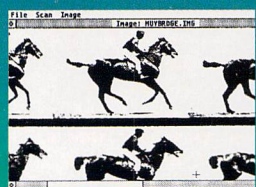
YES, BUT DOES IT SCAN?

An excellent way of getting graphics into your ST is with a scanner. These clever devices convert any picture you've got on paper into a digital equivalent ready to be toyed with

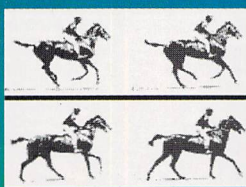
There are a healthy number of scanners available starting from around a ton for a hand-held scanner capable of scanning at up to 400 dots per inch. Scanners either scan in monochrome, which is then converted in greyscales, or in greyscales directly. If you want colour, you can add it. Once you have captured your images, distort them as you want. If you are handy with the analog system employing the graphite interface device – otherwise known as

■ This series was scanned from one of those library books you find in the Oversize section. Each scan was converted into a greyscale low resolution picture and tidied up and animated using *Deluxe Paint*.

a pencil – you can draw and plan your animations on paper first, then scan them into your ST. Or get a series of photos showing an animation, scan them, retouch them and you have an instant and realistic animation. The work of Edward Muybridge, the pioneer of animation, makes an ideal start. He took a series of photographs showing people and animals in motion. Artist's reference books are also worth a look. Any visual that's on paper now can come within your damp animating grasp.



■ The raw scan – photographs of a running horse taken to settle whether all a horse's hooves leave the ground at once. Ideal source material.



■ The final result after plenty of fiddling by trained fiddlers. Each horse can be cut out and saved as an individual screen and then animated.



main characters small. You can sweep around a scene at will, creating weird angles and surreal effects. Now you're inspired and armed with an scene running through your head, it's time to approach your ST.

The simplest way to get into the full screen animation game is to just draw a series of screens

using your favourite art package and use a slideshow to display them. Not bad but there are two main problems. Slideshows load in pictures from disk and display them on the screen one at a time – that's fine if you want to look at static screens. Animations need to be displayed at at least six frames a second, though to achieve film-like

You can sweep around a scene at will, creating surreal effects

quality you need around 12. This is far faster than you can load them in from a floppy disk, so the screens need to be held in memory. No problem, there are plenty of programs in the Public Domain that can display your creations from memory. Slideshows can be run from a RAMdisk or better still programs like *BlastRAM* from Cover

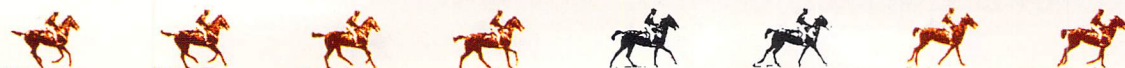
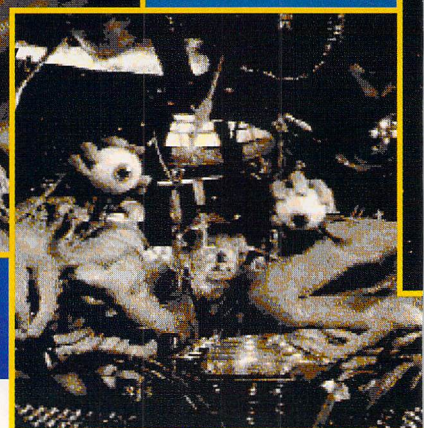
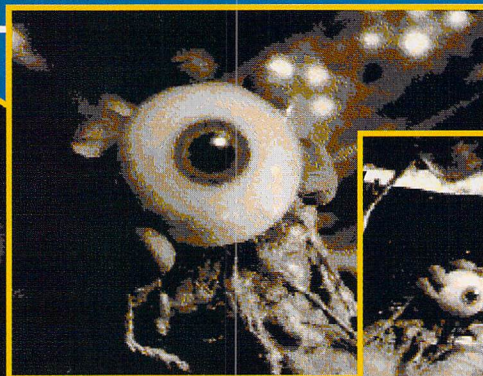
NICE ONE, CENTURIAN

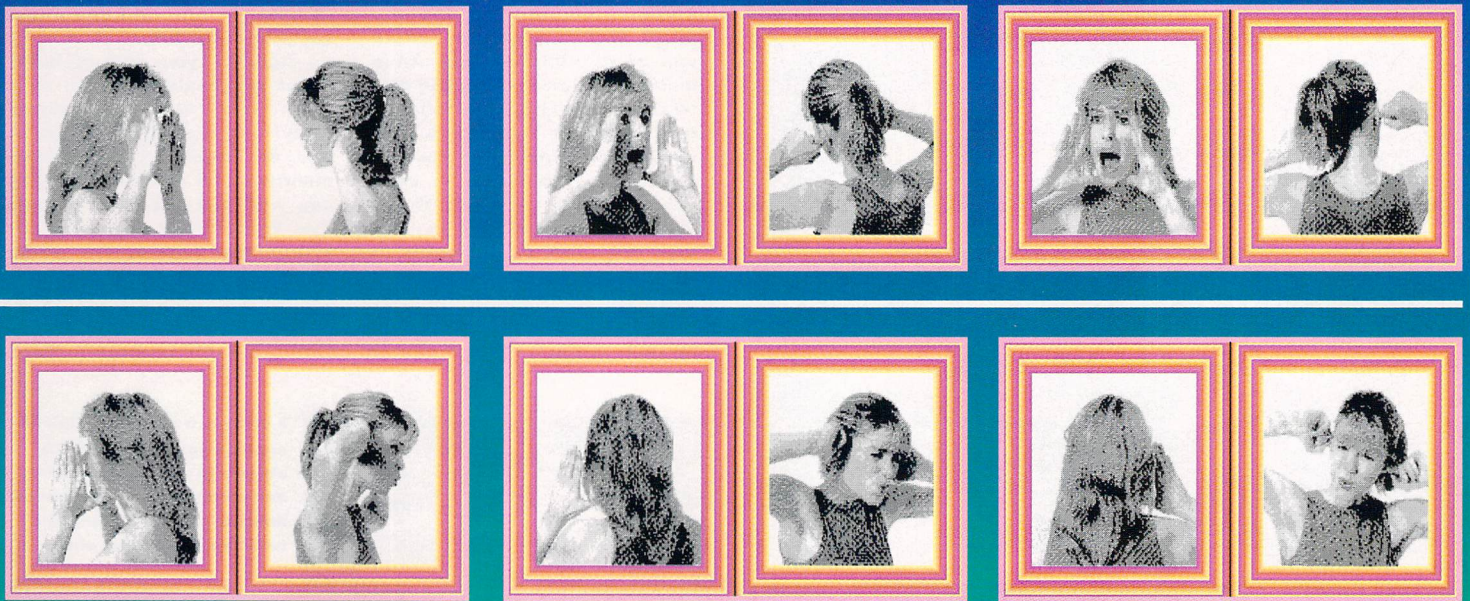
The easiest way to get a smooth and realistic animation is to cheat completely and swipe the whole thing directly from a video

With a box of tricks securely plugged into the cartridge port, you can convert any composite video source into its digital equivalent. This is where lots of memory comes into its own – the more you have the more you can capture. If you can lay your hands on a video camera you can get just the shots you need, although your budget probably doesn't reach to Hollywood proportions. It's an ideal way to capture natural movement. Your ST can digitise in 16 greyscales and at up to 25 frames a second; the final result is suitably impressive. You can use these directly, just showing clips from films, but the real fun begins when you use them as a basis for your own creative efforts – you are now the film editor. If you don't like the way a scene is cut together, then rearrange it.

If you then add a few zany effects, things start to come together. Each frame can be saved as an individual picture file and then loaded into an art package and reworked, palettes changed, sections tidied up and sections copied and moved around. You can mix and match graphics from different sources, video sequences, scans, fractals or your own drawings. Fancy adding the Predator to the *Sound of Music* or little flowers sticking out of a newsreader's head? No problem. You need a bucket-full of patience however, since extensive editing of each frame of a sequence a few dozen frames long takes time, but the results can be truly stunning.

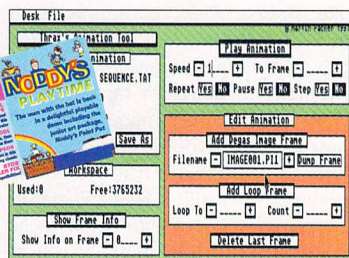
■ A video digitiser in full flow, part of a 100 frame animation. With frame rates of 12 or over a second and 16 greyscales, the results are most pleasing indeed. You lucky, lucky bastard.





Disk 34 (turn to page 66 if you missed it) can load a whole string of pictures into your ST's memory and then display them in sequence.

■ **Animation Tool** compacts and displays animations. Import **Degas Elite P11s** and play them in sequence. It uses delta compression to keep things compact and bijou.

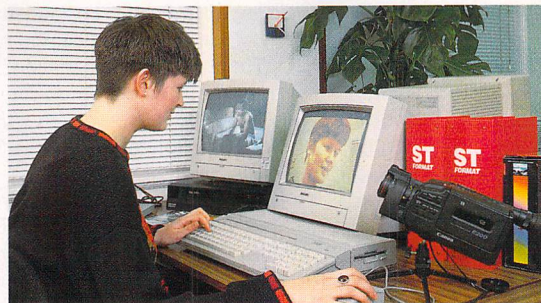


You need loads of memory
Cue problem number two, memory. An ST screen takes up 32K. The 520 ST has 512K, however after the operating system is loaded in, you are left with about 330K – and that's only enough to get animations of ten or so frames running. Enough for an interesting little loop but to get flashy you

need a lot more than that. With 1MByte you can get 26 frames or so, move up to the heady heights of 4MBytes and you can start playing with over 100 screens at once. That's much more like it. The price of memory has been steadily falling. Upgrading an STE costs around £20 to £35 per MByte, not much to shell out for a much more



ANIMATING WITH A VIDEO DIGITISER



■ All the gear you need to do your own digitising - a video digitising package, a camera, a video and a willing art assistant to show it all off.

There are just two video digitising packages available for the ST, Videomaster (reviewed in *STF* 41) and the Rombo Vidi ST (briefly reviewed in *STF* 8). The Videomaster is a brand new device from Microdeal, while Vidi ST has been around for a few years and has a few accessories and utilities to complement its operation. Videomaster is available from Microdeal (☎ 0726 68020) for £69.95 and the Vidi ST Complete Colour Solution can be obtained from Rombo (☎ 0506 414631) for £179. The Rombo set is more expensive - it includes an electronic RGB splitter to enable colour images to be digitised from still video sources, either from a still video recorder image or from a video camera. Rombo are only selling the Complete Colour Solution, although

many mail order companies are still selling the Vidi ST, *Vidichrome* and the RGB splitter as separate items - look through the pages of *STF* to find one.

Videomaster can grab live TV pictures at up to 25 frames per second in monochrome from any composite video source, while Vidi ST makes grabs at speeds up to 12.5 frames per second. In real-time, Videomaster can only grab quarter-size screen images while Vidi ST can grab full screen pictures which produce higher resolution grabs, 320 x 200 pixels compared to 160 x 100 pixels on Videomaster. Both can create full-screen still image colour grabs using a video camera with coloured filters or an RGB splitter and using software to merge the three grabs. Merging software is

built into the main Videomaster program and a separate program is available for Vidi ST called *Vidichrome*. Full screen colour stills can also be made by both digitisers from a video recorder with a perfect still frame pause facility, that means no noise lines on-screen when paused. The Rombo RGB splitter is required by both digitisers to enable colour grabs to be created from still video images. 2-Bit Systems are working on their own RGB splitter and are going to be releasing it later this year.

Making cartoons

The easiest way to create cartoon style animations with Videomaster or the Vidi ST package is to load in individual *Degas*, *Neochrome* or IFF pictures you have previously created using an art package,

although Vidi ST only loads *Neochrome* or *Degas* files. This means you have to draw each frame by hand individually in the art package - a time-consuming process at the best of times. You could use a package to create "tween" frames, this is where you draw frame one and frame ten by hand, and the software then creates all the frames in between.

Ani-ST and *Cyber Paint v2* are two graphics packages that have tweening options - see page 18 for details of where you can get this software from.

Stop-motion made easy

One of the excellent functions built in to Videomaster is the ability to create stop motion animations using a video camera. Traditionally stop-motion animation has been

THE THEORY BEHIND VIDEO DIGITISING

A black and white (monochrome) video digitiser works in exactly the same way as a standard sound sampler, this is because both light and sound are composed of wave-forms but at wildly differing frequencies

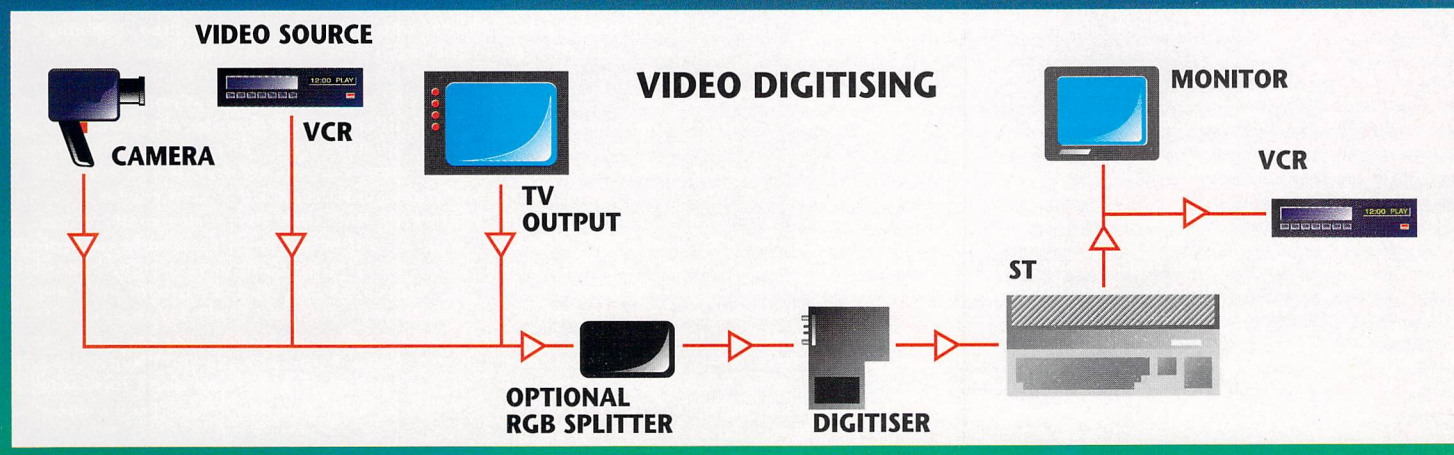
A sound sampler converts sound waves into digital information by means of an ADC (Analog to Digital Converter), this information can then be used by the ST. The ST uses software to process the data, store it, play it back at higher or lower frequencies and generally have a good time with it. Playback is usually by means of the built-in DACs (Digital to Analog Converters) inside your machine, except for higher frequency samples over 32KHz which

must be replayed by the sound sampler's own DACs, your ST is simply not capable of replaying higher frequencies through its own internal hardware.

A video digitiser works in almost exactly the same way, the main difference being that video signals are broadcast at a much higher frequency. The highest sampling rate possible for sound sampling is around the 192KHz mark, with video we are talking about frequencies in the MHz range (millions of cycles per second) - around about 6.5MHz, in fact. An ADC converts the video signal to a form that your ST can use, the digitising software then has to convert the digital information to a screen image. The data has to be converted to the correct brightness levels required to display

the picture pixel by pixel and line by line on the screen. There is no need to convert the data back to its original frequency to replay it because the information is in a form that the ST can use directly, so the normal monitor or TV output of the ST is fine.

■ Video signals can be input to the digitiser from any device that can transmit a composite video signal, this can be a TV with video output, video camera, video recorder or satellite receiver. The digitiser plugs directly into the ST where the data is processed by the digitising software. The resulting animations can then be saved to disk, viewed on the monitor and even output to a video recorder and recorded. The RGB splitter is an optional accessory and can only be used to create colour still frames.



created by photographing a model, moving it to a slightly different position and then photographing it again. Famous Plasticine animations such as *Creature Comforts* and *Trapdoor* were made using this method. Videomaster enables you to create stop-motion animations using the grab and toggle buttons of the video edit screen – you can grab quarter screen pictures one at a time. Using the Toggle button enables you to switch between the current frame and the last one grabbed. You can then determine the exact amount of movement needed for your next frame and grab it.

Making a slideshow using Vidi ST

With Vidi ST, you can create slideshows of up to 119 frames, you can import any *Neochrome* or *Degas* picture into any frame of your sequence, so if you have a series of brilliant pictures you wish

to show off they can be loaded in in any order and played back.

The playback speed can be set from the Rply option on-screen and display the pictures with either the Animate, Rply or Carousel commands. The Carousel option is probably the best one to use if you want to show high quality coloured pictures in your slide show because it uses the individual palette of each picture; the other options use the master palette set by Vidi ST.

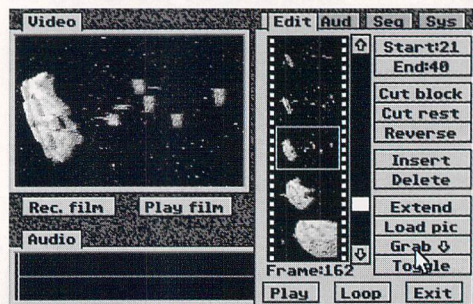
The sequence can then be saved to disk, remember though, you need a hard drive to save sequences greater than 20 frames long. This is because Vidi ST saves a sequence as a series of standard *Degas* or *Neochrome* files, each frame taking up 32K of disk space. There is no option to include sound with your creations, although you could create a slideshow from within *STOS* loading in graphics and digitised sounds into memory



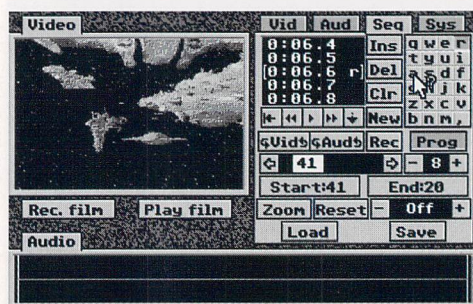
■ One of the options available in the Vidi ST software enables you to page through all the screens held in memory, you can then choose which screens to save. Here we see Brian Cohen having a close encounter of the absurd kind.



■ The main menu screen in Vidi ST. Almost all functions are available from the menu bar at the bottom of the screen, from the drop-down GEM menus or from keyboard shortcuts. The grab is taken from the 1991 ST FORMAT Christmas party video.



■ The edit screen in Videomaster enables individual frames to be added, deleted, grabbed, inserted and generally moved about. This really is video editing made easy, if there is a section you wish to remove, simply define the start and end frames and select delete block.



■ The built-in video sequencer enables blocks of frames to be specified and assigned to keys. If you have several video clips you wish to merge together, this is the place to do it. You can assign sound samples to video clips here.

banks. If you have *STOS* (given away with *STF37*, if you don't have it then turn to page 66 for details of how to get it) Rombo have provided a *STOS* extension so that you can digitise video from within your own *STOS Basic* programs. Full details of the new *STOS* commands and how to use them are included with the Vidi ST manual.

Making a slideshow with Videomaster

Making slideshows with the Videomaster software is much easier than using Vidi ST, because it has a built in editing facility for the Video card and the Sequencer card. The edit screen enables you to cut out blocks of frames from your recording, edit out unwanted shots, add in shots saved to disk, adding *Degas*, *Neochrome* and IFF shots and insert frames anywhere you fancy in your sequence.

Of course, Videomaster can record sound as well as video, but the sound is not totally in sync with the video. If you chop out frames or change the replay speed of the

video, the sound part of the film can play at its original sample speed, the sound can be matched later but it can be an awkward task. It is much easier to save your soundtrack to disk in chunks that match the video clips, both the sound and video can be loaded into the sequencer later. Any sound sample can be added to a film – you are not restricted to what you have recorded with Videomaster.

The sequencer screen enables as many video screens as memory permits to be loaded, these can be still frames, video files or film files. Up to 24 keys can have sections of the sequence assigned to them, this can be in the form of still frames, frames running forwards, frames running backwards and sequences of frames with sound assigned to them. All sequences can be saved to disk and played back by a separate Public Domain player program so you don't have to hand out copies of the Videomaster software to enable any of your stunning animations to be played. **stf**

CONNECTING A VCR OR VIDEO CAMERA TO YOUR ST

Right, so you've got all the bits and pieces together; video recorder or camera, monitor, TV, ST, digitiser and RGB splitter (perhaps). Now you want to get them connected together. First check out the diagram on page 19. The TV and video can continue with the normal RF (Radio Frequency, or aerial) connection, so you can cue your videotape to the correct position for digitising using the TV screen. The connections between the video recorder/camera and your digitiser depends on the outputs of your particular machine, both digitisers use phono connections for video input and Videomaster also has a phono input for recording sound. All quoted part numbers for leads and connectors are from the 1993 Maplin's catalogue.

If you have a SCART output socket on your video recorder, then you can use the same connector lead to link to the Videomaster and Vidi ST cartridges, although the

sound input can be ignored in the case of Vidi ST. A SCART socket can be recognised easily because it is an oblong shaped socket with 20 connections. You need a SCART to phono connector, Maplin's supply one for £8.95, part number JW38R.

If your video recorder has phono connections, you can use a straight phono to phono lead, Vidi ST is supplied complete with a phono to phono lead but Videomaster isn't. For Videomaster you need a twin phono to twin phono lead (for both audio and video), Maplin's can provide one for £1.20, part number RW50E. Generally SCART or phono connections are all that you're going to find on modern video recorders and there should be no problems getting things going. If you have an older video, then you might encounter unusual connections such as TNC connectors (screw connections), UHF connectors (large screw connections) and BNC connectors

(plug-in and twist connections). If you have strange connections on your machine, the best bet is to get a mono video dubbing kit. All video shops stock these and they enable you to construct different leads with various plug-on connectors. The Maplin's kit costs £7.95 (RK71N) and enables six audio and six video leads to be constructed, this covers most videos on the market. If you are using a portable video camera or camcorder, you are likely to find that they are usually supplied with a connecting lead to enable recordings to be transferred to a normal video recorder, in most cases this lead is suitable for connection to your digitiser. Most TV and hi-fi shops should be able to supply you with the leads you require if you provide them with the correct information, but if you don't have a local Maplin's, Tandy or other electronics supplier nearby, call Maplin's on 0702 554161 to make a credit card order.





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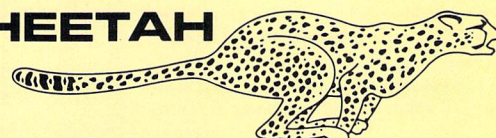
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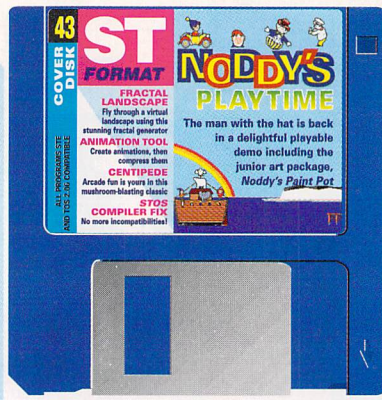
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COVER DISK 43

There's just one Disk stuck to the cover this month, but what a Disk it is! What delights lie in the tracks and sectors! Chris Lloyd gets all gooey at the thought of it, pulls himself together and puts the Disk in the drive. Walk this way...

FOR YOUR DELIGHT

NODDY'S PLAYTIME

A hat with a bell on it, a paint set, a puzzle game and little yellow car. Playable demo from the Jumping Bean Company.

Page 22

■ Check out our full review of Noddy on page 101

FRACTAL LANDSCAPE

Fly through animations in the fractal dimension.

Page 25

ANIMATION TOOL

Terrific stuff, compacts and plays your lovingly created animations.

Page 27

■ For more details on animations, turn to page 14 if you've already skipped past it.

CENTIPEDE

The arcade classic wriggles onto your ST.

Page 27

STOS FIX

Fix those compiled programs to work with Mega STEs and TTs.

Page 29

STOS LISTING

Super smooth scrollers exposed.

Page 29

BACK-UP

Copies the disk with minimum of fuss and does lots of charity work.

Page 29

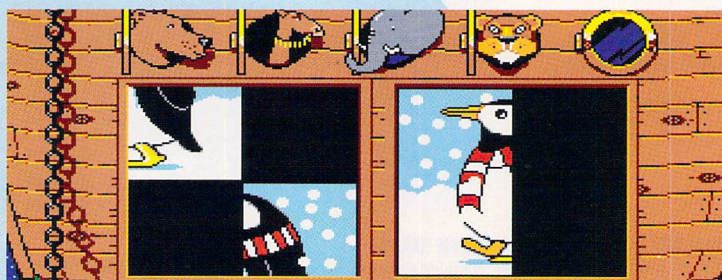
Noddy's Playtime

BY: JUMPING BEAN
RESOLUTION: LOW ONLY
FOLDER: NODDY
FILES: PLAYTIME.PRG, PRE-

VIEW.DOC AND DATA FOLDER
READ: PREVIEW.DOC
GET STARTED WITH: PLAY-
TIME.PRG

The man in the silly hat is back, in Noddy's Playtime. The little chap, his car and friends feature in a creative and educational program

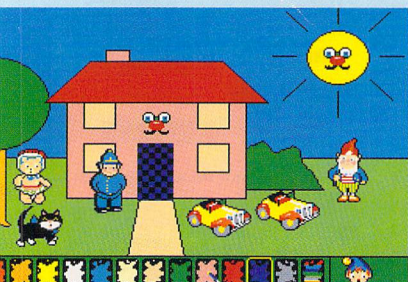
from the Jumping Bean Company. On the Cover Disk is a playable demo version with Noddy's Paint Pot and Noah's Ark to play with as well as driving around Toy Town. There are four minute time-outs on each section and then you're returned to the main menu. It's all bright and colourful – it's playtime!



■ The Noah's Ark puzzle game. Pick up the pieces with the mouse from the jumbled selection and try to complete the picture in the right-hand box. If you're successful the animal pops its head through one of the port-holes – you even hear a sampled sound effect, too. Click on Noddy in his car to exit.



■ Noddy and his car go cruising in Toy Town looking to see if they can pick up a soft toy or two.



■ A fine example of painting prowess, courtesy of Noddy's Paint Pot – what an exciting use of colour and form. If you make a boob, click on Noddy to get rid of your last effort. Click on the splodges of paint to change colour.

NODDY'S MAIN MENU

- 1 **Difficulty level** – just click on the level you want from the easiest to the hardest.
- 2 **Noddy's Paint Pot** – click here to go directly to Noddy's junior art package, throw pixellated paint in all directions and never have to clean up.
- 3 **Driving** – take the motor out for a spin around Toy Town, used as an alternative menu in the full version by stopping at the taxi spaces. You control his cute little car by using the joystick or the cursor keys.
- 4 **Auto drive** – Noddy takes his car out and automatically drives to the games. The demo only has one of these, Noah's Ark. Click on him to drive there automatically.



Before you take even one step further, read this carefully

Tread carefully

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

Study the map

Space on the Cover Disk pages is limited, so you may find text files for some programs on the Disk. These

have the file extension .DOC. It's always a good idea to read these for more information on a program. Double-click on them and select Show to display the text. If text disappears off the screen when you try to read a DOC file in low res, change to medium res and try again.

Avoid the pitfalls

To keep your *ST FORMAT* Cover Disk safe you should make a backup, so if

anything goes wrong you still have the original. Because we use a special disk format to squeeze programs on to the Disk, you can't do a direct disk to disk copy. But we've made life easy for you with this *Back-up* program. Follow the instructions on page 29 and you can't go wrong. Now there's no need to risk damaging or losing your disk again!

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

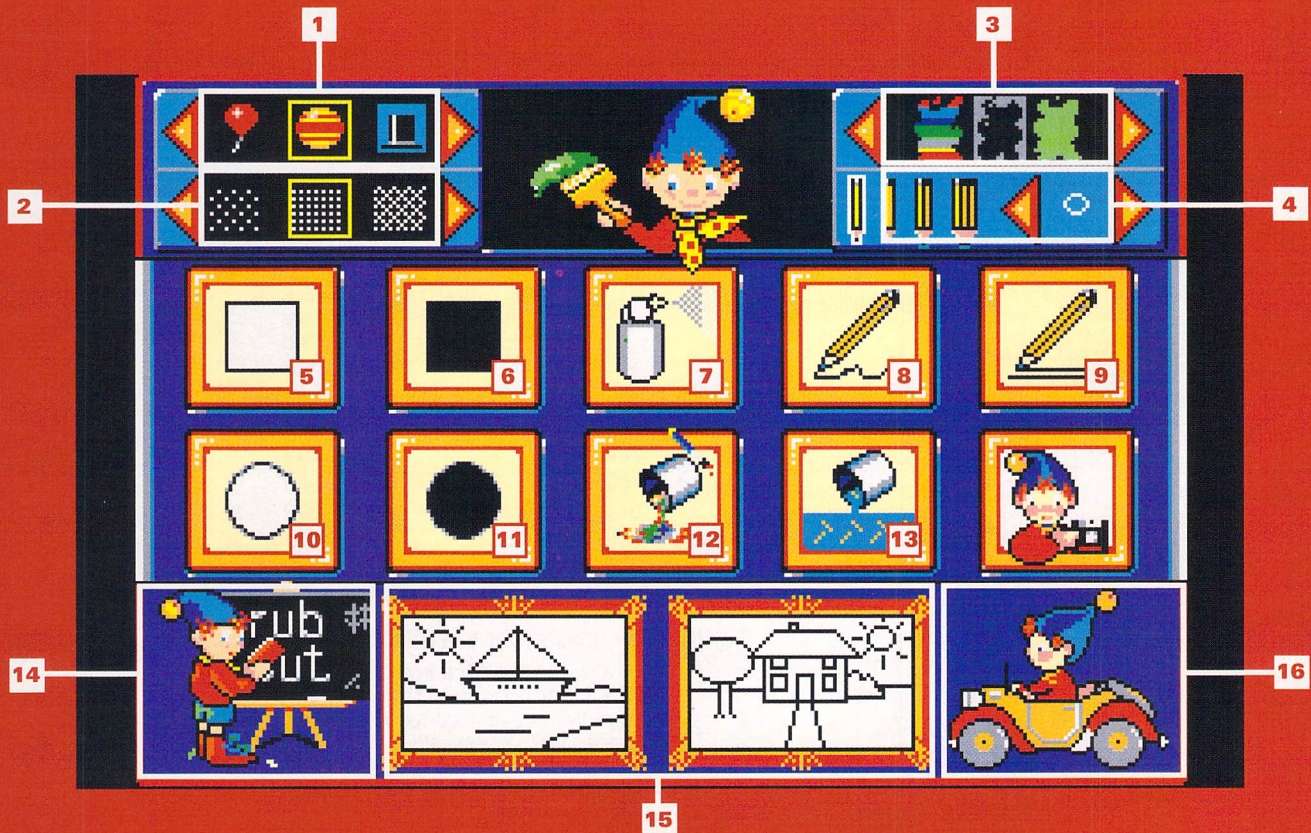
directly from it. Follow the instructions here and it'll all be fine.

Is your drive obsolete?

We use a double-sided disk format. If you only own a single-sided drive you can't read *STF* Cover Disks, or much new software since single-sided drives are obsolete. We showed you how to fit internal drives in *STF* 32 – turn to page 66 to order a copy if you missed it.

NODDY'S PAINT POT

Part of Noddy's Playtime is a fully-featured junior art package. You select options with the left mouse button and return to the main screen with the right mouse button



1 Select Sprite – use the left and right arrows to select your character and click on it with the left mouse button. You are then taken to the drawing screen and the sprite can be pasted anywhere you like.

2 Select Fill Pattern – use the left and right arrows to choose your pattern. You use this option when you decide to create a filled shape.

3 Colour Selection – use the left and right arrows to select your colour; the rainbow coloured splodge uses all the palette – try drawing with it.

4 Pen Shape and Size – use the left and right arrows when you want to change your pen's shape and size.

5 Outline Box – this option takes you to the drawing screen ready to draw a box

using the current colour and pen shape. Click once to start the box, move the mouse around until you are happy with it, then just click again to draw it.

6 Filled Box – same as the outline box, but draws a filled box instead.

7 Spray Can – click here and you're taken to the drawing screen armed with a spray can. Click once to start spraying and then again when you've finished.

8 Draw – click once to start doodling and again when you've finished.

9 Draw Straight Lines – click once at the start of your line, move the mouse around and click again to draw the line.

10 Outline Circle – this option works in the same way as the filled box but instead it

draws circles – but, of course, you probably worked that out for yourself.

11 Filled Circles – same as filled box but makes filled circles.

12 Fill – floods an area of your choice with the current colour.

13 Pattern Fill – floods an area with the currently selected fill pattern and colour.

14 Rub Out – wipes the whole drawing, Noddy asks if you are sure, if you are, click on one of his heads.

15 Outline Pictures – click on these to put a ready made outline picture on the drawing screen to get you going.

16 Quit – sends you back to the main menu – see the details opposite on page 22.

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Golden Image Scanner	£ 119.99
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- Autotraces bit image graphics to resolution independant vector graphics.
- Produces Beziers, B-Splines, High resolution grey scales.
- Imports IMG, DEGAS, TINY, MacPaint, GEM, SGF files.
- Exports IMG, GEM(1,3), SGF, DXF, EPS(Postscript) files.
- Requires 1Mb ST, Hi-res monitor.

Silhouette	£ 60
Calamus CVG support coming soon.	

Fracland

BY: DAVID BILLINGTON
RESOLUTION: LOW OR HIGH
FOLDER: FRACLAND
FILES: FRACLAND.PRG,
FRACLAND.DOC, FRACC.RSC,
FRACM.RSC, DEMO.STR,
FRACPLAY.PRG
READ: FRACLAND.DOC
GET STARTED WITH:
FRACLAND.PRG

Fractals are wacky graphical representations of mathematical monsters made from numbers that only exist in theory. Hang on a second, we've been before, haven't we? Over the months we've had quite a few fractal programs and this is the last one ever. Well, probably. And it's a goodie.

Fracland, as the name confusingly suggests, uses fractal mathematics to produced staggeringly

realistic-looking mountainous landscapes. It's neat enough to earn a round of applause on its own, but *Fracland* also enables you to define your own viewpoints and create smooth animations, hurrah. It's a fairly complex program, but here's a quickie start.

Open the FRACLAND folder and run FRACLAND.PRG. An alert box appears asking if you want to generate or load a contour, choose generate and enter the number 169 in the Random Seed box then click on OK with the mouse. Before your very eyes a 2D fractal landscape is generated in a window. Go on up to the Contour menu and select 3D view. This is where you enter your viewpoint from. Either by entering the coordinates directly, using your 2D map – or, and this is probably the best option – using a wireframe representation of your map, pick the viewpoint directly. Click on Visual to get to this bit, but one

word of warning – don't move the mouse when you click on the button or your ST is likely to crash because the Video Shifter chip gets a current surge and blows. Your RAM may also get damaged, so be careful. Only kidding, folks, it is impossible to damage the hardware using software. All that happens if the mouse is moving when you click on the button is that four little bombs appear on-screen and you have to reset and start again, so keep the mouse still and everything is hunky-dory.

You're now looking at a wireframe contour that you can move around with the mouse. Clicking the left button switches between movement modes – either move or tilt. Wiggle the mouse around until you're happy then press the Spacebar. Your 3D view is now rendered, well, it is after a couple of minutes. Bingo! an instant landscape with lots of potential as a ski resort. You

want to see it move? From the File menu select Load Story and use the file selector to load DEMO.STR. Now pop to the Animation menu and select Do Rendering. If you choose to shade the contour it looks more realistic but it does add about six minutes to the rendering time. When it's all done, you have a nine frame animation of the viewer zooming across a lake towards some mountains. Go to the Animation menu and select Play Animation to see it fly past. The FRACPLAY.PRG can be used to play back your animations once you've rendered them.

There that didn't hurt, did it? This fractal landscaping lark is easy to get into and there are plenty of parameters to play with enabling you to create a near-enough-to-infinity-to-be-uncountable number of variations. Get fractal, get landscaping, get that disk in the drive and start whirring.

THOSE MENUS IN FULL

Fracland is controlled from a series of menu and dialog boxes, but here's a quick guide. For a more detailed explanation, try reading the text file FRACLAND.DOC on the disk which has all the juicy details on getting the most from this gem of a program

FILE



From here you can load and save all your efforts. Save View saves the current 3D view as a *Degas Elite* picture, P11 if you are in low resolution or P13 if you are working in high resolution. Click on the map to see the 3D view. Contours are your 2D maps of the world you have generated. Stories are the paths of your animations as they fly through the landscape, while Animations are the actual screens you have rendered.

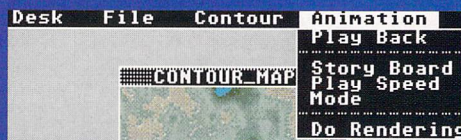
CONTOUR



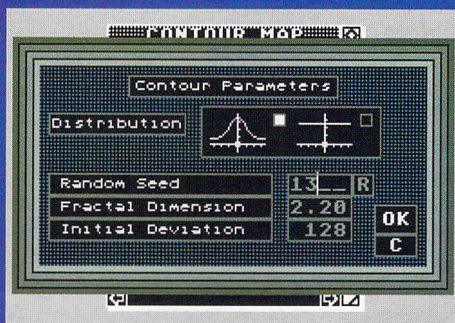
This is where you create your landscapes. Generate takes you to the box controlling the fractal generating parameters, here you get to do the good bit. Shade adds realistic shading to your contour, though it takes a few minutes to complete. Detail enables you to pick the amount of detail in the landscape, more detail equals better results and slower rendering. Contour zones enables you to set the sea level and how much of each landscape falls into each band, Friction just adds a random

element to the zone boundaries. Colouring enables you to muck about with the colours of each band. Finally, the 3D option takes you to the box dealing with your viewpoint – you can enter these directly as a series of numbers, take the position from the 2D map or visually using a wireframe model of your landscape.

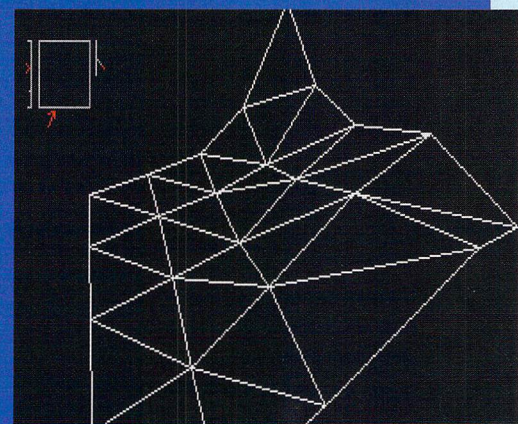
ANIMATION



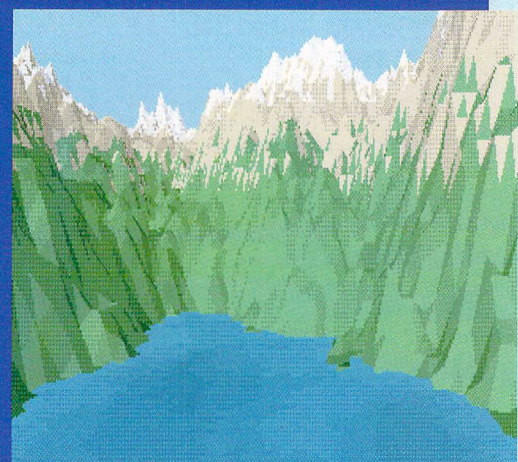
Here's where things get moving. Playback plays your animations, the Story Board takes you to a box where you enter the viewing positions of your animation and the number of frames to be drawn up to a maximum of nine waypoints.



This is where you fiddle with the parameters in a god-like fashion. The two little graphs switch between linear and normal distribution. Linear is quicker but less realistic. The Random Seed is a number up to 9,999, each one gives a different landscape. The Fractal Dimension can vary between 2.00 and 3.00, the nearer to 3.00 it is, the more mountainous it gets. Real landscapes have values between 2.00 and 2.40. The Initial Deviation is the amount the landscape is allowed to move from the initial flat plain, the default value of 128 gives a good realistic landscape.



The wireframe screen, from here you can fiddle about getting the viewing position you want using the mouse. Click with the left button to switch between movement modes, either move or tilt. When you're happy with it, press the Spacebar.



The results are amazingly life-like. Here we are sitting in a boat on a lake surrounded by high mountains – a fjord perhaps. With zillions of possible landscapes and viewing angles, you're never going to get the same scene twice.



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Animation Tool

BY: MARTIN PACKER
RESOLUTION: MEDIUM
FOLDER: ANIMTOOL
FILES: ANIMTOOL.PRG, ANIMTOOL.TTP, ANIMTOOL.DOC
READ: ANIMTOOL.DOC
GET STARTED WITH: ANIMTOOL.PRG

The **Animation Tool** is an ideal utility for animation; any series of *Degas Elite* low resolution screens can be turned into full-screen full-

motion animations. It uses the dead clever delta compression method to compact loads of screens into one big file and then replays them at animation speed. Delta compression is a method where each screen is compared with the preceding one and only the differences are stored – it's a dead smart way of getting more screens out of your ST.

The first screen you load in is stored as a screen dump – that is, a complete screen, each subsequent one is analysed and a delta record created unless there are too many differences to make it worthwhile, in which case another screen dump

is produced. There are two versions on the disk, ANIMTOOL.PRG has a friendly front-end although ANIMTOOL.TTP doesn't and can only carry out one function. ANIMTOOL.TTP uses a lot less memory, however, and can be used to create larger animations, as well as auto-booting animations.

The first thing you need, of course, is a wonderfully imaginative and creative series of pictures for your animation, that bit's down to you. Once you've got your pics, *Animation Tool* can do the biz and turn them into a smooth animation. Read the text file ANIMTOOL.DOC for detailed instructions.

Auto moving

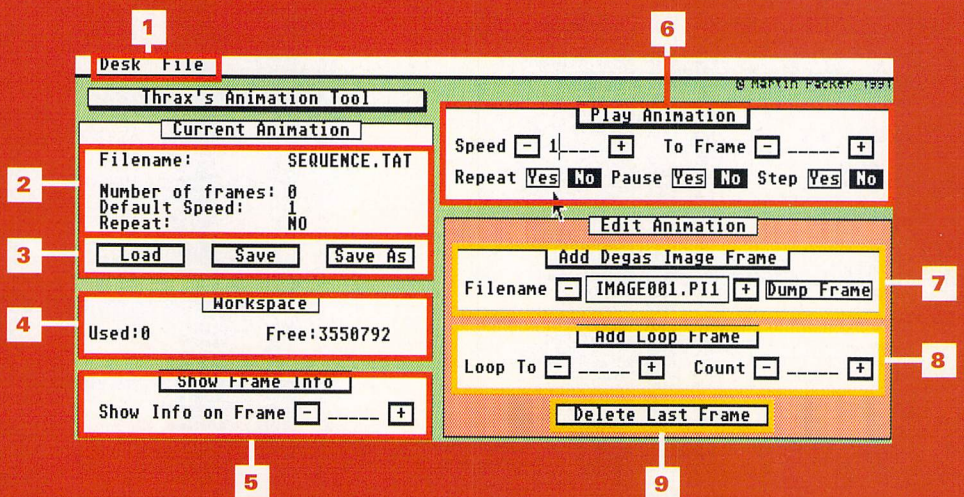
You can make auto-booting animations by renaming the ANIMTOOL.TTP program ANIMTOOL.PRG and putting it inside an AUTO folder, that's a folder called AUTO – surprise, surprise. It must not be inside any other folders.

Now put your animation on the same disk, making sure it's not inside any folders and that you've called it SEQUENCE.TAT. Now when you turn on your ST with this disk in the drive, the program is automatically run and the sequence loaded and played – an instant graphics demo.

CONTROL OF THE MOVEMENT

Here's the screen where it all happens – *Animation Tool* uses some smart compression methods to compact and play your animations enabling you to get many more screens than you would normally have memory for, thank you, *Animation Tool*

- 1** Menu – not really a lot here apart from the ability to quit and other useful program information.
- 2** Details on the current animation, file name, default speed and whether or not the repeat is set. These details are saved along with your animation.
- 3** Disk stuff – click on these when you want to load and save your animations, click on Save As should you want to save your animation using a different name from the name that's shown in the animation details above.
- 4** Workspace – when you're running *Animation Tool*, it grabs the largest chunk of memory that it can for your animations and then tells you how much you have left – considerate. eh?
- 5** Show frame info – this gives you the inside information regarding each frame of your animation, whether it's a screen dump or delta and what size it is. Use the + and - buttons to select your frame.



- 6** Play Animation – click here to set it all going, press <Esc> to stop things again. The speed is measured in fiftieths of a second. If the delta files are large, then it may not actually be possible to play the sequence at its maximum speed. If you've entered a number in the To Frame parameter, the animation stops at this point. If Yes is selected for Repeat, then the animation constantly repeats. If Pause is selected, it waits for a keypress at the end of the sequence; and if Step is selected, it waits for a keypress after every frame.
- 7** Add Frame – click here to add the indicated *Degas* picture. Click on the pic-

ture's name to bring up the file selector to pick a new one. If the name contains a number, you can use the + and - buttons to move through the sequence. The Dump Frame button forces the next picture loaded to be stored as a picture dump rather than as a delta record.

- 8** Loop controls – you can build loop frames into your animation, Loop To is the number of the frames you want to loop back to and Loop Count, rather predictably, is the number of times it loops.
- 9** Delete frame – zaps the last frame of your sequence.

Centipede

BY: SINISTER DEVELOPMENTS
RESOLUTION: LOW ONLY
FOLDER: CENTI
FILES: CENTI.PRG, CENTI.HI
GET STARTED WITH: CENTI.PRG

Long thin wriggly creepy-crawly things, centipedes, ugh. Quite understandably when you see them snaking down towards you, it's blast-'em-to-bits time. *Centipede* is based on the arcade game *Space Invaders* – er, no, sorry, *Centipede*

of course from the dim and distant past, well, a few years ago, anyway. This is a fairly faithful Shareware conversion by Sinister Developments and has you battling with centipedes, flies, snails, bees, scorpions and those little devils the spiders that come bouncing on from the edge.

Open the CENTI folder and run CENTI.PRG, press the Spacebar to get past the intro screens and select <F1> to <F5> to get playing, <F1> being the easiest level and <F5> being damned difficult. Pressing <F9> saves the high score table

to the disk – not your original Cover Disk because you've write-protected that to safeguard against disasters by moving the black tab so you can see through the little hole, haven't you? Use your back up copy instead.

The horrid crawlies come at you from all sides, you shoot at them as well as the mushrooms that get in the way. Each time you finish off all the segments of a centipede, another one appears at the top of the screen and things get harder. Have a go if you think you're hard enough. We dare you.



■ An old favourite reappears, inviting you round for a game and ready to wop the pants off you. *Centipede* – brilliant, mindless fun except for the bits where you die and it wasn't your fault and it wasn't fair – excuses or what?

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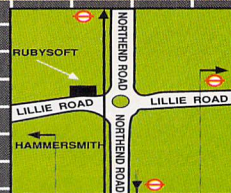
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STOS Fix

BY: M J HORWELL

RESOLUTION:

ALL RESOLUTIONS

FOLDER: STOS_FIX

FILES: FIX_STOS.DOC,
STOSFX11.PRG

READ: FIX_STOS.DOC

GET STARTED WITH:

SEE BELOW

STOS is a powerful and flexible BASIC programming language that we featured on Cover Disk 37. There was one teeny catch, however, because of the way it was originally written it suffered from deadly incompatibility problems. Every time a new version of the operating system was released, it

fell over. The latest version of **STOS** is 2.6 which is fine for every ST with TOS up to 1.62 – that's the latest STE. On **STF** 41 we had a program to fix the **STOS** interpreter for machines sporting TOS 2 and higher. On this month's Disk is another little wonder that does the same for compiled programs.

Don't modify your compiler itself – you'll muck it up – and don't modify original copies of your compiled programs. Always work from a back-up. This fix modifies the code of your program directly, making it compatible with those new-fangled Mega STEs and TTs. We can all sleep a little sounder in our beds safe in the knowledge that **STOS** is now fully compatible – makes you feel warm all over, doesn't it?

STOS Scroller

BY: BILLY ALLEN

RESOLUTION: LOW ONLY

FOLDER: STOSLIST

FILES: INSTALL.BAS

GET STARTED WITH:

SEE BELOW



For some strange reason, a lot of **STOS** programmers are extremely

fond of meaningless scrolling messages. In answer to the small flood of requests we've on the subject, comes this listing which does a good line in fast and smooth scroll lines.

First just load **INSTALL.BAS** into **STOS Basic** and run it. Put in a name at the file selector and it then depacks the listing from a memory bank ready to run so – er, load and run it and be impressed at the slick smoothness of its scrolling. See page 64 for that **ST** question and answer in full.



■ You want scroll text that doesn't use much processor time? You want extra lettuce with that? You got it, apart from the lettuce bit.

Cover Disk Back-up

BY: BRIAN TILLEY

RESOLUTION:

ALL RESOLUTIONS

FOLDER: BACK_UP

FILES: BACK_UP.TOS

GET STARTED WITH:

BACK_UP.TOS

You reach for your disk box one day only to find the cat has eaten your Cover Disk – an all-too-frequent occurrence. Still, don't panic because, like all good citizens, you've made a back-up copy to banish away the-cat-has-eaten-my-Cover Disk blues. Because **ST FORMAT** Disks use a special extended format to pack in more goodies, you can't do a standard Desktop copy. An easy solution is to use **Back-Up** from the Cover Disk, it can handle the whole process without making a fuss about it.

First, write-protect your Disk so nothing can be written or deleted from it. Move the black tab at the corner of the disk so you can see through the hole. Now get a spare disk and run **BACK_UP.TOS**. Up pops a menu, press <1> and things start; swap disks when you're prompted. Soon you have a clean, fresh copy. The source disk is the one you're making a copy of and the destination disk the one you are copying it to. If you have two disk drives, drive A is used for the source disk and drive B for the destination. **Back-Up** uses all the available memory, so if you have 1MByte or more, then you only need to make one disk swap. **Back-Up** can be used to back up most other disks – press <2> to see if it's possible. Don't bother trying to make back-ups of commercial game disks unless the manual tells you to, since they use some clever copy-protection tricks to stop you. Apart from them and a few of the weirder disk formats, **Back-Up** can duplicate any disk in a trice. Thank you and goodnight..

GOT A PROBLEM?

1. This Disk won't load!

Before you do anything else, check that you don't have a single-sided drive (one older than 1988, that can't format any disks to more than 360K) – they can't read **ST FORMAT** Cover Disks. Single-sided drives are obsolete and it's well worth upgrading. Replacement drives are easy to fit and cost as little as £35. We covered fitting new internal drives in **STF** 32 – turn to page 66 to order a copy if you missed it. So your drive's spanking new, or at least it's double-sided? **ST FORMAT** duplicates hundreds of thousands of Disks every month so unfortunately some are bound to be defective or damaged in some way – the Disk just won't load, or you can't open a window at all, there's nothing in it, or the folder names are gobbledygook. It doesn't happen often, but if you're unlucky, please accept our sincere apologies. You're guaranteed a free replacement if you return the Disk to:

ST FORMAT February Disk Returns, DisCopy Units 2 and 3, Omega Technology Centre, Drayton Fields, Daventry, North Hants NN11 5RT.

Enclose a sturdy self-addressed envelope (unstamped – we'll pay the postage) and a brief letter explaining the problem. If you're worried about trusting your precious Disk to the mails, the Royal Mail's Recorded Delivery service costs only 30p on top of the normal postage. Please don't send your defective Disk to any other address – we have no stocks of Disks in Bath.

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

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

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

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

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

4. I've still got an ST problem!

If you've still got a problem – you suspect your machine may be faulty, or you're not sure about some procedure, or you need an answer to a more general query – then you have two options. (a) Ring the official Atari Helpline ☎ 031 332 93233 on any day from Monday to Saturday 6 pm – 11 pm or on Sundays from 8pm to 11pm. (b) Write to **ST** Answers, **ST FORMAT**, 30 Monmouth Street, Bath, Avon BA1 2BW – and let **ST FORMAT**'s team of experts tackle your problem in the pages of **STF**. Please could you indicate what subject your problem concerns on the envelope. Cheers!

How to get rich(ish) quick!

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

Name _____

Address _____

Daytime phone _____

Program title _____ Total size in K _____

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

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

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

Signed _____

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HELP! A VIRUS

Viruses are small programs which copy themselves to floppy disks and re-write the boot sector. Viruses can be harmless, mostly harmless or downright catastrophic in their affect on your data, depending on what they are designed to do. What is certain is that a boot sector virus destroys any disk which loads automatically - in general, this means games disks. Here are ten things you need to know about viruses

- 1** A virus is just a small program and cannot physically damage your machine in any way.
- 2** Because a virus is a program, it disappears when your machine is turned off - it cannot remain in the machine and come back later. Simply resetting your ST may not get rid of the virus, the machine must be completely turned off for at least 30 seconds.
- 3** Always keep disks write-protected (so you can see through the little hole) - a

virus is not able to work its way onto a protected disk.

- 4** If you think one of your disks may have a virus on it, turn on your ST without a disk in the drive and wait for the Desktop to appear. Use a virus killer to check your disks.
- 5** Viruses are not infectious in the classical sense; leaving an infected disk in a pile of floppies cannot infect the rest of them.
- 6** If you use a virus killer on a games disk you can kiss the game goodbye, the code used to load a game looks exactly like a virus to a virus killer program.
- 7** Be wary of disks that have been loaned to you, this is how viruses get passed on.
- 8** Always check PD disks you buy or are given, although most PD libraries check their disks, mistakes and errors do happen.
- 9** Always check the disks you pass on - you don't want to upset anyone, do you?
- 10** Always make sure that your virus killer disk (and your backup virus killer disk) is kept write-protected at all time, this ensures that you always have a virus free killer disk to hand.

THE ULTIMATE VIRUS KILLER

Version 5.5GB

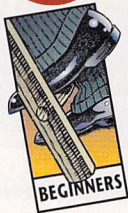
Written by Richard Karsmakers

Douglas Communications
P.O. Box 119
Stockport
Cheshire SK2 6HW
England

F1	Search'n'Destroy Viruses
F2	Repair Disks
F3	UVK 5.5 Information
F4	System Status
F5	Quit to Desktop

■ We've said it before and we'll say it again, UVK is the best virus killer you can get for the ST, TT or Falcon. It only costs a tenner and you can order it on page 108.

PROTECT AND SURVIVE



Last month on the Cover Disk we gave you the latest version of *Knife ST*, a disk and memory editor that enables you to repair and recover files from faulty disks. Obviously it would be better if the data wasn't lost in the first place, so here are some hints and tips on how to protect your floppy disks so they don't become corrupted or deleted by mistake.

Simple rules for preserving data

The most common way to lose a file is to delete it by mistake or by design; you might find you erase a file and find you need it a few days later. So the first rule, silly as it may sound, is to never delete anything, you never know when you're going to need it. "That means I have to buy more disks," you cry with horror, thinking of a diminished bank balance. And why shouldn't you? Branded floppies can be bought for 50p or less each, just take a look through the pages

of this issue of *ST FORMAT* at some of the mail order prices, disks are not really that expensive.

Always use branded disks, although unbranded disks are offered with a "lifetime guarantee" the lifetime is often that of a mayfly - about one day. It is not unknown for batches of duff disks to be released onto the market.

Always make a backup copy of your file to a second disk or even to three disks. Once you have started a habit of backing up your disks the procedure easily becomes second nature.

Write-protect your data disks! We have many letters along the lines of "I have formatted a disk with database files for my crisp packet collection on it, how can I get it back?" The answer is that you can't, so write-protect those disks and make a backup copy.

Don't stack disks on top of your monitor or TV, next to a phone or on top of a loudspeaker. Disks are magnetic in nature, if you

expose your disk to a magnetic field caused by any of the above items it may become corrupted.

Never turn your machine on or off with a floppy in the drive; a brief surge of current to the disk drives can cause the drive head to momentarily create a magnetic field which can blank out spots on your disk. The same type of problem can occur with hard drives.

Be careful how you store your disks. Always make sure that you keep them in a disk box to prevent dust from getting onto the surface of the disk, this can be transferred to the disk read/write heads and cause them to get dirty and make them unreliable.

Head cleaning disks are available but you shouldn't need them if you look after your disks. Disk heads are delicate things, it seems rather an odd idea to clean them by

rubbing what is the ST equivalent of wire wool over them.

When you're formatting a disk, stick to a maximum setting of ten sectors and 80 tracks, formatting disks beyond these parameters makes them unreliable and prone to data loss.

Most of all, just use a touch of common sense. Think carefully before you ever erase anything and make sure that your brother, sister and the dog leave your disk collection alone. Oh yes, it's not a good idea to let your mum polish your disk drives, disk boxes or your disks. Any cleaning liquid or anything like that can completely ruin your disks if it seeps into important places. Take care - you know it makes sense. **stf**

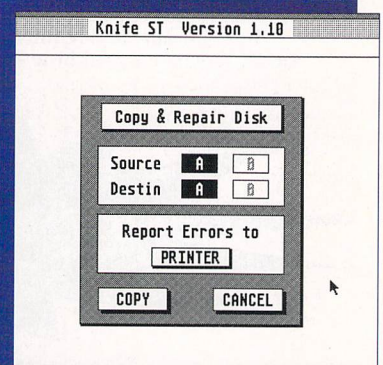
BY CLIVE PARKER

HOW CAN I BACKUP MY DISKS?



If you have *Knife ST* from last month's Cover Disk, you can use the copy and repair option from the Format/Copy

menu. If you only have a 512K machine then you may have to swap disks twice to back up a complete floppy. If you don't have *KnifeST* (turn to page 66 to order it if you missed it) then almost any PD disk copying program is OK, we recommend *Fast Copy 3* which is available from any of the PD libraries listed on page 107, or how about using the *Backup* program which we include on every Cover Disk?



■ The exciting and much-talked-about copy and repair option in *Knife*. This makes pristine backup copies of your valuable data, and remember, pirates, you cannot use *Knife* to copy games disks.

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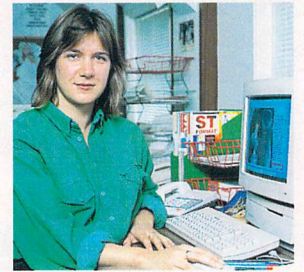
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FEEDBACK



Go on, tell us what you think about well, anything really - we want to know. Write to The Editor, Feedback, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW

What are you on?

This is Cindy Crawford writing from LA. Actually it isn't, but I had to make sure the letter got read somehow. *STF* has, we know, undergone some changes recently, both in the layout and the staffing of the magazine, some for the better, and some not. For a start, the new ratings bars. The flashy percentage scores make the magazine look like a comic. The red boxes were neater and more readable, and the comments that appeared in the box were clear and useful. I also feel that, since the Public Domain will undoubtedly become more and more prominent with the demise of the ST games industry, far more effort should be devoted to reviewing as many PD or Shareware disks as possible.

It seems that the tone of the magazine has changed as well, in several ways. First, it has lost the enthusiastic and happy tone that it always had as regards the machine itself. I know the facts are of profound importance, but do the proud ST community really want to hear Jon Hare "ranting" on about how crap the ST is?

STF is becoming *Falcon Format*, with more and more space being devoted to a machine that has already lost the marketing race with Commodore. I'm sure that the machine will fulfil all expectations to serious owners, but Atari need to target first time buyers as well, and the price war against the 1200 has not got off to a good start. I, as I'm sure many others are, am dying to get hold of a Falcon, but until then I would prefer to read about the ST.

I feel that more show should be given to ST readers' work. Has the Gallery section been permanently dropped? How about including two or three pictures a month on the Disk, or a tracker tune a month? This would undoubtedly encourage more creativity in the ST community. Anyway, the ST is not dying, simply moving on to pastures new.

Chris Pritchett
Gwynedd, Wales

stf: As you've probably noticed, there have been even more staff changes with me moving from my position as Production Editor to the Editor's chair. This also means more changes - yet again - to the magazine - for the better, I hope. If you don't agree - or even if you do - please write and let me know. *ST FORMAT* wouldn't exist without you, so we want to make it what you really feel - use it!

As you've also probably noticed, there have been some small alterations - there are now summary boxes at the end of each game review which will be useful, and there is to be more space for readers' contributions. If you have an idea for a feature, something - whether it be a picture, a tune, an opinion you want to share with the rest of the readers, do write in and tell us. Next month we shall be featuring a selection of readers' artwork - this is not an empty promise, wait and see. We want you to be creative, to use your ST for its full potential - and we hope to encourage you to do that.

As for too much coverage of the Falcon, well, many people want to know what this new machine is going to be like - there is a huge amount of interest out there, and since it appears to be a natural member of the ST's family, it

seems only right to include information about it as and when we have it. But this hasn't dampened our enthusiasm for our STs, not remotely. Just read what members of the team had to say about their STs: "My ST has always done everything I've ever wanted it to do. Apart from some things it's not designed for," said Clive Parker. Chris Lloyd, despite several nights of working on ST animations through to the early hours of the morning (see the results on page 14) was still bubbling with enthusiasm: "My ST's enabled me to get into all aspects of computing like programming, graphics and sound without spending an arm and a leg. (Roll of drums, cue cliché). It's power without the price." Rob Mead sounds as if he would be content to give up everything in his life for his ST: "Having an ST has changed my whole outlook on life - a car, a girlfriend, a social life, a house, sleep - who needs 'em? I'm happy playing on my ST 24 hours a day." Er, yes, perhaps a bit too much dedication there.

"The Falcon - the future in ST gaming"

Great. Brilliant. Fab. But where does this leave us? Some games publishers are abandoning the ST. For instance, Electronic Arts are no longer making games for the ST. I

have heard that Mindscape are also leaving and even possibly Domark. The campaign you ran for more ST games worked in one case, that of *Civilisation*, but that hasn't even reached the shelves yet. Anyway, if it can work once, then it can work twice. Is there any way you could run another campaign for two more games? These are *Zool* by Gremlin Graphics and *Battletoads* by Mindscape. I rang Gremlin today and they said that *Zool* would be released in early 1993, if at all. If enough people write, I'm sure they would program it since it is the *Sonic* and *Mario* of 16-bit computers. Mindscape said that the ST version of *Battletoads* wasn't to be, but if enough people write, I'm sure they would - and could - do it. So, all those people out there, ST owners that you are, please write. Even if you've got an ST in a sound studio please write anyway for those of us who do want these games.

Rob Fellows
Wolverhampton

stf: What a plea from the heart, eh? Go on then, get writing! Gremlin Graphics live at 2 to 4 Carver Street, Sheffield S1 4FS or you could telephone them on 0742 753423, and Mindscape are at Priority House, Charles Avenue, Maltings Park, Burgess Hill, West Sussex RH15 9PO or call

WHAT YOU SAY ABOUT... "SECOND" DISKS

... I just want to say that I believe it is definitely worth paying the extra pound for *ST FORMAT* to get a commercial package.

G Duke, County Durham

... After all, isn't it *ST FORMAT* that gives away software that ultimately damages everyone - both consumers and producers of ST software?

Peter Rogers, Boston, Lincs

... I am a very strong supporter of your initiative in offering free commercial packages with your magazine. I have bought more than one manual because I liked what I had tried, and like others who have done the same, I will undoubtedly upgrade with software improvements.

Reg Chiswell, Edinburgh

... I am losing confidence in the second Cover Disks... I feel they are becoming too much of a price burden. The idea is great to encourage people into using their ST for other purposes... different areas need to be explored, for example, *Talespin* was great... however, I also appreciate that the availability of such programs is limited.

Chris Pritchett, Wales

stf: You have probably noticed that this month *STF* is back to a single disk, but that doesn't mean the quality of the programs we're giving you is any less - we're still committed to bringing you the very best software we can - if there's anything you'd like to see on the disk, please write and let me know.



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them on ☎ 0444 246333. Incidentally the bad news is that it really doesn't look as if Zool is going to be released on the ST. Sorry, folks.

What's that then?

When I was reading *STF* 41 I noticed a rather interesting advert courtesy of Computer Mates Ltd concerning data cartridges. Now, I'm fully aware of sampling cartridges and the like, but I'm buggered if I know what these are. Perhaps you could fill me in:

- (a) Are they just for improving the capability of the ST or do they have a deeper secret?
- (b) Could it be possible that they are another way of storing info, instead of a disk?
- (c) If they are another form of information storage, could I store *Midwinter 2* on one so that I don't have to go to sleep during loading periods in the game?
- (d) If they are what I think they are, would they work with my 1040ST and why are they so cheap?
- (e) Have I been totally misled, reading the wrong magazine, completely drunk or hopefully correct?

Ben Heyworth
Worcestershire

stf: Er, sorry to disappoint you, Ben, but I think you must have

been totally misled, reading the wrong magazine and completely drunk. You see, data cartridges are devices you use to back up your PC's hard drive. They're nothing to do with STs at all, so they won't be any use to you. Still, it was a good idea – perhaps someone would like to invent something like this for the ST, especially tweaked to cope with the *Midwinter 2* problem.

"This year I want just one other little thing. An original game for my ST"

We've seen it all before

Apart from a Falcon and a Ferrari, this year I want just one other little thing. An original game for my ST. Yes, that's right, original. Not just another cutesy vaguely Japanese-looking platform game (*Rodland* et al) or a scrolly shoot-'em-up with the standard pixel-splitting spaceship and the by-now obligatory megadeath bolt-on power-ups

which are only available after getting halfway through the game (*Xenon 2* et al). Not just a fantasy RPG with an 80 level dungeon and the usual dwarves, orcs and so on – there are too many of these to name and they're mostly *Dungeon Master* clones. Please, no more sodding driving games with feeble ee-ee-ee chip noise for skidding, an engine that sounds like an elderly vacuum cleaner and other vehicles on the track which can drive straight through obstacles – like *Lotus Turbo* in particular, but there are many other offenders. No more football games with appalling programming disguised by tacking some famous name on it (Gazza, Lineker, Man Utd, for example. No more horrendous attempts at converting coin-ops like *G-Loc*, machines with huge memories and dedicated graphics chips.

There were a few original games in 1992, but the number is greatly in decline. *Another World*, *Pushover*, *Epic* and *Robocop 3* are all games that spring immediately to mind, and even the latter two featured the same basic engine,

just with different graphics. Please, software houses, game designers, anyone who has a hand in defining what we end up playing, think for a bit before the next game for the ST trickles out. Please give us value for money. I know every game cannot be an original idea, but if you must release a shoot-'em-up, give us a user-definable front-end like *Dark Star* did on the Spectrum ten years ago so we can set the lot; mission difficulty, enemy strength, the lot.

Do you write demos?
We want to hear from you! Send us your demo, explain how you did it, why you did it, whether anybody else watches it, and if not, why not? We're going to be doing a feature on demos in the April issue, so this is your chance for fame... if not fortune! Address your letters to: I'm a groovin' programmer, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW.

WAKE UP OUT THERE!

First I would like to comment on your article on the state of ST games. The general flow of the article seemed to be blaming the lack of games on the fact that the people in the ST market are more selective than that of, say, the Amiga market. Why, then, are ST owners deprived of the best games available such as *Dune* or *Monkey Island 2*?

Software houses tend to blame this on two things: lack of sales and the inadequate capabilities of the ST itself. Contrary to these ideas, I would like to say that

- (a) all sales figures in the article are percentages. I don't think that the actual number of sales has dropped, just that the percentages compared to Amiga or console sales has dropped.
- (b) the "capabilities" of the ST seem confused. All STs sold in the last four years have been the STE which have the same gaming ability of the Amiga, but we have yet to see a game which uses this ability significantly. If the number of games has actually fallen, it is probably to do with this lack of commitment on the part of the programmers than anything else. Isn't it stupid that there has been this new machine out for nearly half a decade, and there has not been a single game released specifically for it? The ST games industry will pick up when people start to make games for the STE and not for the outdated STFM.

I would also like to state that in a recent Gallup figure shown on Channel 4 teletext, ST games sold 5.9% of the total games sold in 1991, whereas PC games made up only 4.8% of the market. Despite this, programmers seem more interested in making games for the PC rather than the better-selling ST market. Next,

to comment on the Atari market in general. Both the ST and the Lynx have suffered because of a lack of marketing. I hope Atari will learn from their mistakes and launch a significant advertising campaign, perhaps including an attempt to persuade TV shows such as *Gamesmaster* and *Bad Influence* to feature Atari machines more often. Even with the brilliant research and development department, Atari cannot expect to be able to carry on the way they are without a significant improvement in the amount of advertising made. On the subject of advertising, have you noticed how the latest Amiga advert uses graphics from *Another World*, which are exactly the same as the ST version? Perhaps Atari should make an advert commenting on this fact, therefore losing Commodore some of its credibility.

Finally, as a point of interest to Atari, why not license Amiga hardware intensive games such as *Project X* and convert them to the STE as a way of proving what the ST is capable of?
Paul Talbot
Burton-on-Trent, Staffs

stf: You make some interesting points in your letter, Paul, and I must say I'm inclined to agree with you in the most part. However there are some other aspects to consider. If it is true to say – and it seems to be generally agreed – that ST owners are more selective about what they do with their STs, then you must agree that they want to do things other than play games. Yes, playing games on your ST is a popular thing to do, but it's not the only pastime – DTP, making music, programming, creating artistic pictures and animations are, to name but a few, things you can do on an ST and which people who are unfortunate enough

to own an Amiga are often blissfully ignorant of. Consider anyway that *The Secret of Monkey Island 2* would have to come on such a huge number of disks if it was converted to the ST that the constant disk swapping you'd need to do would surely affect your enjoyment of the game.

The home computer industry has changed enormously in the past couple of years and this has been exacerbated by the console boom. Consoles are all about fashion and image – and unfortunately fashion isn't something that takes heed of sense or reason – fashionable marketing of a product gives it "street cred" whether or not there is any logical reason for it or not. Fashion, while it can give people credibility in the eyes of their peers, is often incredibly expensive, just because people are prepared to pay over the odds for famous names. This means more expense for the consumer and higher profits for the manufacturers, despite greater overheads. Is it surprising, therefore, that lured by the attraction of more money, programmers are more inclined to support consoles? The downside for these programmers is that the console boom is just that, a boom. Booms are usually pretty shortly followed by declines. Since the ST market is a mature market, and you know that you can do all this other stuff with your ST that you wouldn't even dream of with a console, it's likely to remain that way. Programmers will realise that there is a stable ST market, wake up and make the most of it. They'd be stupid not to – you never know, we might even get some STE only games! Not all programmers have abandoned the ST anyway – look at Kev Bulmer, for a start: "I've been an Atari fan since the first mono ST came out... and I've been an ST fan ever since." For news on Atari's PR effort for the Falcon, turn to page 7 – you might be pleasantly surprised!

SMALL BUT PERFECTLY FORMED

Free blanks?

I have found that, because so much of the stuff on the Cover Disk is compressed, I do not have enough blanks to decompile them on to. This may seem to be rather a silly suggestion, but would it be possible to occasionally put a third blank disk on the cover at an extra cost of the usual £3.95 of 50p or 55p? This would obviously make the total cost either £4.45 or £4.50. I doubt that many readers would mind paying this small amount for a reasonably cheap unbranded disk.

Alex Tibbles
Tunbridge Wells, Kent

stf: I believe that many people would complain massively if we increased the cost of ST FORMAT even though they would get a blank disk for the extra money. You can get disks at a

variety of prices from the high street stores, and you tend to find that their quality increases with the price. Your best bet, if you want to find reasonably cheap disks, is to search through the pages of STF – and we'd also recommend always using branded disks; while you pay a little more for them, you're likely to find that they're more reliable.

DIY disks

If you punch a square hole through a normal double density disk so it looks like there are two write-protect holes and format it on a 1.44MByte drive, this makes the disk a high density format. My technology teacher tried this and the disk works perfectly, so why do we get charged extra for high density disks?

Paul Verity
Ilford, Essex

stf: These home-made high density disks do work, as you rightly say, but they tend to be unreliable after they've been used several times. Commercially-produced high density disks are made using better quality materials than double density disks to give a finer coating so that disks can be formatted to a higher number of sectors – 18 sectors on a high density disk, as compared to nine sectors on a double density disk. Of course, there's also the commercial reality that if people are willing to pay more money for a high density disk than a double density disk, companies are going to continue to charge the higher rate for them.

Imprisoned for copyright breach?

I am thinking of writing a text-based adventure game based on the cult '70s TV series *The Prisoner*

and releasing it into the Public Domain. Can you tell me whether I would be breaking the law or contravening copyright at all?

Ben Seaman
Orsett, Essex

stf: In theory you could risk getting unpleasantly entangled with the copyright laws since you want to release your game to the public, so your best bet is to get in touch with the copyright holders. Since Channel 4 are showing the series at present, they would be holding the copyright – get in touch with them on 071 631 4444 and check with them before you release it into the Public Domain. In practice, however, you are unlikely to risk prosecution, especially if you add your own unique touches to the program or even if you just play the game in the comfort of your own home.

Give us a strategy element; do you shoot the radar bases to decrease the number of enemy ships who can find you or do you blow up the weapons bases to decrease the

amount of ground fire? Give us Save Game options on arcade games. Give us level designers like *Oids* did on the ST seven years ago for an infinite extension of interest

– finished all the levels? Then make your own! Trade them with friends – send them to *STF* for the Cover Disk! Give us games that use the stereo output and the extended output of our STEs. Give us games that recognise that some of us have enough memory to load the whole game at once, that recognise the second disk drive, that can run from hard drive. Give us games that make us think that there is more of a difference between one release and the next than the graphics. If the game features a central character, let us choose to be black or white, male or female.

I don't think any of this would require enormous amounts of work on the parts of the game designers, but the changes could breathe much needed new life into very tired and decrepit formats.

Derek Richardson
Edinburgh

stf: Thanks for your letter. Does anyone else have the perfect game idea they'd like to share with us?

All you need are customers

After you published the feature on desktop publishing in *STF* 41, I decided to set up my own small business; there was one small hitch, though, I was skint – I didn't have a penny, and I am also a 17 year old computer student, so any income I do get goes straight to buying tubes of spot cream and cans of that cola drink. I thought, "How the hell can I make some money with just a 9-pin OKI printer and my humble 1040 STE? I asked my parents if they would buy *Calamus* 1.9 for me as an early Christmas present and they agreed. I then only needed a decent printer

and a memory upgrade since I already had disks full of clip art and fonts. I sold the OKI printer to some idiot who wore a wig and told him it was worth over £200. I hope he is not reading this. I now had £130 and, looking through the small ads in the local paper for a good printer, I eventually picked up a Canon BJ10e with autosheet feeder for under £130. I have had three customers in one week and, with the money I have made, I have bought some more paper and some colour ink cartridges; all I need now is a memory upgrade.

So if you want to start printing, get hold of a cheap printer – a good price for a 24-pin printer is around £75 to £100, put a wanted ad into *STF* – someone is bound to be selling one. Even better, get yourself an inkjet – they cost more to run but give a better quality, you should be able to pick one up for around £150. Get yourself a good DTP package such as *Calamus* or *PageStream*, then get some clip art from a PD library. All you need now are some customers.

Paul Brandon
Whitefield

stf: It's good to see that we've managed to encourage your business enthusiasm – and we'd like to see if our DTP series has encouraged anyone else to start their own business – or get into DTP in a bigger way. We'd like to see what you've done; the business cards and broadsheets you've produced and hear about how you managed it. Tell us how you got on.

If there's anything ST you'd like to share with us, write to The Editor, Feedback, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

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How much do you like this issue?

- ☐ It's great! ☐ It's pretty good ☐ It's alright
☐ It's lousy ☐ It's absolutely terrible

Does this month's animation feature make you want to get animating immediately?

- ☐ Yes! I've already started ☐ I'm thinking about it
☐ No, I'm not interested in it at all

Is there anything missing in this issue as far as you're concerned?

If so, what? _____

What do you least like about this month's issue? _____

What do you most like about this month's issue? _____

Do you have any suggestions for future features or improvements to *ST FORMAT*? _____

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■ "How are we going to pay this Council Tax bill?" "We could always do a spot of raping and pillaging, my lord."

HEAVENS ABOVE!



If power is the ultimate aphrodisiac why don't hydro-electric plants have girlfriends? Rob Mead throws his weight around and discovers, with the help of his ST, what it's like to be a big cheese in a little world

World War One was one of the bloodiest conflicts of the 20th Century – millions of people died, it led to the rise of Communism and Nazism and also helped shape the political map for the next 80 years, yet historians attribute the cause of the war to a handful of very powerful European leaders whose personal political and colonial ambitions outweighed any demands for common sense.

Every day decisions are made for us which shape our daily lives – how much tax we pay, which schools we can go to and whether or not we stand the chance of having a decent job. We may live in a democracy, but how much power can you, as an individual, wield in the political process?

The major political parties all have broadly similar agendas for running the country, all of them support Europe. So what choice do you have if you beg to differ? How many times have you heard the argument that we don't need a referendum on the Maastricht treaty because we voted in its favour when we re-elected a Tory government?

And how impartial can politicians be when they are funded by large interest groups like businesses and the unions – you only have to look at the recent Arms for Iraq scandal to see how the process works. Did you vote to sell arms to Saddam Hussein? Power is not so

much wielded for the people, but in spite of them in many cases.

Power is not just confined to the political sphere either. What about the power religion exerts over people? You could argue that the population boom in the Third World is a direct consequence of the Vatican's policies on contraception and abortion. And the Protestant work ethic has often been cited as a prime reason for the Industrial Revolution of the 18th Century, so you could blame the Church of England for the mess the environment is in.

Get in on the act

Because power takes on so many manifestly different forms, it's refreshing to know you can get in on the act yourself with the help of your ST. There's a whole host of "god games" you can play which enables you to wield political and religious power or – if you really want to louse people's lives up – to do a spot of town planning. A god game puts you in charge of the fortunes of thousands of people – how



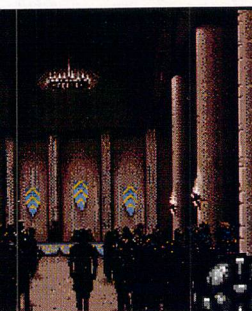
■ "Oh 'eck. It's tha' Sealed Knot society come for the Castlemoat XXXX grog again. Good job I saved the water from the lavatory – they won't notice the difference."

you choose to use that power is entirely up to you. You can decide either to use it for the benefit of your subjects or you could go mad and squander it all on your own pet obsessions.

There are many types of god game – from city-scape simulations to global war-mongering. In *Caesar* (Impressions £29.99) you play a Roman legionnaire responsible for the successful running of one of Rome's provinces – you have to build a capital city, defend it from attack and unrest and ensure your citizens are prosperous and happy. Similarly, *Utopia* (Gremlin £25.99) places you in charge of a fledgling space colony with only your skill as an administrator between it and disaster. For a bit of bash-'em-up action you could always try *Power Monger* (Electronic Arts £29.99) or *Mega-Lo-Mania* (UBI Soft £30.99) for size as you wage war on everyone and his brother in a bid for global domination. If you see yourself as a bit of an Adonis, or even a Zeus, check out *Populous 2* (Electronic Arts £29.99) – the ultimate god game – where you command the elements, help your worshippers to flourish and invoke divine retribution on your enemies. *Sim City* (Infogrames £29.99) gives you responsibility for planning major conurbations in an attempt to create the perfect cityscape.

Benign dictators

Which type of god game you decide to play depends on your



■ This is the mediaeval equivalent of walking down a staircase on a chat show – trip over your scabbard and you'll be the laughing stock of the Round Table.

THE HARDER THEY COME...

When you're the boss - you call the shots. You can go berserk and blow all your money (or manna) in one afternoon in a god game... just make sure you're not around to pick up the pieces afterwards. Here's a quick look at a couple of possibilities

CAESAR

The quickest way to dispose of your loot and give your empire-building powers a 100% rating is to charge around the provincial level and blow all your money on roads and Cohorts – this also has the added benefit of improving your peace rating. Unfortunately, you don't get a rat-

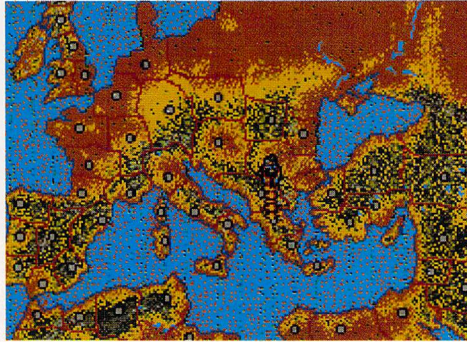
■ In *Caesar*, why not splash out and build madly? It's one sure way to ruin.

ing for anything else and you're soon being hassled for your annual tribute by Rome and those peasants start to revolt. To make certain of your fate, whack up the tax rate and draw a massive salary. If that doesn't finish you off, nothing can.





■ If you get in trouble or want to see how well you're doing, you can always turn this bunch of louts - er, rather, to your advisers for help.



■ The mighty Roman Empire - one day, my son, all this could be yours. And, if you're really lucky, you could win a weekend break for two in Rhyl.



■ Unfortunately your province is constantly attacked by barbarians so build up adequate forces to protect your citizens from them.

The ultimate criteria is how well or badly you wield the power invested in you

motivation - if you're a hopeless idealist who wants to give a good life to everyone, you're obviously going to have a very different strategy in mind from someone who wants to get rich quick and then scarp. In either case, the ultimate criteria is how well or badly you wield the power invested in you.

With games like *Sim City*, *Utopia* and *Caesar* the success or failure of your rule is determined by your popularity rating. If you can ensure your subjects are well-defended, prosperous and have a good quality of life, you're going to be a hit. However, if you're crap at coping with impending disaster - like Norman Lamont - you face rebellion, rising crime and have a popularity rating lower than Robert Maxwell at a Mirror pensioners reunion. Once you're on a downward spiral, your subjects leave you to your fate and no amount of incentives - no taxes or loads of sports stadia, for example - can

induce them to stay. In *Sim City*, you're offered different scenarios, ranging from traffic crises in modern day Switzerland, to coping with the 1906 San Francisco earthquake. You're given a time limit to satisfactorily reach your objective and sometimes have to literally take a city apart before you can get it back to some kind of normality. Fail and you won't get asked to take charge of a city again. The stakes are just as high in *Caesar* - make a success of defending your province and Rome looks favourably upon you, but handle things badly and you could end up being carted away by a couple of legionnaires and fed to the lions.

Because both *Power Monger* and *MegaLoMania* are combinations of war games and god games, the measure of your success depends upon on how good you are at doing battle with the enemy and inventing new forms of technology to bash them with. In *MegaLoMania*, for example, you start off with sticks and stones, but can graduate to nuclear space technology as you rampage your way through the ages.

In *Populous 2* your success is measured in terms of the number of worshippers you have and, consequently, how much divine power you are able to exert. If you're good at sprogging, providing land for settlers and bashing the opposing god's subjects your manna

shoots up and, once you've conquered a world, you're rewarded with experience points which you can convert into divine energy to use on the next level.

Power crazee

OK, so you've played the game straight and helped your subjects, but now you want to have some fun - after all, what's the point in having all this power if you can't use it for your own ends?

It's easy to be a complete bastard in god games. With *Utopia*, *Caesar* and *Sim City* you can tax your citizens up the eyeballs, provide little in the way of amenities and unleash all kinds of disasters - *Sim City* even has a Disasters option where you can subject your city to earthquakes, typhoons, air crashes and even B-movie monsters. It's possible inflict gridlock on your city by designing a horribly complex road network or blight whole areas by planting an airport in the city centre. *Populous*

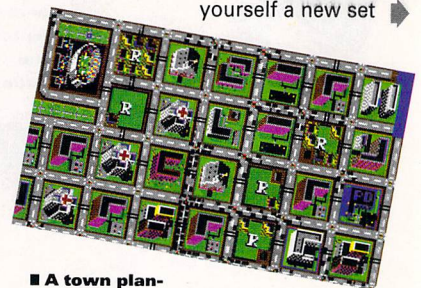


■ Trying to keep Hamburg's streets clean has always been a rather unenviable job with all those sailors. Now it's downright impossible as the city falls under constant bombardment.

2, MegaLoMania and *Power Monger* enable you to inflict vast amounts of damage on your enemies and their people. As a good god in *Populous 2* there's nothing quite so satisfying as unleashing a hail of fire, whirlwind or earthquake on your opponents - with that kind of power at your disposal, who needs to be bad? In *MegaLoMania* you can forge lots of shady allegiances with your enemies and then double-cross them or in *Power Monger* attack neutral settlements or savage sheep. But remember, if you treat your citizens like something you've stepped in, you only create more problems for yourself - just look at what happened to Julius Caesar, Idi Amin, Pol Pot... poor Mrs Thatcher.

He, who is without sin...

OK, so you've had a good rampage, smitten the baddies, championed the people and bought yourself a new set



■ A town planner's nightmare come true - Bern is heavily congested - could you solve its infrastructure problems?



SIM CITY

The easiest way to the top is to slap buildings, railways and roads everywhere, then do as politicians do - cheat. Simply hold down the Shift key and type in "money" or "fund" for an extra \$1,000 - this enables you to keep on building. However, every tenth time you do this an earthquake is unleashed upon you. And for the quickest way back to the gutter? Unleash the Very Big Disaster mode - before you know it you've got earthquakes, explosions and monsters ripping the heart out of your city. For a finishing touch you could

always send in a member of our own distraught Royal Family to console everyone afterwards.

■ The Japanese aren't content to have natural disasters like everyone else - oh no, they have to have pollution-seeking dayglo monsters attack their capital.

Just look at what happened to... poor Mrs Thatcher

of laurel leaves, but do you feel morally corrupted? Has being in control turned you into an egomaniacal, greedy Little Hitler? More to the point, do you think you should dare risk offending religious groupings by pretending to be god? To be fair, *Populous 2* is the only game in which you actually take the part of a god – a Greek god and one of many. The game's programmers, Bullfrog, have obviously taken great care to avoid comparison with contemporary religion – you can't imagine anyone bringing out a game called *Salman and the Curse of the Ayatollah*, anyway, can you?

The others – *Utopia*, *Caesar*, *Mega-Lo-Mania* and *Power Monger* – merely place you in control of a city or tribe. You are a leader, no more, no less and have just as much right to tinker around with the trappings of power as anyone else. One thing's for sure – you're going to do a lot less damage to the world acting out your mega-lo-maniacal fantasies on your ST,



■ It's Take That – top beat combo of the '90s; they're not five minute wonders or a record company's marketing ploy. No, they have good looks, they've had hits... they're crap.

than some of the nutters around who are doing it for real.

The buck stops here

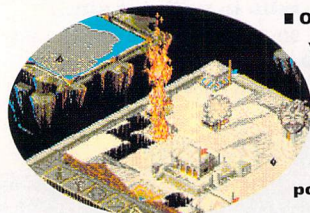
Now you've looked at all the types of god games and how you can win – and lose – with each one, which is the best? As an original god game, *Sim City* still has the edge over other upstarts like *Caesar* and *Utopia* – what *Sim City* lacks in gameplay it makes up for in ease of use and sheer brain-taxing properties – try managing Hamburg during the peak of the Allied bombing campaign in 1944 and you soon start to realise what a hard job the authorities sometimes have. *Utopia* and *Caesar* have a great deal in common and both have drawbacks – *Caesar's* is the limited battle option – although a link up with *Cohort 2* can improve



■ You come face to face with your opponent for the island. You need to invent plenty of weapons and fortify your castle if you're going to stand any chance against him.



■ All is fair in love and war, so how come the baddie's managed to fortify his castle, when you're left with a poxy tent? That's it – no more weekends spent down the DIY shop.



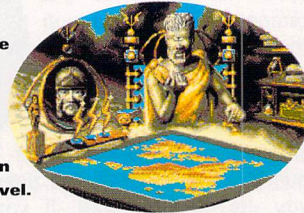
■ One way to dispatch your opponent's people is to unleash a column of fire on them. The more of their settlements you destroy the better – it stops the population expanding.

■ Inflict a Rain of Fire on your enemies and their buildings burn down, while they turn to ash.



■ Another one of your divine powers is the ability to create earthquakes. Others include whirlpools, volcanoes, tidal waves and lightning.

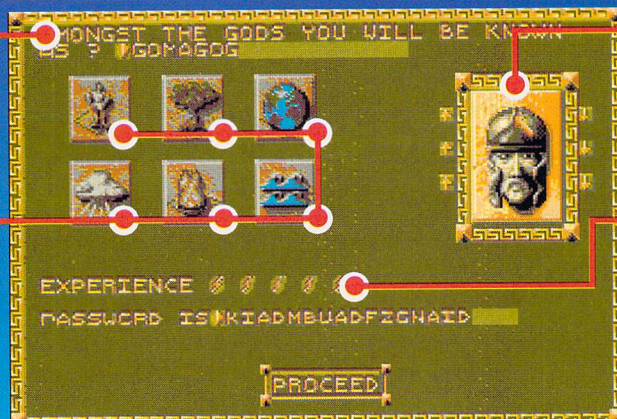
■ When you have defeated your opponent he rewards you with a number of experience points which you can use in the next level.



MAKING DEITIES

Populous 2's Deity Creation screen. There are a number of options for changing the way your god looks and what powers he has.

ELEMENTAL ICONS: Earth, Fire, Water, Air, Vegetation and People



FACE ICON

You can give your god a variety of facial expressions which help determine how clever or aggressive he is.

LIGHTNING BOLTS: represent the amount of experience you have. These can be converted into divine powers by clicking on the Elemental icons.

VENI, VIDI, VICI

They ruled with a rod of iron and terrorised the world, but every last one of them came to a sticky end. We take a look at the world's top despots

1 Margaret Thatcher

Undone by her own mega-lo-mania and the Poll Tax, Mrs T now ekes out a rather pathetic existence which only serves to remind people why she was booted out in the first place. Not so much a Has-been as a Never-was.

2 Adolf Hitler

OK, so he made the trains run on time and united Europe in a way the Maastricht bill never could. But you only had to look at him to realise he was no Aryan model of perfection – something he murdered millions for not being. Like Mrs T he was mad, bad and never listened to a word his advisers told him.

3 Josef Stalin

He didn't so much pervert the course of Communism as complete what Lenin had started. Chiefly remembered for sending millions to their deaths in the Gulags of Siberia and for sporting a moustache Ian Botham would be ashamed of.

4 Richard Nixon

Tricky Dicky helped to prolong the Vietnam agony, got caught doing dodgy deals by his own surveillance devices and gave the world Gerald Ford. Cheers, Rich! Now somewhat critically rehabilitated by an America so long without a decent president that it thought Ronald Reagan was one of the good guys. Sad.

5 Napoleon Bonaparte

Hitler's predecessor to the march on Moscow and another renowned shortie. It must have been like having Danny DeVito as President. Still, any man who could spurn Josephine's affections must have been a bit of a loony, right?

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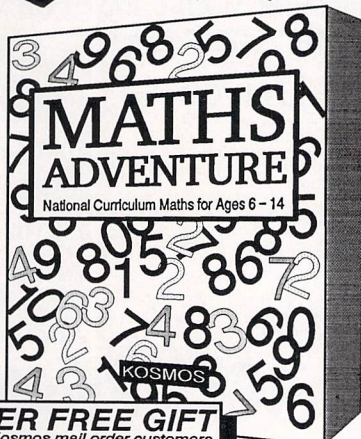
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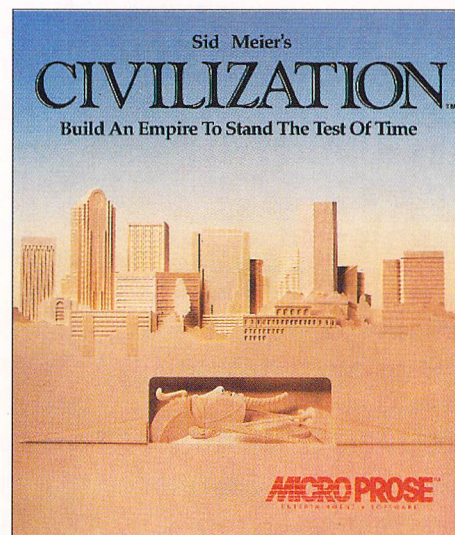
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<div>256 Greyscale Scanners</div> <div>Total solution for scanning A4 images</div> <div>Features :- True greyscales , 100-400 dpi , 105mm head , OCR option</div> <div>Top quality hardware with the latest version of software from Migraph. Allows real time scanning, provides powerful editing/painting features. Compatible (imports/exports) IFF,IMG,PCX,TIFF and MACPAINT formats.Compatible with all Atari's</div> <div></div> <div>Touch UP , Merge It and Special OCR software.</div> <div>Minmum system requirement 2Mb RAM, and a Hard Disk</div> <div>Touch UP and Merge It Software £119.95</div> <div>£199.00</div> <div>Full OCR Version Software Available £165.00</div>			

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STOP THE PRESS!

We decided it was about time to have a look at some of the printers that were available, what you need them for and how well they stand up to each other. So we did. Clive Parker does the honours

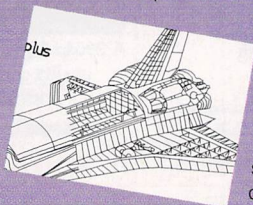
9-PIN PRINTERS - MONO

9-pin printers are rarely used in businesses because of the continual fall in price of 24-pin machines. So, while the quality of 9-pin printers has been steadily improving, they haven't been rising in price at a comparable rate. 9-pin printers work by a

series of pins bashing against a ribbon in the correct sequence to produce all the usual ASCII characters on the paper, in a similar way to typewriters. Because the characters are made up from a series of dots, the final output has a distinct rough "dotty" look about it, this can be remedied by printing in NLQ mode (Near Letter Quality). In this mode, the print head makes two or more passes over the paper, while the paper itself moves position slightly so the gaps between the dots are filled in, creating higher quality output. Dot matrix printers have always

been noisy and always will be - this is, perhaps, their greatest drawback. 9-pin dot matrix printers are an ideal introduction to printing at home. And because most printers enable you to emulate Epson or IBM printers, you can just plug in your machine, load up the software and print. Buying a 9-pin printer can cost as little as £120 if you shop around; all the prices given here are recommended retail or the supplier's price, so get yourself a printer and get that newspaper on the streets.

See below



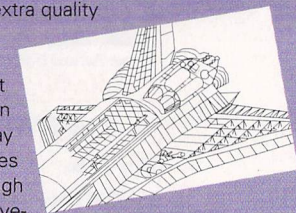
■ This bit of the space shuttle was printed using a 9-pin.



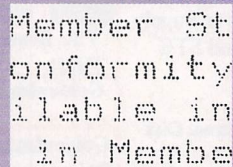
■ This is the sort of type quality you get from a 9-pin printer.

24-PIN PRINTERS - MONO

24-pin printers are enhanced 9-pin printers. Because of the smaller pin size, much better print quality can be achieved because the 24 smaller pins output text at the same size as a 9-pin printer. The output is excellent in draft mode and in NLQ mode the output is almost of laser quality; only the closest scrutiny reveals that the text is made up of dots. The extra quality translates as extra cost when you buy the machine, but if you want or need higher resolution output, you have to pay the price. These machines can also be noisy, although there has been an improvement in noise reduction with the introduction of newer "quiet" machines. Some businesses now use 24-pin machines for DTP, CAD and other graphics output at resolutions of up to 360dpi.



■ Compare this picture of the space shuttle to that of the 9-pin output.



■ 24-pin printers are capable of producing this sort of text output.

These printers are often preferred over lasers as you can get wide carriage machines so you can use 16 inch and A3 size paper. Some 24-pin printers are cheap enough for home users; some home based businesses rely on just an ST and a printer.

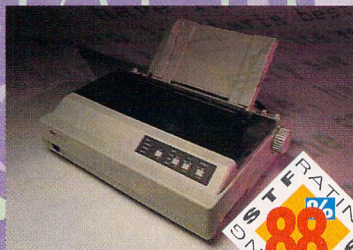
See page 46

9-PIN DOT MATRIX PRINTERS

STAR LC-20

FROM: **STAR MICRONICS**
PRICE: **£222.08**
CONTACT: ☎ **0494 471111**

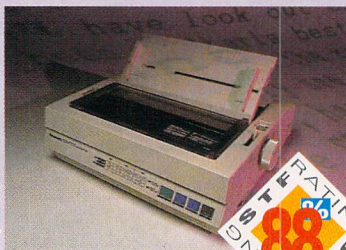
The LC-20 is the replacement for the LC-10 9-pin dot matrix printer. The LC-20 is a 9-pin printer with a print speed of 180cps (characters per second) in draft mode and 45cps in NLQ mode. There are eight built-in NLQ fonts which can be defined from the front panel, and DTP programs that use graphics mode for output generate good results. Printer drivers may not specify the LC-20, but LC-10 or Epson FX output work OK.



PANASONIC KX-P1170

FROM: **PANASONIC UK LTD**
PRICE: **£217.38**
CONTACT: ☎ **0344 853551**

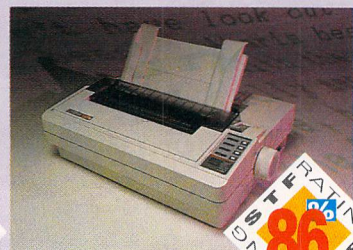
A reasonably priced reliable 9-pin printer from Panasonic, this machine is packed with features and has a reasonably fast draft speed of 192cps and four built-in NLQ fonts. Because it uses Epson FX-86e and FX-800 emulations, you should be able to run it with all ST software. Can be used with DTP and CAD software, but it is more suited to text output. One of the best 9-pin machines you can get.



CITIZEN SWIFT 9

FROM: **SILICA SYSTEMS**
PRICE: **£198.58 INCLUDING COLOUR KIT**
CONTACT: ☎ **081 309 1111**

The Swift 9 has proved to be a reliable workhorse. It is a versatile machine and Silica include a free colour kit as part of the deal, so you can make it into a colour printer if you like. Capable of both Epson and IBM emulations, the printer can output graphics at 240 dpi (dots per inch) enabling excellent results to be obtained from graphics programs and graphics-based word processors. Good value for money.



INKJET PRINTERS (AKA bubblejets)

This is a strange development in printer technology; instead of a ribbon being struck by the print head, ink is actually sprayed onto the paper from a series of small holes in the printer head. The print head is built into the print cartridges in most inkjet printers, hence the relatively high price of replacement cartridges compared to standard ribbons for dot matrix printers. The main advantages of the inkjet series over dot matrix printers are speed, resolution and noise – the machines literally print with a whisper and at least twice as fast as the swiftest dot matrix machines – and some can offer better than laser printer resolution.

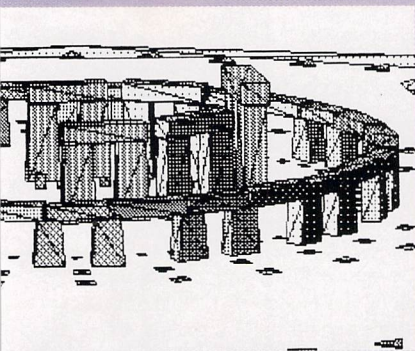
Drawbacks with inkjets can be that there is no provision for multiple-part paper (for invoices and receipts) but lasers also have the same problem. Prices are now directly compatible with 24-pin machines with the Canon BJ-10ex and clones are available for about £250.

See page 46



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■ Look at that quality! And prices keep coming down...



■ This inkjet printout shows you what Stonehenge used to look like. Well, perhaps it wasn't quite so angular.

LASER PRINTERS

The professional end of the market is dominated by laser printers because of their ability to produce high quality output at high speed. Laser printers work by a laser beam scanning the drum with the image of the document to be printed. A charge is created on the drum which attracts the toner; when paper is passed over the drum, the toner is transferred to it and fused into place by heating the paper up.

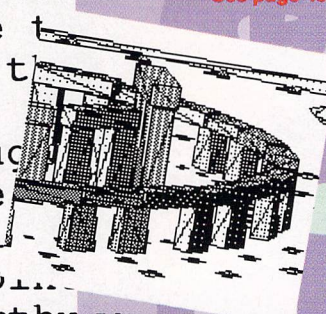
Because the transfer process is extremely fast, laser printers are ideal for producing high quality documents at high speed. The main problem, however, is the high price. Lasers cost a fortune – or at least

more than most of us can afford, and once you have the machine, the cost of accessories like toner is very high when compared to inkjets or DMPs. If you want professional quality copy and can afford it, a laser is the only choice.

See page 49

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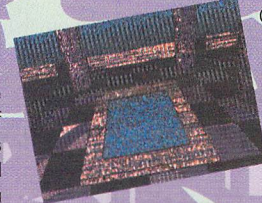
■ At the top left you can see laser text quality output...

■ ...and below is the picture of the shuttle again, now output from a laser.

COLOUR PRINTERS

If you use your ST to produce colour graphics and would like to be able to produce the same results on paper, you need a colour printer. In the last few years, colour printers have become more popular with prices not much higher than the mono equivalent – and some of the more expensive 24-pin machines now have colour capability built-in as standard.

The first mass produced colour printer was the now famous Star LC-10



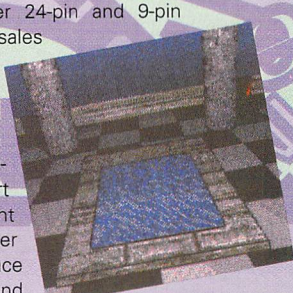
■ This 9-pin colour print isn't really all you could ever want, but it's OK for a first buy.

Colour (not to be confused with the LC-10C which had a special Commodore 64 interface) which is a 9-pin machine. It sold in huge numbers and really started the home market for colour printers; there are now colour 9-pin, 24-pin, inkjet and laser printers, although the price of colour lasers places does tend to place them well out of the reach of most home users. Despite this, there are many affordable colour printers available that are ideal for home use. Graphic design studios are likely to use the more expensive colour inkjet and high-end 24-pin machines to produce example output for clients, but who uses the cheaper 24-pin and 9-pin machines? Well, most sales

of these machines are to hobbyists – and that could be you – who delight in printing out their graphic creations designed in art packages, or the ardent home desktop publisher who wants to produce colourful letters and newsletters.

See page 49

■ 24-pin output is much more solid.



SEIKOSHA SP-2400

FROM SILICA SYSTEMS
PRICE: £158.63
CONTACT:
☎ 081 309 1111

This is a reasonably priced 9-pin machine that works with the bog-standard Epson FX drivers, although the FX-1050 and FX-850 are cited in the manual. This printer has a very high super draft mode of 300cps, so all those document files fairly fly out of the machine. It also has a reasonable 240 x 144 dpi resolution in graphics mode which can produce pretty good output from something like *GFA Draft*. With the five built-in fonts you can produce some natty looking letters and documents, although we found the control panel harder to master than some of the other printers.



CITIZEN 120D+

FROM: SILICA SYSTEMS
PRICE: £135.13
CONTACT: ☎ 081 309 1111

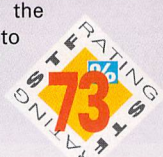


The Citizen 120D+ has been around for years; it is a basic 9-pin printer, and, while output is not that brilliant in draft mode, using bold or NLQ improves results. It is perfect for printing out document files and producing the occasional picture or letter. Complete with only a couple of fonts and Epson and IBM emulations, the 120D+ is an ideal budget buy for use in the home and is excellent value for money although there aren't many fonts and it prints in low resolution.

THE ESSENTIAL 9-PIN PRINTER INFO

Machine	Price	Printer speed* Draft/NLQ	Fonts Draft/NLQ	Emulations	Max res DPI***	Rating
Citizen 120D+	£158.63	144/30	1/2	Epson/IBM	240x240	67%
Citizen Swift 9	£198.58	192/48	1/3	Epson/IBM	240x240	86%
Panasonic KX-P1170	£217.38	192/38	2/4	Epson/IBM	240x216	88%
Seikosha SP-2400	£158.63	300/60	1/5	Epson/IBM	240x144	73%
Star LC-20	£222.08	180/45	1/8	Epson/IBM	240x240	88%

*measured in characters per second **NLQ – means Near Letter Quality ***dots per inch



24-PIN PRINTERS

PANASONIC KX-P1123

FROM: PANASONIC
PRICE: £282
CONTACT: ☎ 0344 853551

Panasonic machines are easy to use and set up – you can find all the controls that you need to set up the machine conveniently situated

in a touch sensitive front panel. You can set all the fonts from here, along with all other functions of the machine, for example, setting the Epson LQ-850 and IBM Proprinter X24 emulations.

The NLQ script font is excellent for producing classy-looking letters and, with three different paper paths, the Panasonic can

cope with most situations. A printer designed for the office that is perfect for the home.



CITIZEN SWIFT 240

FROM: SILICA SYSTEMS
PRICE: £280.83 (£304.33 FOR COLOUR VERSION)
CONTACT: ☎ 081 309 1111



This is one of the new Swift 2 range of 24-pin machines and it is swift! In draft mode it churns out text at 300cps and prints out graphics fairly swiftly. It is not so fast when printing in NLQ or graphics mode – normal with 24-pins. The control panel has an LCD readout and a slider control to switch between modes, so you can select 16 functions from four buttons. Epson LQ drivers can be used here giving great printout quality.



PANASONIC KX-P2624

FROM: PANASONIC UK LTD
PRICE: £581.63
CONTACT: ☎ 0344 853551



A wide carriage machine with more options than the KX-P1624. This printer is extremely quiet – some of the laser printers were far noisier. It's also faster than comparable printers with a top speed of 300cpi – this machine printed out several pages of text without anyone in the office even noticing. Ideal for CAD and graphics, this machine could live very happily in any office without disturbing those important 'phone conversations.



FUJITSU DL1150

FROM: FUJITSU EUROPE LTD
PRICE: £464.13 (OPTIONAL COLOUR KIT £41.13)
CONTACT: ☎ 081 573 4444



This is an excellent wide carriage 24-pin machine that can use 16 inch paper to produce reports at 360 dpi, making it ideal for computer aided design, desktop publishing and other related graphics utilities. It can be driven with Epson LQ and IBM Proprinter XL24 drivers and achieves better quality output than either laser printers or other Deskjet compatible inkjets. Not really for the home user, but an impressive machine and its compact dimensions enable it to fit neatly into any office.



FUJITSU DL1250

FROM: FUJITSU EUROPE LTD
PRICE: £645.08 (OPTIONAL COLOUR KIT £41.13)
CONTACT: ☎ 081 573 4444



This is a wider version of the DL1150 enabling you to print full A3 sheets in landscape mode, apart from this the specifications are exactly the same as the other machine. This printer is designed for use by companies who are specialising in drafting or other graphics-oriented work such as desktop publishing or graphic design. The Fujitsu DL1250 is not a cheap machine by any means, but it is meant – and is ideal for – professional use. Don't invest in this just for the occasional letter.



INKJET PRINTERS

STAR SJ-48 BUBBLEJET

FROM: STAR MICRONICS
PRICE: £351.33
CONTACT: ☎ 0494 471111

This little marvel is practically a clone of the famous BJ-10e from Canon, and produces output that's as good as the original. The SJ-48

produces 360 x 360 dpi output (better than laser quality) and is simple to set up and use. Most ST software is now supplied with a Canon BJ-10e driver, but if you should find that you don't have one with your package, there is no need to worry because this machine uses Epson LQ or IBM ProPrinter emulation instead. Brilliant.

FUJITSU B200

FROM: FUJITSU EUROPE LTD
PRICE: £586.33
CONTACT: ☎ 081 573 4444

This is the big brother of the B100 and also provides a standard 300 x 300 dpi resolution and has the same emulation options, HP Deskjet, IBM and Epson FX-850. The machine is also capable of 600 x 300 dpi for improved graphics output and has a very fast draft text mode of 360 characters per second.

The printer is supplied with a cut sheet feeder and is also capable of handling continuous paper, making it an excellent all-round workhorse. This one is slightly more

expensive than other comparable machines but packed with features – worth considering for the office or small home based business.



PANASONIC KX-P1624

FROM: **PANASONIC UK LTD**
PRICE: **£522.88**
CONTACT: ☎ **0344 853551**

This is the big brother of the 1124 printer – which we don't actually cover in this roundup so don't try and find it – and is really the same basic machine in a wide carriage format. Designed primarily for professional office use, the KX-P1624's 360 x 360 dpi makes it an obvious choice for DTP, CAD and graphics purposes. The main draft printing speed is just under 200 characters per second which is reasonable but not brilliant, and the usual Panasonic front panel makes setting up simple. If you need a versatile wide carriage printer with a variety of fonts, then this has got to be a contender.



SEIKOSHA SL-90

FROM: **SILICA SYSTEMS**
PRICE: **£182.13**
CONTACT: ☎ **081 309 1111**



A compact 24-pin machine that's ideal for use in cramped conditions. The controls aren't incredibly easy to understand, but the output quality is excellent. There are only two fonts supplied as standard with seven others available as optional extras. Not as fast as some 24-pin printers, but at just over £180 this is an excellent budget buy. Uses Epson LQ-850 or LQ-800 drivers.

SEIKOSHA SL-130AI

FROM: **SILICA SYSTEMS**
PRICE: **£292**
CONTACT: ☎ **081 309 1111**



This is definitely a business printer, wide carriage 24-pin and designed for output from CAD packages, large spreadsheets and other business programs. It has draft printing speed of 216cps and has eight NLQ fonts built in. It uses Epson LQ-1000 and IBM emulations. You can produce excellent large printouts with 16 inch paper format documents. An excellent machine.

STAR LC24-100

FROM: **STAR MICRONICS**
PRICE: **£280.83**
CONTACT: ☎ **0494 471111**



This medium range printer offers excellent text and graphics output, to help produce that perfect letter, helped along by the 360 x 360 dpi resolution. Speedwise it has a graphics output rate of 192cps draft and 64cps NLQ with ten built-in LQ fonts. This rate is much higher than most 24-pin machines. Epson 24-pin drivers should get this printer working with most ST software.

THE ESSENTIAL 24-PIN DETAILS

Machine	Price	Printer speed* Draft/LQ**	Fonts	Emulations Draft/LQ**	Max res DPI***	Width	Rating
Citizen Swift 240	£280.83	300/80	1/11	Epson/IBM/NEC	360x360	11inch	82%
Fujitsu DL1150	£464.13	240x216	2/9	Epson/IBM	360x360	16inch	77%
Fujitsu DL1250	£645.08	240/216	2/9	Epson/IBM	360x360	16inch	77%
Panasonic KX-P1123	£282.00	192/63	2/5	Epson/IBM	360x360	11inch	88%
Panasonic KX-P1624	£552.88	192/63	2/5	Epson/IBM	360x360	16inch	77%
Panasonic KX-P2624	£581.63	300/100	3/8	Epson/IBM	360x360	16inch	79%
Seikosha SL-90	£182.13	240/84	1/2	Epson	360x360	11inch	73%
Seikosha SL-130AI	£292.00	216/72	1/8	Epson/IBM	360x360	16inch	73%
Star LC24-100	£280.83	192/64	2/10	Epson/IBM	360x360	11inch	72%

*measured in characters per second **LQ – means Letter Quality ***dots per inch

CITIZEN PROJET

FROM: **SILICA SYSTEMS**
PRICE: **£405.38**
CONTACT: ☎ **081 309 1111**

This machine uses HP Deskjet emulation, so it's compatible with all serious software. It is quite easy to set up and run, although the manual could be a little clearer, especially regarding how to install the ink cartridge and paper tray. Works quietly and well and is a definite contender in the inkjet world.



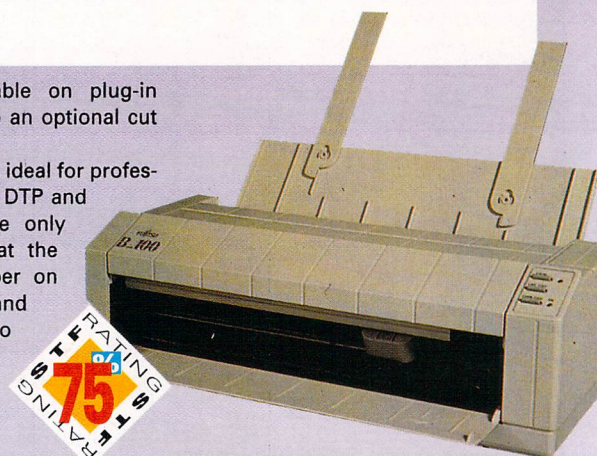
FUJITSU B100

FROM: **FUJITSU EUROPE LTD**
PRICE: **£410.08**
CONTACT: ☎ **081 573 4444**

This bubblejet printer has 300 x 300 dpi capability from its 50 nozzle printhead giving near laser quality when you're using the default HP Deskjet Plus emulation. If your software lacks Deskjet drivers, then you can select IBM or Epson FX-850 emulation. There are half a dozen built-in fonts with optional

extra fonts available on plug-in cards, there is also an optional cut sheet feeder.

This printer is ideal for professional high quality DTP and graphics work, the only problem being that the ink soaks the paper on heavy black areas and takes a little while to dry. Apart from this, results are excellent and at a reasonable price.



ESSENTIAL INKJET DETAILS

Machine	Price	Printer speed* Draft/LQ	Fonts	Emulations Draft/LQ**	Max res DPI***	Rating
Citizen Projjet	£405.38	360/120	3	DJ500	300x300	81%
Fujitsu B100	£410.08	160/80	6	Epson/IBM/DJ500	300x300	75%
Fujitsu B200	£586.33	360/120	5	Epson/IBM/DJ500	300x300	82%
Star SJ-48	£351.33	100/100	2	Epson/IBM	360x360	90%

* measured in characters per second ** Letter Quality *** dots per inch



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Hoyle's Book of Games 1 £5.99
Hoyle's Book of Games 2 £5.99

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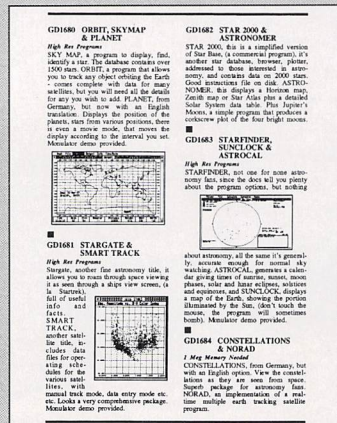
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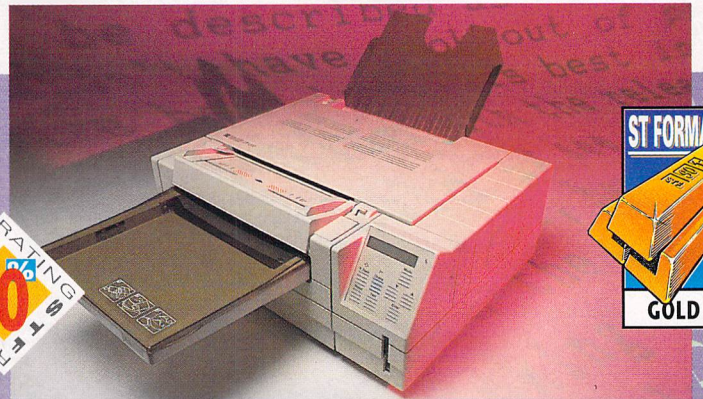
LASER PRINTERS

RICOH LP1200
FROM: SILICA SYSTEMS
PRICE: £821.33
CONTACT: ☎ 081 309 1111

The Ricoh laser is an unusual looking machine to say the least, but it is as capable as the other lasers we looked at. The printer uses Epson FX, IBM Proprinter and HP Laserjet 3 emulations to ensure maximum compatibility with software. Nor-

mal emulations enable 300dpi to be obtained, but using the machine's own internal capabilities you can achieve 400dpi.

Everything we tried – and we tried everything! – with this printer resulted in excellent results and, because it is one of the lowest priced lasers around and comes complete with 2MBytes of RAM, it has to be the best of the bunch.



FUJITSU VM800
FROM: FUJITSU EUROPE LTD
PRICE: £1674.38
CONTACT: ☎ 081 573 4444

The VM800 is an eight page per minute (PPM) machine which uses HP Laserjet 3 emulation as standard. Because HP 3 emulation is practically the standard laser driver for machines these days, all recent software should have the relevant driver tucked away somewhere, so you shouldn't have any

problems getting your DTP software running. The resolution is the standard laser 300 x 300 dpi and output quality is crisp and clear using either the numerous built-in fonts or graphics output from DTP package. There is 1MByte of system RAM installed as standard making the machine quick to process data from your ST. A great quality machine but a little on the expensive side.



PANASONIC KX-P4410
FROM: PANASONIC UK LTD
PRICE: £992.88
CONTACT: ☎ 0344 853551



This is an excellent addition to the Panasonic range of professional laser printers, and with five separate emulation modes it is practically guaranteed to work with any software you may have. Of course, lasers are really for professional use and this machine compares well with anything else on the market. DTP pages from Calamus, straight text from the Desktop, output from GFA Draft and word processors all printed at 300dpi and were all of excellent quality. The printer is quiet, easy to use and maintain – even the installation of toner and drum is simplicity itself. Recommended.



THE ESSENTIAL LASER DETAILS

Machine	Price	Printer speed	Fonts	RAM**	Emulations	Max res***	Rating
Fujitsu VM800	£1674.38	8ppm	14	1MByte	HP DJ3	300x300	85%
Panasonic KX-P4410	£992.88	5ppm	14	0.5MByte	Epson/IBM/HP DJ2	300x300	85%
Ricoh LP1200	£821.33	6ppm*	14	2MByte	Epson FX/HP DJ3/IBM	400x400	90%

*pages per minute ** RAM inside the printer – the more there is, the quicker the printer operates *** measured in dots per inch

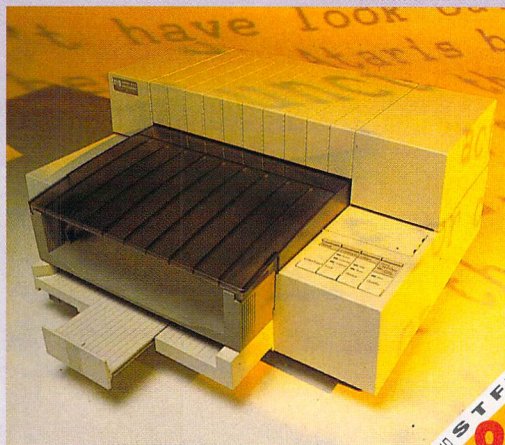
COLOUR PRINTERS

HP DESKJET 500C
FROM: SILICA SYSTEMS
PRICE: £633.33
CONTACT: ☎ 081 309 1111

At first sight this printer is almost exactly the same as the Deskjet

500, except this one prints in colour. HP printers are all pretty easy to set up, and this one is no exception. Not many ST programs support the 500C as yet, but using HP Chrome by Rufus Developments (see the review in STF 38) enables you to output 16-colour Degas or Neochrome pictures perfectly and very easily.

Can be used with a black ink cartridge for standard Deskjet 500 output for DTP or CAD work or plain word processing. If you want high quality colour prints then, without a doubt, this is the machine you need.



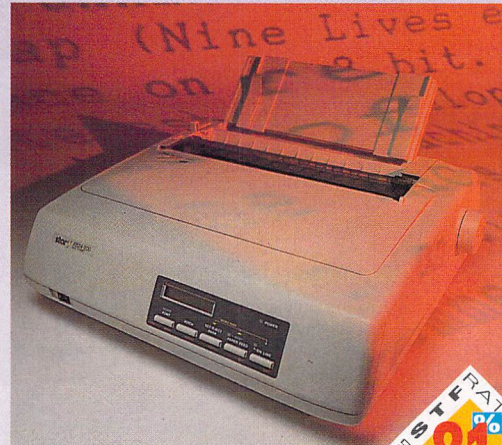
STAR XB24-200
FROM: STAR MICRONICS
PRICE: £609.83
CONTACT: ☎ 0494 471111

Now this is definitely a machine to hanker after, the XB24-200 is a seri-

ous 24-pin business printer with both colour and mono ribbons supplied as standard. The print speed is phenomenal when you compare it to other 24-pin machines at over 300cps in draft mode. If you want even better quality output than the

normal 24-pin standard, this machine has a 48-pin emulation mode which uses a special mathematically created font. This is imaginatively named Super Letter Quality mode and really does produce excellent professional quality output.

This is a rather pricey machine, but it's well worth it for the high resolution colour output.



STAR ZA-200

FROM: **STAR MICRONICS**

PRICE: **£492.33**

CONTACT: ☎ **0494 471111**

This bottom of the Protocol range of Star machines is classed as a "professional" 9-pin printer and is designed to produce huge volumes of printout at high speed, at 420cps to be exact. This is an out-and-out office machine and is extremely robust, fast and reliable – absolutely perfect for continuous

listings. As usual, Star have included Epson and IBM emulation as standard features, so it can run with practically any ST software from scratch.

All Star Protocol printers have colour capability as standard because colour is so widely used in business these days, this feature is fast becoming common with the majority of dot matrix printers on the market. Very expensive but a great machine.



PANASONIC KX-P2123

FROM: **PANASONIC UK LTD**

PRICE: **£399.50**

CONTACT: ☎ **0344 853551**

A colour addition to the Panasonic 24-pin range of machines, the 2123

is a quiet machine which can chug away quite happily to itself without disturbing anyone. All the colour, font and general setup options are accessed from the front panel of the machine, so you can print text in any colour without much hassle. Printing graphics, however, is a different story because the machine uses Epson PQ-860 or IBM X24E emulations which are not really very well supported in ST software.

Colour print-outs of graphics screens were very good, without too much obvious banding. All round this is a very capable machine.



STAR LC24-200 COLOUR

FROM: **STAR MICRONICS**

PRICE: **£410.08**

CONTACT: ☎ **0494 471111**

If you need a colour printer with 24-pin quality, then the Star LC24-200 is a serious contender. The

printer has above average draft printing speeds and the usual Star electronic dip switches are operated from the front control panel. The printer is easy to set up and use with its built-in industry standard printer emulations, which means practically all ST software will drive it. This machine is absolutely perfect for creating business graphics – graphs, charts and presentations are much more impressive when produced in colour. Intended primarily for business use, this printer is out of the price range of most users although it can be found at lower costs from mail order companies.



STAR LC-200

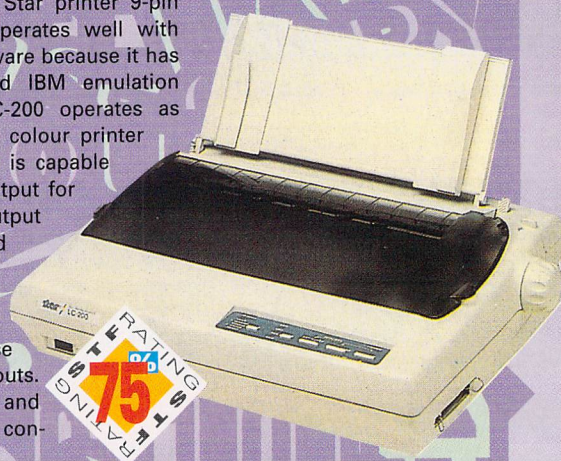
FROM: **STAR MICRONICS**

PRICE: **£304.33**

CONTACT: ☎ **0494 471111**

This is another Star printer 9-pin printer which operates well with almost any software because it has both Epson and IBM emulation built-in. The LC-200 operates as both a mono or colour printer as standard and is capable of very good output for a 9-pin. Draft output is pretty fast and there is also a high speed draft mode of 225cps for those urgent print-outs. Simple to set up and use, once it is con-

nected you simply select an Epson 9-pin mono or 9-pin colour printer driver from your software, load in your file and print. More features than the LC-100 and very versatile.



STAR LC-100 COLOUR

FROM: **STAR MICRONICS**

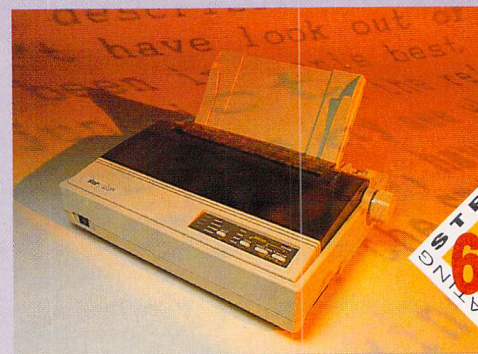
PRICE: **£257.33**

CONTACT: ☎ **0494 471111**

This machine is the bottom of the range 9-pin colour printer from

Star and has a reasonably low recommended price, although you can get it a lot cheaper if you can be bothered to shop around.

Printing speeds for text are the same as with the LC-20, 180cps draft and 45cps NLQ. Setting up the machine is simple because it has a built-in Auto Emulation Selection feature, the printer detects if your software is using one of the standard Epson or IBM printer drivers and switches to the correct mode for printing. Not as many features as some of the other machines, but it's a very good budget buy.



ESSENTIAL COLOUR PRINTER DETAILS

Machine	Price	Type	Print speed draft/LQ***	Fonts	Emulations	Max res	Rating
HP Deskjet 500C	£633.33	Inkjet	3ppm/1ppm*	6	None	300x300	85%
Panasonic KX-P2123	£399.50	24-pin	240/80**	3/7	Epson/IBM	360x360	75%
Star LC-100	£257.33	9-pin	180/45**	1/8	Epson/IBM	240x240	68%
Star LC-200	£304.33	9-pin	225/45**	1/8	Epson/IBM	240x240	75%
Star LC24-200	£410.08	24-pin	222/67**	1/10	Epson/IBM	360x360	75%
Star XB24-200	£609.83	24-pin	332/100**	1/18	Epson/IBM	360x360	81%
Star ZA-200	£492.33	9-pin	420/84**	1/8	Epson/IBM	240x240	78%

*pages per minute ** characters per second ***Letter Quality

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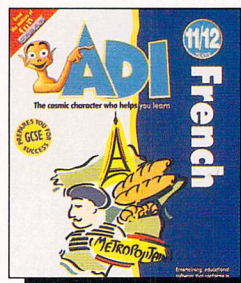
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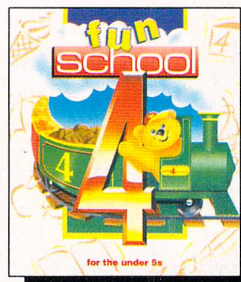
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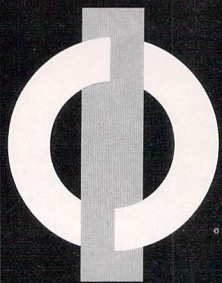
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PAGESTREAM VERSION 2.2

A powerful DTP package. This is the very latest version which includes 10 compugraphic fonts, spell checker, comprehensive text manipulation and effects and much more.

only £139.99 UK Spec TIMEWORKS 2 PUBLISHER

The successor to the popular Timeworks ST this new version boasts over 40 new significant features.

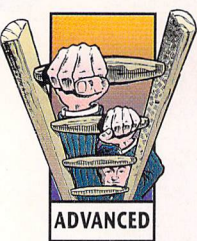
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DOWN AT THE

You know how far you can go with the things you've already learned about DTP, but there's a mysterious aspect of printing - that technical side of things that involves chemicals 'n' machines. Paul Hughes unveils the mystery

In previous articles we have concentrated mainly on desktop publishing fundamentals. You might be quite content to produce your final work on desktop printers or photocopiers, and for many tasks these machines are more than adequate. In fact, if you read the article on advertising sheets in issue 42 - turn to page 66 to order your copy if you missed it - you can see that a reasonable income can be earned using just an ST, laser printer and access to a photocopier.

If you intend to tackle more exacting work such as business stationery, or projects that require the application of more than one colour, then it is useful to understand some of the basics involved with getting your work into print.

What print process do I need?

You may well have heard such words as lithography, flexography, gravure, screen-printing, letterpress and hot-foil. These are all important print techniques used for particular jobs. For our purposes we shall concentrate on lithography, or offset litho as it is more commonly known. Most of the high street print shops and small to medium print businesses employ one or more offset litho printing press. The working principle is:

1. You supply your local printer with the artwork to be printed. This can either be on paper, bromide or film, (usually a negative).
2. If you supply paper or a bromide, then the printer needs to

make a film version of this copy. This is done by placing the copy under a process camera using standard photographic principles.

3. The film is placed against a pre-sensitised plate, usually chemically coated aluminium, and then sub-

To reproduce photos as seen in STF entails using a four colour process

jected to a powerful light which exposes the plate through the image on the film.

4. The plate is then washed leaving behind only the image.

5. The plate is then affixed around a cylinder on the printing press. By using a roller system, water and then ink is applied to the plate. This is the clever bit. Water and ink don't mix and the image area on the plate, because of its chemical composition, repels the water but accepts the ink. The rest of the unexposed part of the plate repels ink but accepts water. This sounds crazy, but it works.

6. The plate cylinder is in contact with a rubber covered cylinder (the blanket cylinder) and transfers, or offsets, the image to this blanket which, in turn, offsets the image onto the paper.

Two or more colours

There is a bit more to it than that but you should have a rough idea of what happens in a single colour Offset Litho press.

Let's assume the colour that has just been printed was black and we now need to print red as a second colour. This entails allowing the ink to dry and passing the job through once more. However, before making our plate, the part of the image to be printed in red has been temporarily masked-out on the film leaving only the black part of the image showing through. This masking procedure is reversed to print the red. It also follows it is necessary to produce a different plate for each colour. You will now see why it starts to get expensive when you want to print in more than one colour. There is more work involved at the film stage (masking-out), the job has to be run twice or more (depending on how many colours used) and more than one plate has to be produced.

We have described a single colour printing press, many print businesses employ a two, three or even a four colour press. It does not necessarily follow that a company which specialises in colour work can produce your job any cheaper. In fact, it would probably be more expensive because these are very expensive machines to buy and to run, and have very large operating overheads

Full colour

To reproduce colour photographs as seen in *ST FORMAT* entails

PRINTING WITH TWO COLOURS

1 Here you can see the image and text that require separating - part of it has to be in red and part of it in black as you can see from the picture. Your first step is to create crop marks as we showed you in *STF 39* - turn to page 66 to order your copy if you missed it, then save this page and make a complete copy to a new page.

2 The next step then is to remove the text leaving behind the cartoon image - although this might look as if it's rather unfinished, upon closer examination you can see that this is because the text forms such an integral part of the design. The next step, as you might have predicted, is to go to the next page and remove the cartoon image.

3 This leaves you with just the text and crop marks. These can now be grouped together and copied back to the first page, in a lower position. You now effectively have an A4 sheet with two pieces of artwork. When a film has been made, either by your bureau or printshop, these two separate images can be overlaid and should match up perfectly.

PRINT SHOP

using a four-colour process, utilising a mixture of primary and complementary colours. Four process colours are used; black, yellow, magenta (red), and cyan (blue).

The original colour photograph, or more usually a transparency, is placed in a scanning device which interprets the various intensities of the four process colours evident in the photograph. An imagesetter then produces a separated film (either negative or positive), of each process colour that you've used. A plate is made for each separation and when run on the press builds the image into a full-colour reproduction.

This all sounds very simple and straightforward, but it's not! A good bureau, or more commonly a repro house, is worth its weight in gold. Very expensive equipment is used in colour separation which normally makes any short-run jobs prohibitively expensive.

Are there cheaper alternatives?

Yes, there are. Colour laser copiers have been around for some time now and are ideal for short-run jobs where reproduction of colour photography is not too critical. A good example would be the owner of a holiday home who wishes to send out a several hundred colour leaflets, featuring the premises, to prospective tenants.

Firstly, the text is typeset leaving an empty box, for sticking in the colour photograph, and then placed in the colour copier so it can be reproduced. The results are surprisingly good. Many estate agents are finding this process particularly useful.

One useful bonus is that when placed on the machine, portions of your text can be highlighted (with a special light-pen) and printed in different colours. Most of the quickprint shops found in the High Street can supply you with colour laser copies at around £1.50 per A4 sheet. Don't confuse colour laser copiers with colour photocopiers, the end results are far superior on the laser version.

Hot foil

This form of printing is definitely worth a mention in this article because many printers have begun their careers by using this method.

Hot-foiling is usually the method used to print on such

things as key-fobs, pens, pencils, book-matches, mugs, coasters, diaries and other promotional materials. It also lends itself well to producing high quality letterheads, compliment slips, envelopes, business cards and the like.

On supply of your artwork a chemically etched block costing around £10 is produced, this is then placed behind a roll of coloured foil. There are many block makers around who provide a mail-order service. The business card, or

whatever, is then placed on a flat metal plate called a platen, which is then followed by the operator pulling a lever.

On more expensive machines this process happens automatically. The foil is then pressed onto the business card via the block, which has been heated, leaving an impression of the image. A good basic machine can be acquired for a few hundred pounds and, if you market your services successfully it can be used to provide a very

handy bit of income. There are many established businesses around the country who specialise in hot-foil supplies.

As an original piece of artwork, a good laser print can quite often give excellent results with the foil method. This has the rather pleasant effect of saving on bromide or film costs. Always check with the block maker in respect to layout of artwork. Crop marks are not normally required. Now you're ready to get going. Good luck! **stf**

CHOOSING THE RIGHT PACKAGE

If you're going to get serious about all this desktop publishing lark, you need to make sure you have a decent package to support you in the first place. The most popular package for professional use on an ST has to be Calamus, but it's not the only choice...

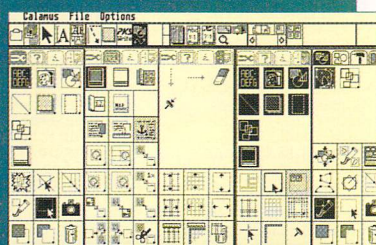
range of commercially available fonts. This package has brilliant graphics handling capabilities, too, featuring a wide range of import and export drivers.

STF Rating: 96%

CALAMUS SL
MACHINE: 1MBYTE AND HIGH RES MONITOR, 4MBYTES
RECOMMENDED
PRICE: £587.50
FROM: HALCO
CONTACT: ☎ 0734 441525

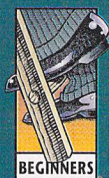
Calamus also has a system - Colour Separation and Raster Generation Modules - enabling you to cope with colour separations and grey-scale processing, but it isn't PostScript compatible - a bit of a problem if you want to send your stuff to the printers. It also has virtual memory so you can dedicate a section of your ST's hard drive to RAM - this should mean that you should never run out of memory. Calamus also has a font caching facility so you don't have to wait for endless screen re-draws. Complex and detailed, Calamus is ideal for professional use.

STF Rating: 89%



Calamus looks complicated but it's a brilliant DTP program if you're serious about going professional.

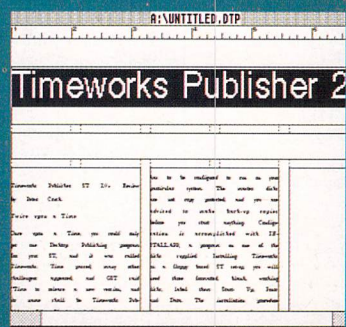
TIMWORKS PUBLISHER 2



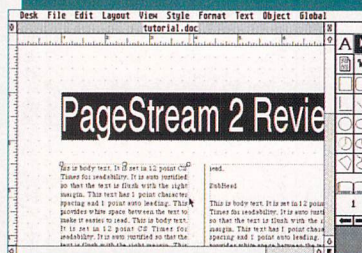
MACHINE: ALL STs,
1MBYTE RAM
RECOMMENDED
PRICE: £99.99
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If a simple DTP package is what you're looking for, *Timeworks Publisher 2* is definitely the package to go for - although it's not in the same professional league as *Calamus* and *PageStream 2*, there's a place for it in the middle ground. It lacks colour separation and text rotation facilities and you need to have plenty of memory for the typefaces since it doesn't use vector fonts. Positively, however, it does have many of the standard text and graphics handling capabilities - it can import pics in a variety of formats and there's also a text runaround option. You can also create style sheets and import text from virtually any file format. When you want to print, you can even print with PostScript printer types - in rough too, if you like, so you can see a draft copy first. Ideal for the beginner to DTP.

STF Rating: 88%



Timeworks is a good program and its price and easy to use interface makes it an excellent intro to ST desktop publishing.



PageStream 2 - ST FORMAT's favourite DTP package. It's just amazingly excellent, OK?

PAGESTREAM 2
FOR: ALL STs, BUT 4MBYTES
RAM RECOMMENDED
PRICE: £169
FROM: SOFTLOGIK/SILICA
CONTACT: ☎ 081 309 1111

PageStream 2 is STF's favourite DTP package if for no better reason than it can handle a variety of four colour separation systems including CMYK (Cyan, Magenta, Yellow and Black) and Pantone. This gives your documents a really professional look when you take them to the print shop for processing. You can display four different colours in medium resolution and two in high res. It also has an advantage over *Calamus* regarding vector or outline fonts since *PageStream 2* can handle PostScript, the page description language. This makes it accessible to DTP bureaux, typesetters and printers and gives you a large

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HELP!

But what does it all mean?

BEGINNERS – if you haven't had your ST for very long, you might need this sort of help.

COMMS is getting more popular with the opening of the STF BBS, so come & join in the fun.

DISKS are a vital storage medium so you need to look after them carefully. Find out how.

GAMES – the best place to go is Gamebusters, but we chuck in the odd question here just to confuse matters.

GRAPHICS answers are indicated by this pencil, whether it's about software or technique.

HARD DRIVES – are you having probs with your hard drive? You needn't – look here.

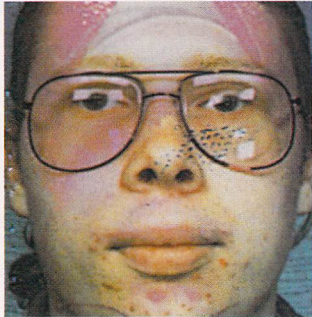
PRINTERS – having hassles getting decent hardcopy? We can help you out here.

PROGRAMMING – whatever ST language you're having difficulties with, we can help you out – assembly, BASIC, STOS...

SOUND AND MIDI problems are attacked for the last time this month by Tim Tucker – but there's another expert lined up so keep those questions coming in.

ST PROBLEMS covers those niggly little questions we can't find a home for elsewhere.

ST ANSWERS



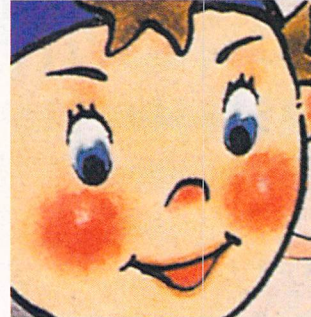
BILLY ALLAN

■ Whatever you do, don't ask Billy about the Stockton to Darlington railway. He knows nothing about it whatsoever.



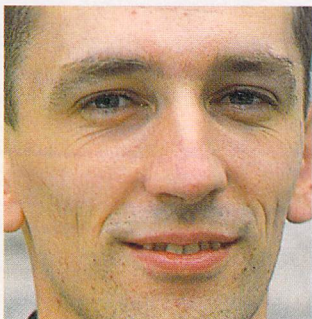
CLIVE PARKER

■ Clive takes the bus to STF's offices. We hope he's soon going to realise that there isn't any more room in the lift.



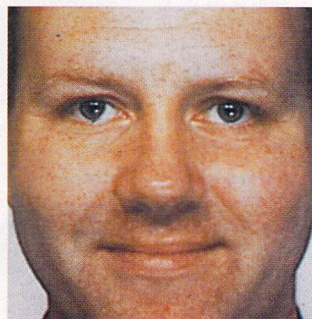
MAC MARSDEN

■ Mac is so tall that the only way he can drive his Mini is by sitting in the back with his head poking out of the sunroof.



TIM TUCKER

■ Megastar Tim travels ostentatiously into work by chopper every day – the dayglo wonder bike everyone had in the '70s.

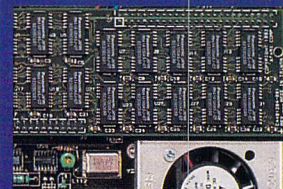


TONY WAGSTAFF

■ Tony was, despite other popular beliefs, Britain's first astronaut – his school chums lashed him to a rocket on Bonfire Night.

THIS MONTH

Assembly pointers **page 58**
GFA Basic **page 63**
Music and MIDI **page 61**
STOS corner **page 64**



■ We look at the insides of machines this month.

GAMEBUSTERS

WE BUST THESE GAMES!

Stuck on any of these?

Addams Family **page 68**
Carl Lewis Challenge **page 68**
Crystal Mines 2 **page 68**

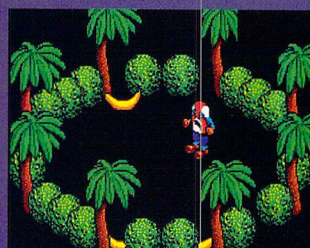
Cybernetix **page 69**
Fire and Ice **page 68**
Hero Quest **page 69**
James Pond 2 **page 69**
Jimmy White's Whirlwind **page 69**
Snooker **page 69**



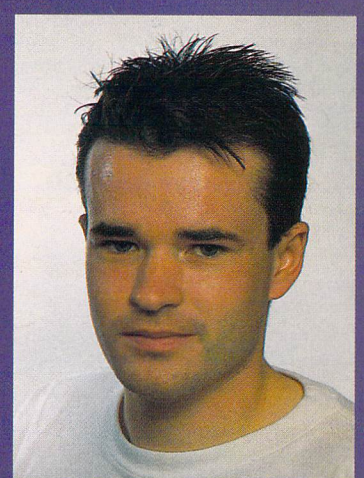
■ We don't normally give games away and cheat them immediately, so we gave you a chance to try and play the game. Now a suitable interval has passed and you can cheat *Cybernetix*, OK?



■ *James Pond 2* inspires hundreds of fishy jokes, but none of them tells you how you're supposed to complete the game. We do, so get in plaice, click your eels and flip your fins. Yes.



■ In the second part of our solution to *Voodoo Nightmare* we take a trip into the invitingly named Eagle Temple. If you're still stuck, well, there's another part to the solution next month.



ROB MEAD

Rob loves to sit in the front seat at the top of a double decker bus so he can pretend he's the driver. Poor boy, he just never grew up.

TURN TO PAGE 68 FOR GAMEBUSTERS

ST ANSWERS

Once more Clive Parker and his team dive into the large tatty cardboard box laughingly labelled "technical query file" and come up with some interesting answers. Send your ST problems and queries to ST Answers, *ST FORMAT*, 30 Monmouth Street, Bath BA1 2BW stating the type of problem on the envelope

What's best?



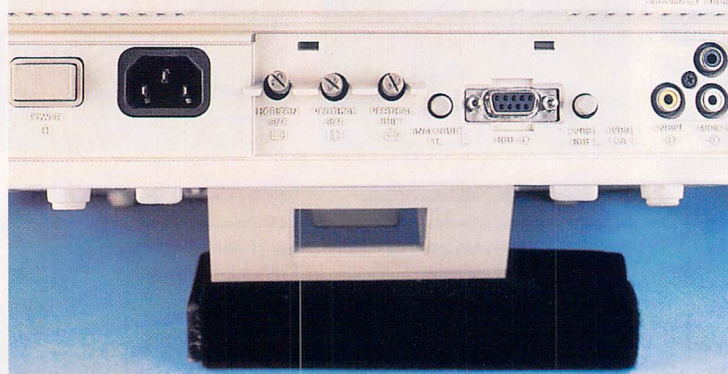
I have a 520 STE which I wish to use for art and design work, what is the best art package available for the ST? I will also be getting the Atari SC1435 colour monitor soon; can you tell me if Atari have brought out a TV tuner and whether I can connect anything else to the monitor?

James Armek, Lanarkshire

stf: Probably the best commercial ST art package you can get is Deluxe Paint from Electronic Arts (£39.95 + 0753 549442). That said, different packages offer different capabilities – it depends what your exact require-

ments are. Crack Art is an excellent Shareware program available from most PD libraries (see the PD library index on page 107) which has more functions than many commercial programs available.

There is no TV tuner available specifically for the SC1435 monitor, but any television tuner with RGB (red, green and blue) output should work without a problem because the Atari SC1435 monitor has an RGB input. Alternatively you could try the Philips CM8833 Mk2 monitor which has both composite video and RGB inputs, so it is possible to connect video recorders, camcorders and anything else with a composite video output to the Philips.



■ As you can see from the back of this rather attractive-looking Philips CM8833 Mk2 monitor, it has many more inputs and options than the Atari SC1435 even though the internal guts of the Atari monitor are identical to the Philips offering. The choice is yours and yours alone.



ASSEMBLY POINTERS

Tony Wagstaff helps sort out your assembly programming queries

Changing Paths

How do I redirect hyphen the input and output of the child process when calling Pexec?

Adrian Bhagat, Peterborough

stf: There are two methods, depending on the child process. If it reads its environment string, simply include "PATH=C:\,C:\BIN" in your environment string when you make the Pexec call. If you were to try this with Devpac for instance, it would look for Mon in drive C:, then in the BIN folder in drive C:. Failing this, you can reset the default drive with Dset-drv and Dsetpath:

```
move.w #drive, -(sp) *0 for A:, 1
1 for B: and so on
move.w #$0E, -(sp)
trap #1
addq.l #4, sp
move.l #path, -(sp)
move.w #$3B, -(sp)
trap #1
addq.l #6, sp
data
path dc.b "C:\BIN"
```

File Selector

How do I use Dgetpath and the file selector to find the current directory, reset the default path, and then load a file?

Jon Walker, Bradford

stf: To use the file selector, you need to use the VDI. A lot of people find the VDI intimidating, or too much bother. If, however, you're lucky enough to own HiSoft's Devpac v2 or 3, you should have an example file called GEMTEST.S which makes it dead simple. Simply remove the listing between v_opnvwk and v_clsvwk and insert your own routine. Study the gem macro file which it uses. To find the current directory, call Dget-drv and Dgetpath:

```
move.l #path, a3
move.w #$19, -(sp)
trap #1
addq.l #2, sp
add.w #'A', d0
move.b d0, (a3)+
move.b #' ', (a3)+
sub.w #'A'-1, d0
move.w d0, -(sp)
move.l #name, -(sp)
move.w #$47, -(sp)
trap #1
addq.l #8, sp
move.l #name, a4
loop move.b (a4)+, (a3)+
bne loop
subq.w #1, a3
move.b #"\", (a3)+
move.b #" ", (a3)+
move.b #".", (a3)+
move.b #" ", (a3)+
move.b #0, name
fseel_input #path, #name
bss
even
path ds.b 128
name ds.b 128
```

After the call, path contains the selected file path, and name contains the file selected.

Mouse Tricks

I want to move a mouse cursor over a low res Degas picture, pointing out objects in the picture. Can you give me some basic information to start me off? I'd also like to know why the palette changes when switching from low to medium res.

M E Barnard, Worthing

stf: You can use the Intelligent Keyboard, or IKBD, to see what the mouse is up to. The advantage of this over using the AES is that mouse packets, information on what the mouse is doing, are returned only when the mouse is moved. In the meantime, your own program can be getting on with other things. The disadvantage is that you must draw the mouse pointer yourself:

```
mousevec equ 16
ikbdws equ 25
kdbvec equ 34
move.w #kdbvec, -(sp)
trap #14
addq.l #2, a7
lea my_handler, a1
move.l d0, a0
move.l d0, save_old_base
move.l mousevec(a0), save_old_vec
move.l a1, mousevec(a0)
pea ikbdstring
move.w #0, -(sp) *this is the length of ikbdstring-1
move.w #ikbdws, -(sp)
trap #14
addq.l #8, sp
```


Serial printers and the ST



P R Haylock of Pinhoe and Eric Nolan of Chichester are among several people who

have written concerning their problems running a serial printer with their machines. Unfortunately the ST has never worked properly with serial printers because it uses the Yamaha sound chip to drive the serial port instead of a dedicated serial chip. This has never caused any trouble with other serial devices such as modems, but serial printers have always had problems with output. Sorry, but the only remedy is to get yourself a parallel printer.

On the Canvas



I use the *ST FORMAT* version of *Canvas* from Cover Disk 30 and intend to use images from it in *Write On* and *Timeworks* documents. However, when I save a *Canvas* picture as an .IMG file it does not load into either program. The file shows the correct length of 32K, but no image is displayed. Similarly, when I save *Canvas* images as *Neochrome* or *Degas* files they load into *Timeworks* but they are incomplete and corrupted. *Canvas* saves and reloads files in its

own format and *Timeworks* loads in .IMG clip-art without problems. Any ideas?

Paul Westerman, East Sussex

stf: There was a problem with the version of Canvas which came with STF 30, which was why we gave it away again on Cover Disk 34. The original version saved Degas, Neochrome and .IMG files with the wrong header information which made them incompatible with other art packages. The version on STF 34 has the Degas and Neochrome problems fixed, unfortunately the .IMG bug has not been fixed and it is unlikely that it will be. Try using That's Snap which was supplied on the Write On disk with ST FORMAT 33, this utility can make .IMG screen grabs from within other programs. If you do not have any of these issues, then turn to page 66 to order them.

Duff monitor?



After buying an SM144 for its reputed ultra sharp display I was disappointed to discover that the image blurs towards the edges of the screen, a fact not mentioned in the monitor roundup in issue 37 of *ST FORMAT*. I have been told by Atari that this is a fault with the monitor which has

been rectified with the new version, the SM146, and that I have to live with it. Is there anything I can do after paying for something that doesn't work properly?

David Seager, Lincs

stf: The problem arises from machines that were imported without the focus being calibrated correctly at the factory, the monitors were not actually manufactured by Atari but built by a contractor. Our technical editor bought one of the first SM144s to come into the UK and had a similar problem. He returned it to the supplier who then adjusted the focus free of charge and returned it in perfect working order after a few days. Your supplier should be able to make the same adjustments to your monitor, if they can't help then contact Atari customer services on 0735 533344.

ST FORMAT Warning: Never attempt to make any adjustments to the inside of a monitor or TV yourself because there are very high voltages present even when the monitor is turned off.

Confusing connections



The Falcon030 memory boards shown on page 108 of *ST FORMAT* 41 have 50-way connections, this conflicts with the connection shown on page 107 and

marked "12" which is a 30-way connector. There are also two positions marked "13" for the expansion bus connections, while the one on the left is next to a 30-way connector the right hand "13" is nowhere near any connection at all.

Could you please reprint the Falcon motherboard picture with the memory card and expansion bus connectors marked, along with details of the expansion bus if you have them.

The Mega ST expansion bus used a 64-way connector, the 30-way connector for the Falcon030 expansion bus suggests that no provision has been made to access the MC68030 interrupts from an expansion board.

A W Nicholson, Nottingham

stf: Oops, sorry. There was a slight drifting of one of the "13"s in the photographs published, and a number 12 completely absent. There are supposed to be two label 13s, but the right hand one should be positioned over the 50-way connector just above the number 9.

There should also have been a number 12 marking the 50-way connector next to the TOS chip. This is because both the Falcon expansion bus and the memory boards have 30 and 50-way connectors giving a total of 80 connections to the mother-

```
*rest of the program goes here
exit move.l save_old_base,a0
move.l save_old_vec,d0
move.l d0,mousevec(a0)
move.w #0,-(sp)
trap #1
my_handler move.b #3,d0
lea packet,a1
save_it move.b (a0)+(a1)+
subq.b #1,d0
bne save_it
rts
data
ikbdstring dc.b $8
bss
packet ds.b 3
save_old_vec ds.l 1
save_old_base ds.l 1
```

This moves a mouse packet into the address of packet. The first byte is \$F8, no buttons pressed, \$F9 left button, \$FA right, and \$FB both. The second byte is the relative horizontal movement. For instance, \$FF, or -1, indicates the mouse moved one pixel to the left. The next byte is the relative vertical movement, \$02 would be two pixels downwards.

Your program needs to check now and then that the first byte of packet is not zero. If so, it would redraw the pointer, and reset this byte to zero. If you're feeling adventurous, you could do this with a vertical blank routine. If you detect a button press, check a couple more times in case both were pressed, since your fingers are unlikely to work that fast.

The palette doesn't actually change following a resolution switch. Medium resolution only actually uses the first four registers which is the reason why the colours change.

Switching Screens

I am trying to use a spare screen to load and display a series of pictures without them scrolling down-screen as they load, but it only works for the first picture. I've also discovered that giving the spare screen a byte boundary causes the picture to be displayed incorrectly.

Ian Bailey, Poole

stf: STs have two screens, the logical and the physical. First off, your ST ignores the low byte of both screen addresses, which means you must create a buffer 255 bytes larger than you need, and then AND the address+255 with \$FFFFFF00 to obtain the correct buffer address. This should solve your second problem.

The next thing to remember is that any draw commands whatsoever are written to the logical screen memory while what you see on your monitor is represented in the physical screen memory. So, to prevent scrolling, you need to load your picture into the logical screen, and then switch screens. Load your picture into the buffer, find the screen's address with physbase, and then call vsync followed by a call to setscreen:

```
move.l #-1,-(sp)
move.l #phys,-(sp)
move.l #log,-(sp)
move.w #5,-(sp)
trap #1
lea 12(sp),sp
```

with phys set to your buffer's address, and log set to the screen address. This displays your first picture. Now load the second picture into the old screen address, and call vsync and then setscreen with phys set to the old screen, and log to the buffer. Each time you load a file, you need to load it into the address that is cur-

rently the logical screen, then swap the logical and physical screens.

Which language?

I am an 11 year old, and I have just got the hang of *ST Basic*. Which language would you consider the next easiest to learn - C, Pascal, or assembly?

James Farley, Clwyd

stf: Difficult to say; what is easy for one person may not suit someone else. Think about what sort of programs you want to write rather than what is easiest. If you're into the internals of the ST, and want to access the chips such as the MFP and IKBD, then assembly is most suitable. For general applications, a higher-level language, such as C or Pascal would be better. Both C and Pascal can teach you how to shape your programs, these languages evolved partly because assembly programmers discovered patterns in the way they solved computing problems. Learning one of these means you won't have to discover the patterns for yourself. They are also easier to transfer between different computers, and are likely to be around longer than 68K assembly.

It may be that you need a more powerful version of BASIC, which, in turn, is easier to use. This might be the best option if you want to learn more about using GEM's windows and menus. Look at GFA Basic, yours with Cover Disk 35, or HiSoft Basic (0525 718181) which has a full GEM library. Sozobon C is available in the PD, although it can be little difficult if you are used to GEM. The ST Club (0602 410241) can supply you with this as well as Modpas, a Pascal compiler. GFA Assembler is on the same disk as GFA Basic if you want to try your hand at assembly. Why not take a trip to your library to see if they have any tutorials - you'll find the world of programming at your feet.

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MUSIC AND MIDI

Tim Tucker gets on down and answers your musical queries

Telly welly

I have a 520 STE, and recently I have just bought an ITT 24 inch NICAM stereo TV. I know a SCART cable will give me a better picture. But can it give me stereo sound output as well?

M Winn

stf: It is certainly possible for you to get stereo sound output from your STE to your NICAM stereo TV. You need a SCART lead with two phono leads attached which plug into the audio outputs on your STE. You can get this from the same place you bought the TV, or any serious hi-fi shops. The result is a good picture and stereo sound to boot.

File exchange blues

Is there a way to transfer a MIDI file from my 1040 STE to my school's Apple Mac? I use Notator and the school has Music Prose and EZ Vision. I've tried using Apple File Exchange with a PC formatted disk, but the Mac won't read the translated MIDI file even when set to open a standard MIDI file.

P Tyler, Weston-Super-Mare

stf: This should certainly be working, but we've sometimes found problems when the disk has been formatted on another computer. Try formatting the disk on the Mac (when it says the disk is unreadable you get the option) at 720K MS-DOS format, and then save the

MIDI file from Notator onto that disk. Otherwise, check you're saving the file as a MIDI file from Notator and not as a standard Notator file.

Better sound

Is it possible to link normal hi-fi speakers to my ST. If so, how?

Aftab Khan, Birmingham

stf: If you have an STE then you're OK. You can't link it directly to the speakers, you have to go through an amplifier like the one you use on your hi-fi. Just buy a pair of phono leads which you can get from Tandy's or similar hi-fi equipment store. Plug the leads into the phono outputs of the STE and plug the other ends of the leads into the Aux, CD or Tape inputs on the back of your hi-fi amp. Simple.

Compatibility concern

My Atari 520 STFM has packed in and now I want to buy a 1040 STE. Is it compatible with my MIDISTudio Junior from Ladbroke and the other music and synth editor librarian programs I have?

Paul Rodger, Dunfermline

stf: The MIDISTudio Junior runs fine on the STE. As for your other programs, you should be alright, but it's hard to tell unless you try them. If you can, try them on an STE with them before you buy. Whether they're compatible or not, you're better off going for an STE as a replacement anyway, or how about a Falcon? If you're

serious about making computer music, then the Falcon is the machine for you.

Can't find the drums

I own a Casio HT-3000 MIDI keyboard, but I can't find out how to get the drums going. I've tried all of its 13 MIDI channels, but still no luck.

James Applin, Andover

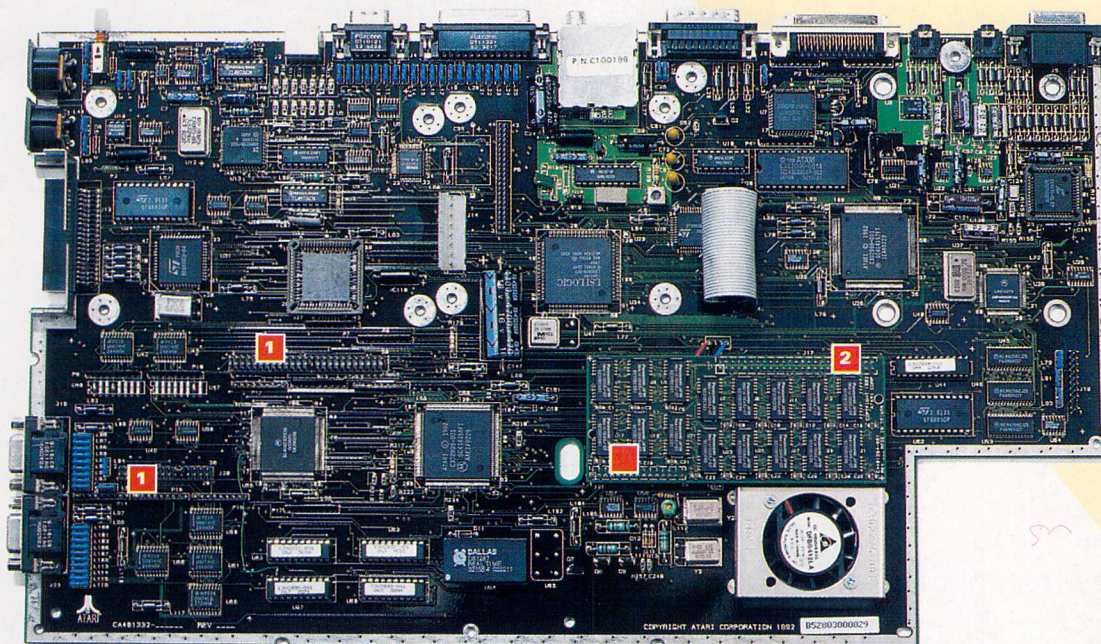
stf: You can't actually trigger the drum sounds from the keyboard on this synth, but you can get the drum accompaniment section to play along with your sequencer. What you're probably doing wrong is this; when you set up the HT-3000's MIDI channel, you're defining the channel on which the melody is played. The synth plays three other parts offset from the MIDI channel that you set for the melody, and these are four note chord, monophonic bass and rhythm, say if you set it to MIDI channel 1 then the chords are on channel 2, the bass on channel 3 and the drums on channel 4.

No MIDI

Can I connect a Casio SA 20 100 sound tonebank to my Atari 520 STFM? If so, what lead do I need?

Tony Burton, Northants

stf: No, I'm afraid you can't connect this to your ST because it has no MIDI sockets. The only way that your ST can talk to instruments is using MIDI. Get yourself a MIDI keyboard and you can use all those fantastic music programs available for your ST.



■ The main board of the Falcon030 again, with the connections for the expansion bus and memory boards marked correctly this time. It's such a demanding schedule on STF that some errors are bound to creep in... and so on... The two points marked "1" are the expansion bus connections and the two points marked "2" are the memory board connections, in this picture the memory board is installed.

board, if you look carefully at the picture of the memory boards on page 108 of issue 41 you can see that the two connectors are positioned diagonally opposite each other.

The 80-way connection for the expansion bus should be ample to access all the features of the 68030 processor.

Amazing monitor



Is there any such thing as a TV/monitor which supports low, medium and high resolutions and provides teletext? If so, where can I get one and how much do they cost?

Ian Lilley, Berks

stf: There are no TV/monitors that can support high resolution although all colour TV/monitors support low and medium res. A TV/monitor costs about £250 and most high street stores should be able to supply one with teletext, although this may push the price up. Try Dixons, Currys, Rumbelows and similar shops, and ensure that they know you want a TV/monitor with RGB inputs and not composite video, since it can be confusing for shop assistants more used to dealing with washing machines. Talk to someone in the computer area, they are

more likely to understand exactly what it is you want.

Dodgy drive



I have a 520 STFM and am having trouble with the internal drive. I have to insert and remove a disk several times before it is read, and sometimes there is a rather exotic crunching noise when a disk is inserted. When stuff does load, the drive is fine, but some of my friend's disks do not work and I have been unable to save team information in *Sensible Soccer*. Should I get an external drive? How much would a drive repair cost?

Mike Black, London SW7

stf: If you want to play games then an external drive is not much use to you, you really need to replace your internal floppy before any lasting damage is caused to your (or your friend's) software. It would probably cost you as much to get a drive repaired as it does to replace it. Power Computing supply their own internal drive for £39.95 or get an official Atari replacement drive for £45. Call Power on ☎ 0234 843388 for details.

Colour me bad



I have a Star LC-24-200 colour printer, and the only problem is that none of my software supports it. I use Canvas and Degas

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GFA BASIC

Mac Marsden faces the barage of GFA Basic questions that arrived this month

The bends

Can I remove the key click from my programs since the noise drives me around the bend?

Ray Ives, Durham

stf: Yes, Ray, it is possible to remove the key click from within your programs. Typing in the following line at the beginning of your listing removes the offending noise

```
SPOKE &H484,PEEK(&H484) AND_
&HFE
```

RGB values

1. How do I read the RGB values of colours in GFA Basic?
2. How can I save a screen picture in Degas file format?

Robert Glover, Scarborough

stf: 1. You can read the RGB colours but not singularly – in other words, it tells you which colour register is being used at a particular point in the program. The following small program should demonstrate the point.

```
SETCOLOR 1,3,4,5
! Sets up colour _
register No 1
DEFFILL 1
! Informs fill which_
colour register to use
PCIRCLE 320,100,50
! Draw filled circle at _
x,y with radius of 50
X=POINT(320,100)
! Get the colour at _
point 320,100
PRINT X
! Print colour register_
in use at this point.
```

2. To load a Degas picture, use the following routine:

```
OPEN "i",#1,"A:\DEGAS.PI?"
! Open File, with your _
own extension.
col$=INPUT$(34,#1)
! Load colour palette.
screen$=INPUT$(32000,#1)
! Load in main 32K _
picture block.
CLOSE #1
! Close file.
SPUT screen$
! Place picture on screen.
VOID XBIOS(6,L:VARPTR(col$)+2)
! Set colour Palette.
```

To save a Degas picture file you have to reverse the process. The following listing shows how:

```
OPEN "o",#1,"A:\DEGAS.PI?"
! Open file with your _
own extension.
PRINT #1,col$
! Save colour palette.
PRINT #1,screen$
! Save main 32K picture_
```

```
block.
CLOSE #1
! Close file.
```

col\$ holds the palette and res information. It is best to use the BLOAD, BSAVE and BMOVE functions in conjunction with the function INLINE, see the Tips bit below for more info.

On track

Is there any way of checking that the printer is on-line and ready to print from within GFA v3.5?

L Shelly, Kent

stf: To check if your printer is ready to receive data, use the following small routine in your programs:

```
@check_printer
! CALL PROCEDURE
END ! END PROGRAM
PROCEDURE check_printer
DO
R!=BIOS(8,0)
IF R!=FALSE
PRINT AT(1,22);"Printer _
off line - Please set_
on line or repair"
ENDIF
LOOP UNTIL R!=TRUE
PRINT AT(1,23);_
"Printer now on line"
! REMOVE THIS LINE WHEN YOU
RETURN ! USE IT FOR REAL _
IN YOUR PROGRAM.
```

Tip of the month

Is there any way to tidy up programs which use a lot of pictures that are cluttering up the disk's root directory and, if there is, is there any way to include pictures within program code so that they load with the program?

stf: Yes and yes again. The method used is to utilise the command INLINE, which is mentioned only briefly in the GFA manual and is a very powerful command when you know how to use it. It enables you to have pictures or code attached to your program that is then saved and loaded with your program file.

INLINE is used in the following way:

```
INLINE addr%,length
```

Where "addr%" is a 4-byte integer variable, (not an array variable) and "length" is an integer constant which is less than 32,700. So how do you use it? Well, first you need a name for the "addr%" – say "TIP%" which acts as the address. There is no need to give this variable a value since this is done automatically. Now we need the add length of the file we are about to include – a Degas Elite file is 32,066 bytes in length. So we can type in

```
INLINE TIP%,32066
```

Now press <Return>. At this point nothing happens, how is the Degas picture

file loaded into memory? Move the cursor back onto the line containing the INLINE command and press the <Help> key, this gives you the following small menu at the top of the screen:

```
INLINE | Load | Save | Dump | _
Clear |
```

Press <L> for load and you are presented with a file selector box from where you can select the picture file you wish to include, and that's it. Now you need a routine to place your picture onto the screen, and at the same time setting the palette. The routine below is one way of doing this.

```
INLINE TIP%,32066
COUNT=0
DO
COL$=COL$+CHR$(PEEK(TIP%+COUNT)
)
! GET THE PALETTE
ADD COUNT,1
LOOP UNTIL COUNT>34
VOID XBIOS(6,L:VARPTR(col$)+2)
! SET PALETTE
BMOVE TIP%+34,XBIOS(2),32000
! PLACE 32K PICTURE_
BLOCK ON SCREEN
```

The other menu commands are

Clear - removes a file from the INLINE statement.
Dump - sends a hexadecimal dump of the picture file to the printer.
Save - saves the INLINE statement to disk.

You may have as many INLINE statements held in your program as memory allows. In the above example we have only looked at Degas picture files, but any format may be included in this way as long as you know where and how long the palette information is within the code. Even a straight 32K picture block may be saved.

```
BSAVE "picture.pic",xbios(3),_
32000
```

The above command saves the current screen to disk without any colour information. Using INLINE it is held in your program. But with this method you need to set up the colours with the SETCOLOR command. In medium resolution you could set the following parameters:

```
SETCOLOR 0,5,5,5
SETCOLOR 1,3,4,5
SETCOLOR 2,7,6,5
SETCOLOR 3,1,2,3
```

Use this to put picture files on-screen

```
BMOVE TIP%,XBIOS(2),32000
```

The XBIOS calls mean:

XBIOS(2) - Returns the base address of the physical screen memory currently in use.
XBIOS(3) - Returns the address of the logical screen memory when writing to the screen.

Elite, both of which only have 9-pin colour drivers available. Also, the <Alternate> <Help> screen dump routine is also configured for 9-pin mono printers. Would I be able to print my colour pictures if I bought Flexidump Plus, I know that it supports 24-pin printers but I am not sure if I can load my Canvas and Degas pictures into it?

V Mitchell, Glos

stf: Flexidump can load Degas or Neochrome picture files, simply save them in this format from your art packages. Flexidump does support 24-pin colour printers although you may have to configure the program with the aid of your printer manual. Flexidump Plus is obtainable from First Computer Centre ☎ 0532 319444 for £31.99.

Mastersound 2, Talespin 0



I bought Mastersound 2 from ST FORMAT but I am having a few problems.

1. Why can't I load samples into Talespin when it was advertised as a sampler to add sounds to my adventures?
2. Can I load my samples into Sequencer One?
3. Why doesn't my cartridge work with the Soundlab program on Cover Disk 41?
4. Why are the samples distorted when I load them into Hyperbase?
5. Would it be an advantage to get a hard drive because I wish to create samples greater than 720K?
6. If I sampled the voices of new-readers or TV presenters and made a song, would I be breaking copyright laws?

Regan Atkinson, Southampton

1. There is no reason why you cannot use Soundmaster samples in Talespin if you follow the instructions in the Talespin manual correctly. We will be printing full instructions on loading samples into Talespin in ST Answers next month.

2. Sequencer One uses sound samples in .IFF format, so you need to find a program that converts them. Try changing the file extension to IFF, this sometimes works. Most PD libraries stock sound sample utilities, call the ST Club on ☎ 0602 410241 and explain what you need.

3. Most cartridges work with specific software and do not work with other programs. However, the version of Soundlab on the Cover Disk was a demo and had some of its functions disabled.

4. Samples can be either "signed" or "unsigned," this means that a bit at the start of the sample is either set to zero or one. If a sample player tries to play a signed sample as unsigned, all



STOS CORNER

Billy Allan creeps out to give you his carefully considered answers

Smudged sprites

When I scroll the entire screen while displaying a moving sprite, all I get is a smudge mark across the screen. What am I doing wrong?

Phillip Wellington, Gloucester

stf: Once again, STOS sprites are at fault. When a sprite is drawn on the screen, STOS automatically erases its old image by copying the bit of screen from BACK which was underneath the sprite onto the top of it again. But if you have scrolled the screen first, the bit of background does not match up with the screen so you get a "trail" left behind. There are several ways to solve this problem. First of all, don't use STOS sprites! Use the SCREEN\$ method described in STF 41 – and see page 66 if you missed that. Also, instead of actually scrolling the screen, you could just redraw the whole screen every time which eliminates the need to restore the sprite backgrounds. Alternatively, you could store the map as a very large "picture," if you have enough memory, and just copy the required piece to screen.

Well sorted

I am trying to sort arrays using the SORT command, but I want information linked with the array to be sorted in the same order. For instance a high-score table with two arrays – one for the scores and one for the names.

Duncan "Ogg" Fawkes, Coldstream

stf: The only way we can do this in STOS is to write a sort routine ourselves. This routine will sort a high-score like the one you describe using a very basic sort algorithm.

```
10 dim NUM(9),NAM$(9)
15 c!w
20 for T=0 to 9
30 NUM(T)=rnd(1000)
40 NAM$(T)=chr$(65+T)
50 locate 0,T : print NAM$(T),NUM(T)
60 next T
70 for T=0 to 9 : for T2=9 to T step-1
```

```
80 if NUM(T)>NUM(T2) then swap
NUM(T),NUM(T2) : swap NAM$(T),NAM$(T2)
90 next T2 : next T
100 for T=0 to 9
110 locate 20,T : print NAM$(T),NUM(T)
120 next T
```

A borderline case



1. Is it possible to remove the borders from within STOS?
2. How do you make the text large and colourful as seen in demos?
3. Where can I get STOS 3D?

Alan Craig, Wishaw

stf: 1. STOS does not enable you to access to the sort of interrupts and timing which are needed to remove the borders. The basic principle is to change to and from different screen frequencies at the correct points in the screen to "fool" the video shifter into drawing the borders. The bottom border is the easiest and most common border to remove. Basically you just wait until the last scanline on the screen, change hertz, wait a bit, then change back again. The top border is much the same, but the right, and particularly the left borders are much more complicated and take a lot of processing time since you have to "open" each line of the screen individually. You have to write the routines in assembly, though, as the following example shows just how bad STOS is at border removal.

```
10 wait vbl : for T=0 to 242 : next T :
poke $FF820A,0 :
poke $FF820A,2 : if peek($FFFC02)<>57 then
goto 10
```

2. There are various methods of making scrolling texts or "scrollers". The most common is to hold various images of your font and flick between them giving the impression of smooth scrolling while enabling you to actually scroll in steps of 16 pixels. There is an example of a scroller on this month's Cover Disk, so load it up and try it!

3. Your should be able to get STOS 3D from any reputable computer shop or mail-order firm. Try looking through the pages of this month's STF.

STE query

Can you tell me how the STE hardware scrolling extensions work?

Stephen Johnson, Blaina

stf: Hardware scrolling does not enable you to scroll bits of the screen like the SCROLL or SCREEN COPY commands. When you hardware scroll the screen, you scroll the whole screen, not just a part of it. For instance, if you scroll the screen 16 pixels to the right, the screen's address in memory is moved eight bytes up in memory, so the right of the screen may appear on the left of your picture.

Also, when you change the screen size remember that STOS still thinks your screen is 320 pixels wide. If you are copying a 64x64 block with SCREEN COPY it copies the 64 pixels of line one then it adds 160 bytes to the source and destination addresses and starts copying line two. But since the screen is now around 320 bytes wide, the new line is not to be copied to the correct place.

Top Tips

Here's tip from STF reader Martin Cubitt. While using the Maestro command SAMTHRU, you can read in the input from the cartridge by entering "A=peek(\$FB0001)".

This tip comes from David Finch of the Network Coding Group. Further to the question from Sam Trent (STF 40), you can check if the disk in the drive is write-protected typing "A=LEEK(\$9F8)". If A is -1 then the disk is write-protected.

And finally one from us. If you want to save out .MBK files from a memory bank reserved as WORK then you need to add an 18-byte header to the file. This routine adds the header to bank number "X".

```
"
10 T$="Lionpoubnk" : TAD=varptr(T$)
20 copy TAD,TAD+10 to start(X)
30 loke start(X)+10,X
40 loke start(X)+14,length(X)
50 poke start(X)+14,129
```

you get is a loud distorted noise. Most sample software can convert between the two formats. All AVR samples produced by the Replay series of cartridges are in signed form.

5. Yes.

6. It is always best to contact the company and the individuals involved when sampling from the TV to clear any copyright problems that could possibly arise. Some companies may require a royalty payment which can either be a one-off fee or a share of profits (if any).

Colour me purple



I have a Deskjet 500C colour printer to use with my ST but all I can produce with it at the moment is coloured text using Pro-text. None of my paint packages work with it, I have Canvas, Degas Elite, AniST, Paintpot and Hyperpaint and none of them can produce a printout. All the software supplied with the printer was for the PC-

contemptible. How can I get my pictures printed in colour?

Joyce Marshall, Cumbria

stf: The program you need is called HPChrome which is a Shareware program designed specifically to print colour pictures from all HP Deskjet printers including the Deskjet Plus, Deskjet 500, Deskjet 500C and 550C. The full version costs just £5 and is available from Rufus Developments, PO Box 562, Wimbourne, Dorset BH21 2YD. The program can print colour Degas and Neochrome files and is supplied with plenty of options – see the review in STF 38.

Get your fax straight



I have the Joppa Straight Fax software which was supplied by HCS. However, I cannot print out any faxes I receive because the program is not supplied with GDOS or a suitable printer driver. How can I get GDOS

and a driver for my Panasonic KX-P1123 printer?

Mark W Preston, Banffshire

stf: Contact the ST Club on ☎ 0602 410241, they are registered Atari GDOS distributors and can supply you with the programs, 24-pin printer drivers and full documentation on installation. ST Club also distribute FontGDOS, the updated version of the program, which has many new printer drivers available including inkjet drivers.



Michtron programming

I have the excellent software from Cover Disk 42, but I am a bit lost without the manual because I want to learn how to write add-on modules in the Michtron Command Language (MCL). Can you give me the address of Microdeal so I can send for the manual?

Robert Hays, Berks

stf: The address was in last month's issue but here it is again for those of you who have lost, mislaid or thrown out last month's copy (what?). The manual costs £9.95 from Microdeal, PO Box 68, St Austell, Cornwall PL25 4YB, or give them a call on ☎ 0726 68020. There are only a limited number of manuals available so you had better be quick.

Tip: Music to groove to



If you would like to hear some groovy music on the game Ozone, which was on Cover Disk 42, simply persuade the program LISA_4DE.PRG to boot before anything else in the AUTO folder.

You can do this by either using a program like Autosort which was on Cover Disk 20 or just by copying the contents of the AUTO folder to the root directory and then copying them back into the AUTO folder in the order you want them to boot. Cheers to David Dickson of Glasgow for that.

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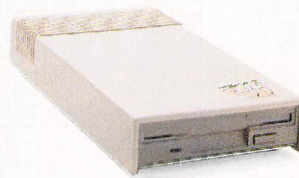
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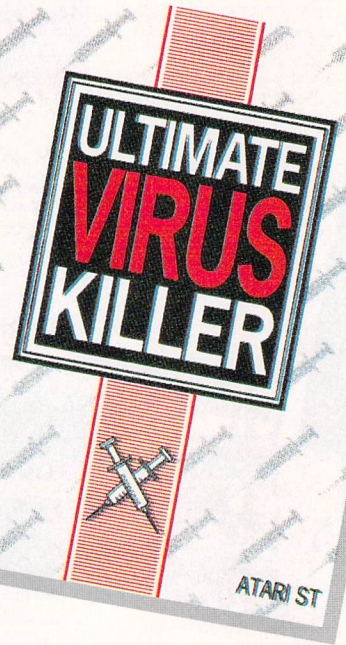
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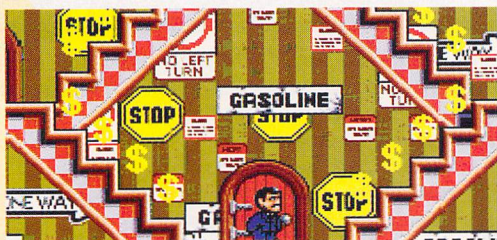
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ST/MAG/08

They come from a dying planet and leave black marks when they sit down. Who are they? And what are they doing in Shoeburyness? Rob Mead takes a shortcut, finds an empty diner and asks one of them all about it

THE ADDAMS FAMILY OCEAN

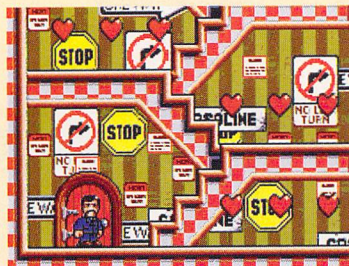


■ One of the masses of secret rooms in the *Addams Family*. The sight of all that money is enough to make you give up your day job.

Thankfully no-one has sent any codes this month, but **Matt Barthel** of **Calverley, West Yorkshire** has sent these cracking tips to make sure you get some extra lives:

1. Enter L1191 on the password screen so that you can begin the game with five hearts (hit points) per life instead of two.
2. Go extreme left on the continue/quit screen to discover a secret room handily containing four extra lives.

■ Have you stumbled into a coronary unit or is someone trying to tell you how much they love you? Nope, this is just another bonus room.



3. Go left at the bottom floor of the Hall of Stairs and stand directly under the door on the next floor. Press "up" and an invisible door enables you to enter a room with a heart and three extra lives.

Go to the top of the platform, left and stand in front of the Stop sign. Press "up" again – another invisible door leads to a miniature hall of stairs which, in turn, leads to bonus-containing rooms.

CRYSTAL MINES 2 ATARI LYNX

Kirsten McDougall of **Norton Lindsay, Warwickshire** reckons the cheat we printed in our Lynx Roundup in *STF 40* for this game doesn't work, and sent in some alternative tips, instead.

Fungus

Red Fungus: spreads when shot. Use TNT twice and it turns into crystals.

Black: becomes hard and indestructible when TNT is used. Shoot it with your cannon.

Green: spreads when shot. Use TNT twice and the fungus turns into green boulders. If you shoot them they change colour and float upwards. Use TNT again to shift it. Orange: can be shot, but if you shoot it once then TNT it, the orange fungus turns into crystal.

Power-ups

Power-saw: enables you to cut through almost anything except

monitors and nuclear blocks. Can cut through explosive blocks.

Shield: protects you from explosions.

Umbrella: protects you from boulders falling on you head.

Star: enables you to shoot faster.

Shooting star: enables you to shoot further.

Caterpillar tracks: enable you to drive on fungus.

Radiation symbol: stops you from getting nuked by nuclear boulders.

Large orange star: explosive bullets – don't blow yourself up.

CARL LEWIS CHALLENGE PSYGNOSIS

Mark Culpán of **Pogmoor, Barnsley** has discovered an unusual cheat for the various events in this game. Take it away, Mark!

For this cheat you need two people – one on the joystick in port one and the other on the mouse in port two. As player one waggles the joystick, the other player waggles the mouse for extra speed and a better start and run up. With this cheat you can get through all the heats in all the events and have a chance at the medals.



FIRE AND ICE RENEGADE

Angela Barnard of **Teignmouth, Devon** is just nine years old, but she's sussed out a cheat for this game

KNIGHTS OF THE SKY MICROPROSE

Mr N R Barry of **Rownham, Hants** is obviously a bit of a closet dog-fighting ace and has come up with these tips to help you give Jerry a pasting above the fields of Flanders:

1. Landing without being attacked is virtually impossible, especially towards the end of the game, so on Difficulty Levels One and Two don't bother. On those levels you don't get killed if you crash, so just nose-dive when you want to end a mission.
2. Time passes even if you decline a mission, so make use of this if you have over 130 kills. You can also beat all the other aces in the game if you score around 130 kills.
3. Concentrate on seek-and-destroy-aircraft missions, except in the first few missions when the game is easier.
4. Leave the German aces alone unless you're very good. They are not machine-gun fodder.

5. Richthofen scores 110 to 130 kills during the course of the game. No-one else in the game comes close, so there's no need to score more than this to be the top ace. Anyway, Richthofen gets killed before the end of the war, so there's no need to face him.

6. You can end a mission by landing or crashing anywhere, including behind enemy lines. Taxi back to base if you can. If you're behind enemy lines, just quit the mission – you are then automatically sneaked back to base.



■ The Action Replay: "He's got a hip flask!" "What? Let's see it again." "He has. There! I saw him sneak it up to his lips." "The lucky blighter."

not even her Dad could figure out. Well done, Angela!

When you have all the keys and are ready to go into the key-hole, wait for the dog to go in before you. Now go in and you get loads of points and a free life.

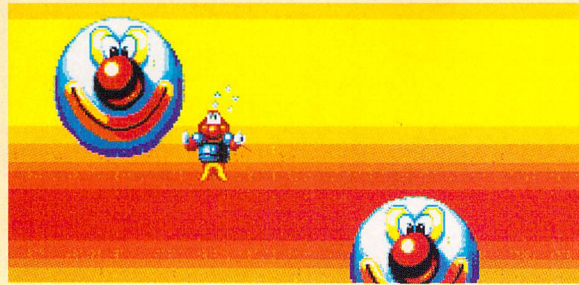
HERO QUEST GREMLIN

Gareth Jones of Birmingham has sent a cheat in to get more money out of this role-playing game:

To get 9,999 gold pieces you select which characters you want to have the dosh. Then select Castle of Mystery. With all characters, try to get to the entrance of the mine – this is more luck than skill. When a character gets there, pick up the gold and then kill him. It doesn't matter how, but don't go out the exit. Do this for all the characters. When the game has finished and they are all dead, resurrect them. Select the Castle of Mystery again. This time walk in to the exit. You get a message saying the gold is worthless when all the characters are out. Go to the shop and you now have 9,999 gold pieces.

JAMES POND 2: ROBOCOD MILLENNIUM

There are loads of cheats for this popular platform game – for a start, you can get your



■ "Miss Mon-eypenny? M? What's happened to you?" "Times were hard after the Cod War ended, so we've joined the circus."

fishy friend to collect letters which spell CHEAT for a cheat, LIVES for more lives and ENERGY for, er, more energy. Anyway, Paul Strugnell of Tadworth, Surrey has sent in this oldie but goodie with a new twist:

At the beginning of the game, collect the cake, the hammer, earth and globe, the apple and the tap in that order and you get a forcefield. This also enables you to go in any door you like. Enter the door with a soldier and a clown in it. Jump up onto the two monkeys, they go down, now land on the exclamation lift. When there's a big enough gap underneath for you to fit through, walk off the lift, double back and go down the hole. You find extra lives, batteries and crowns.

JIMMY WHITE'S WHIRLWIND SNOOKER VIRGIN

David Harrison of Gillingham, Kent was able to win 227-46 by using this cheat. Can you do any better? Write in and let us know:

When only colours are left on the table, press a number from <2> to <7> to be able to hit the colour ball whose points match the number you pressed without fouling. However, if you do foul, all potted colours return.

KICK OFF 2 ANCO

Ian Cramp of Thorley, Isle of Wight reckons this cheat also works pretty well with *Final Whistle*:

During a match press <F>, the number and name of one of the players appears in the top left corner of the screen. From now on the screen follows this player. This is especially handy if you have selected to play in one position since the "camera" always shows your player in the centre of the screen.

The up and down cursor keys select which of the players on the team the camera should follow and the left and right cursors choose the team. Pressing <F> again turn this mode off.

LURE OF THE TEMPTRESS VIRGIN

First, we gave you the complete solution in STF 39 and 40 – turn to page 66 to get your copies if you missed them – and now Neil Clarke of Liverpool has discovered this dastardly cheat for destroying baddies:

If you have any problems with the beasts you have to fight, simply give them leprosy by pressing <Enter> on the numeric keypad and watch them fall to pieces before your eyes.

STEG THE SLUG CODEMASTERS

Jonathan Hide of Thame, Oxon has sent in the following tip and level codes – argh! – to give you a hand helping slimy Steg around this platformer. Wouldn't it just be easier to pour salt all over him and watch him explode?

Some rooms have secret bonus rooms. Pull down the joystick in corners to find them. If you feed Tyungunz quickly, they only need one grub each.

And some level codes for this:

Level One: no code needed
Level Two: RDNUHCCMGU
Level Three: EDOUTIOCKO
Level Four: HDPFUVLCCM
Level Five: ODQMFUVLIC
Level Six: MEBHETPIAG
Level Seven: LECGLDTRHK
Level Eight: NEDGFLDVRL
Level Nine: OEFVHAGHLV
Level Ten: PEGTTHIGLD

CYBERNETIX STF 40 COVER DISK

We gave this superb shoot-'em-up away with STF 40's Cover Disk – turn to page 66 to order your copy if you missed it. Now here are a few tips so you can get this game well and truly sorted:

The first rule is not to blindly fly around with your finger constantly on the <Fire> button. Instead, apply the old *Defender* tactics of stealth and selective shooting and you'll get more out of the game than a quick fix of adrenaline. Here are the characteristics of the various enemies and how best to deal with them.

Grabber: no threat. Hang around it shooting asteroids. It immediately dives at the blue power capsules. Wait for it to collect two, then blast it. This gets you a power-up.

Drone: hardly any threat. Doesn't bother to fire – it just homes in on your ship, although rather half-hearted. Blast it before it becomes too annoying.

Droid: small threat. Similar to the Drone, although it does fire at you. Usually attacks in groups of four or five. Wait for them to enter the screen, keeping an eye on the scanner, then pick them off.

Spinner: medium threat. Approach with caution – without warning, it spins around firing an alarming number of bullets. Stay well back and blast it. Be ready for the bullet-spray.

Cruiser: a definite annoyance. Cruisers deliberately avoid going anywhere near your ship, but spew out rapid bursts of fire in its general direction. A spot of joystick dexterity is needed here.

Kamikaze: dangerous. They hang around innocently until hit by your ship, then they let fly a ridiculously huge number of bullets. Approach with care, get horizontally level with them, then blast. As the bullets fly, simply moving slightly up or down should keep you alive.

Squadron: no problem. They blindly fly left or right, vertically wrapping around the screen. One hit takes them out and, providing you stay in front of them, their bombs are useless. If you have vertical directional fire, then flying over them shooting down is highly effective.

Bomber: most annoying. They take around ten hits to destroy and lob dirty great bombs everywhere. Watch the scanner and blast them as they enter the play area, flying back occasionally to gain ground.

Layer: Easy to shoot but the mess of mines it leaves behind is deadly. You should treat these Layers as a priority and blast them as quickly as possible – as more attack waves appear, their presence is restricting.

Assassin: utterly lethal. Usually a punishment for hanging around doing nothing. The scanner warns you when an assassin appears, at which point prepare to face it and, just as it's due to arrive, duck down sharply. It should skim over you. Turn immediately, blasting it from behind before it has a chance to gather momentum and turn around for another attack.



■ "Ere, you shoot at me again an' I'll set my big bruvver on ya." "My dad's bigger than your bruvver." "Ah, but can your dad get to Level 40 on *Cybernetix*?" "No, but he likes Bryan Ferry."

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VISA



VOODOO NIGHTMARE GBH

Last month we showed you how to complete the Spider Temple, now we give you the second part of Steve Rennie's comprehensive solution for this arcade adventure:

Eagle Temple

(Use your machete to kill the eagles).

Push small boulder by south-west of pointed rock to the south-east. Kill eagle then enter the circle and stand to the south-east of the gem. Use ZZZ potion to slow the boulders down, then just walk north-west collecting the gems – it can be done using the ZZZ potion, but the timing is really tight. Leave the circle and exit south.

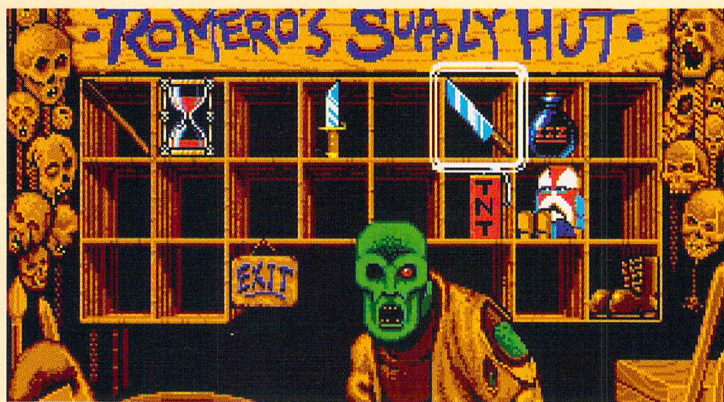
Push second pyramid from east door to the north-west, exit east. Push second pyramid from west door to the north-east, kill eagle, exit south. Push second pyramid from north-door to the south-east, turn south-west and push pyramid. Exit west.

Exit west, kill eagle, then you can exit north.

Push furthest south-west pyramid to the south-east. Push the furthest north-east pyramid to the north-west and collect both trapped gems. Go north-west near the south-west wall and jump over the hole. Push the rock in front of you to the north-west. Kill eagle, jump over the narrow gap (or vice versa), collect the gems and jump back. Walk south-east towards the pyramid. Turn south-west and push the hidden pyramid. Go south-east and exit east.

Kill eagle and exit south. Push the east rock to the south-east and exit north. Exit west, exit south, exit south.

Use teleport. Collect gem and kill eagles. Use the teleport by the



■ "Can I help you?" "A machete, some TNT and a voodoo doll, please." "Going on an adventure?" "No, just out for a larf with a few of me mates." "I see."

two pointed rocks and collect three gems. Use the teleport behind the two pointed rocks and collect three gems. Use the teleport by the north-west wall, collect three gems and kill eagle. Use the teleport near the north-west wall (by the two pointed rocks), kill eagle and collect gem. Use the teleport by the north-west wall and collect gem. Use same teleport. Go south-east and use first north teleport. Go south-east to hidden teleport and use it to return to the corridor and exit east.

Kill eagles and exit north. Collect gems and exit south. Exit east. Collect gems and exit north. Exit east, kill the three eagles. Collect the gems and exit south.

Jump over the south-west hole, go south-west and use teleport. Push the pyramid by the egg-shaped rocks to the north-east. Use teleport. Push other pyramid to the north-east, then teleport back. Push the small rock just north-east of the gem to the north-west and collect both gems. Push the small rock that is south-east of the hole you initially jumped over to the north-west so that it goes between

the two pointed rocks. Turn south-west and push the rock. Kill the released eagles and walk south-west down the corridor. Collect the gem and push the pyramid out of the way. Exit west.

Go north-west to the other side of the enclosed area and push the furthest pyramid to the north-east. Go back and enter the enclosed area. Kill the eagle and collect the gem. Go to the north-west wall and push the two inside pyramids to the south-east. Go north-east and enter the corridor on the other side of the row of pyramids. Go slowly south-west. As you collect the gem, quickly take one step forward and one step to the north-west to avoid the boulder. Come back and go round by the south-west wall and go along the other corridor, kill the eagle and use the same procedure to avoid the other boulder. Exit south.

Do a running jump over the gap and exit east.

Jump over the north-east hole and use the teleport. Push the second small rock to the north-west and then push the pyramid by the teleport to the north-west. Teleport

and push the other pyramid to the south-east. Go south-west and jump over both holes by the west exit. Collect both of the gems and go down the central corridor. Collect the gem. Push the pyramids out of the way, kill the eagles and exit east.

Use the hour-glass from your inventory. Use the teleport. As the boulder starts to move, teleport back. Teleport over again when the boulder has smashed. Push the small rock by the pointed rock. Collect the gem and exit north.

Push the nearest pyramid to the north-east. Go to the north-west corner of the enclosed area and push the pyramid to the north-east. Collect the gem. Go along the north-west wall and enter the corridor. Push the fifth pyramid outwards. Go south-west, collect the gem and quickly get out of the way of the boulder. Go to the east corner, jump over the hole and push the north-west pyramid to the north-west. Collect the gem and step back and to the side to avoid the boulder. Go south-west down the corridor and exit west.

Jump over the north-west hole, follow the north-east wall and then jump over the other hidden hole. Exit north, exit east, push the pyramid to the north-east. Go round the other side and push it back. Exit north.

Go north-east and stand east of the blue gem in the rocks. Push to the south-east. A rock moves, collect the gem and step back. Continue walking to the end of the chasm. A boulder comes quickly towards you as soon as you take one step to the north-west.

To avoid it, take one step, then rush quickly back (don't fall down the chasm). Go forward and exit north. Exit west, kill eagle and

FROM THE LONG BARROWS OF WILTSHIRE TO THE PYRAMIDS...



1

■ "Take your hands off me! I'm not some scrawny little mouse, you know." "I'll drop you then, shall I? It's only 25,000 feet to ground level." "Do you do in-flight meals?"



2

■ Phew! Back on terra firma again, in the depths of the Eagle Temple. Mind you, that big chasm looks a bit ominous. How are you supposed to get out of this one?



3

■ Watch out for these egg-shaped rocks. Break them and they let off a nasty whiff. The best solution is to poach them in vinegar and smother them in ketchup.

AND EVEN MORE VODOO NIGHTMARE



■ "You can only cross the bridge if you give me 50p." "50p? I'd sooner pull my own legs off."

exit north. Kill eagle and exit east. Push the south-west pyramid to the north-west. Push the north-east pyramid to the south-west and collect gems. Jump over the hole. Push the extreme north-east little rock to the south-east. Jump the gap and kill the eagles. Collect gems and exit east.

Use first teleport, collect gem and return. Jump over the north-west gap onto the teleport and use. Move onto and use the adjacent teleport. Collect gem and return. Go to the north-west edge and jump over the gap.

Use the teleport, walk south-east and use the other teleport. Kill the eagle and collect the gem while walking carefully to the north-west teleport. Use this teleport, kill the eagles, collect all the gems. Retrace all your steps and exit west.

Jump over the gap, push the nearest small rock to the north-west. Jump over the hole and exit west. Exit west, exit south.

Kill the eagles and collect all the gems. Push the second pyramid from the north exit to the north-west and exit east.

Collect gem, use teleport, push small rock to the south-west and exit east. Stand south-west of

the two pointed rocks and go south-east. Follow the path to collect the gem, then return to the pointed rocks. Stand on the north-east side of the pointed rocks and go south-east. Now work your way north and north-east. Jump over the hole. Jump over the other hole and exit east.

Kill the eagles, collect the gems and exit west.

Jump back over the two holes. Take two steps south-east and follow the north-east path until you reach the south-east wall. Push the small rock to the north-east, then work your way down the south-east wall. Don't leave by the south exit or you end up in the room the hour-glass was used in and the door closes behind you. Collect the gem by the pointed rock and then collect the gem hidden by the other pointed rock. Go between the two pedestals and push the small rock to the north-west. Retrace your steps along the south-east wall and follow the path back to the hole. Go south-west a bit and turn north-east to collect the gem near the south-east wall. Follow the path back and then go north and north-west to reach the pyramids. Follow the north-west wall down to collect the blue gem and then go to the pyramids. Work your way to the north-east wall and collect the last gem. Now go back and push the rock by the south-east wall back to its original position. You can now exit north.

Kill eagle and exit west.

Stay close to the north-west wall and move very quickly or boulders get you. Exit north.

Use the teleport and collect the gem. Use the teleport next to the south-west wall, collect three gems and use either teleport back. Use the teleport which is furthest

away from the south-west wall of the group of three. Kill eagle and collect gem. Use teleport by north-east wall, collect the blue gem and use the teleport hidden behind the rock by the south-west wall. Collect three gems and use the teleport by the north-east wall. Collect three gems and use the second teleport from the south-east wall (east of the first teleport). Exit west.

Kill or avoid eagles. Go to the cluster of six pyramids by the north-east wall. Push the south-east pyramid by the wall to the north-west to open the south exit. Retrace your steps.

Exit east. Use the teleports in the reverse direction and exit south. Follow the north-west wall – to avoid the boulders – and exit west. Exit south. Push the second pyramid from the right to the south-east. Work your way through the rocks and exit west. Push the small rock to access the teleport. Use the teleport and exit west, exit north, exit east, exit north.

Kill the eagles, collect the gems and exit east. Collect both gems and exit south. Exit west.

Push the small rock by the east exit to the south-west. Stand in the triangle of three rocks, face south-east and push the rock. Turn south-west and push the rock. Exit to the north.

Collect the gems. Exit north.

The eagle god wants you to collect five snakes before it rewards you, so you are transported back out of the temple.

Walk south-west of the edge of the eagles' small island.

Jungle

You land by a tree trunk at the south-east corner of the jungle. Enter the tree trunk and collect a cub that wants its mother. Now

work your way north-west and hack your way to a native's hut. Give the native the medicine to get a pin. Continue north-west to the store south-west of the bridge and buy some more ZZZ potion. Cross the bridge and work your way northwards (on the eastern side of the island) until you come to a cluster of huts in a clearing. Turn sharp north-east just before the bridge and hack your way to the tree trunk. Enter the tree trunk and give the cub to its mother who gives you a pin. Because you have snake immunity you can now find those five snakes and walk over them.

An eagle takes you back to the temple and the eagle god gives you a pin, the jewels of eternal light and tops your heart up to 12. Walk off the eagle island and you end up back in the tree trunk you found the cub in.

This time work your way north-east until you see a tree trunk near the north-west of the jungle. Hack your way to it and enter from the back. A monkey asks you to feed it – give it ten bananas to get a pin.

Continue north-east up to the top edge of the jungle, then go north-west until you come to a bridge. Cross the bridge and go north-west. Before you is the Ape Temple. Hack your way around the the south-west edge and enter – this can be tricky, just keep jackknifing around the north-west and south-west areas near the temple.

Can our hero solve the riddle of the Ape Temple? What's that lizard doing in the lounge? And why can you never find a packet of toenail clippings when you need one? All these questions and more are going to be answered in next month's exciting episode of *Voodoo Nightmare*.

...TO THE STONE CIRCLES THAT CONFUSE ALL THE SCIENTISTS



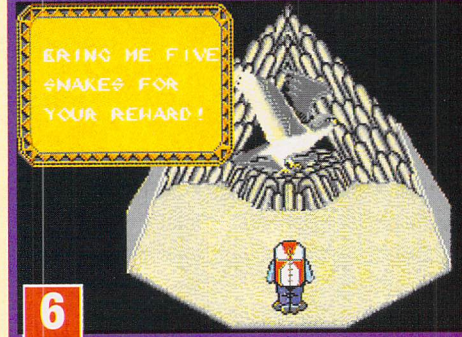
4

■ Not more gems and egg-shaped rocks? Don't give up – it's not far now to the final round and the Eagle God's lair.



5

■ Look, it's Eddie "The Eagle" Edwards. Notice his low-flying technique. Don't think much of the bird outfit, though.



6

■ At last! You've cracked it... nearly. After all that effort you still have to go and kill off a few snakes. It's not fair (sigh).

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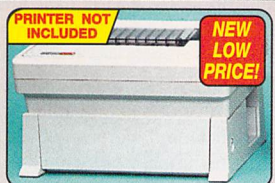
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£345

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As one of Europe's leading software design and development studios, Imagitec have been asked by Atari to create a brand new kind of space adventure for the Falcon. Rob Mead takes the lid off and has a peek inside the workings of the company

SPACE JUNKIES

Based on two floors of a former newspaper office in Dewsbury, West Yorkshire, Imagitec have quickly established themselves as a major player in the software development and conversion market. Founded just five years ago, the company has a wealth of projects under development including a major assignment for the Falcon – an off-world adventure called *Space Junk*.

When it is eventually released in June 1993, *Space Junk* is going to feature over 200 different locations, digitised backdrops and over 60 fully-animated characters with speech samples. Unlike the sprites in other computer games, *Space Junk*'s characters have been created using Imagitec's in-house puppet animation system, Imagination, a process normally associated with high tech special effects movies. When a digitised character is presented on-screen you see his whole body, not just his face – this means that, as well as listening to what a character has to say, you can also study its mannerisms and body language. This whole process infuses *Space Junk*'s characters with a high degree of realism not yet found in the computer games market. So how does a company like Imagitec go about developing a project as ambitious as this?

What's the big idea?

Every good game starts somewhere and, in Imagitec's case, it's usually inside Nigel "Pig" Kershaw's head. Nigel is a games designer and it's his job to think up new games scenarios and concepts. For example, he based *Ragnarok* on an ancient Norse board game called *King's Table*, which you can buy from specialist gaming shops. *Space Junk*, on the other hand, was an original idea based around a desire to use puppets in a computer game. "Everything else came from the imagination, other people's input, books, comics, films, and so on... we tried to fit in as much satire as possible, so many of the characters are based on real people. The hard-

est part of designing *Space Junk* is in the puzzles, which need hours of brainstorming – and Guinness – sessions to come up with something that hasn't been used before." Once he's come up with an idea, Nigel liaises with program-

"A few hours of physical anguish and claustrophobia is all in a day's work"

mers and the art department to ensure that the end result is a game design everyone who's working on a project is happy with.

Artng around

Unusually, Imagitec insist on storyboarding all of their games. This helps to give the programmers and the games designers a good impression of how the final product is going to look. Storyboards are drawn exactly to screen size which makes the computer artists' job of turning the sprites, backgrounds and animated sequences into pixellated images much easier. However, *Space Junk* has relatively few storyboards devoted to screen outlines – the rest of them are used to design the way the characters look, thus enabling costumes and masks to be made.

Because Imagitec are using a digitised animation process for *Space Junk*, the art department has also been responsible for making the puppets used in the game. "The first stage... is to take a plaster cast mould of the head of the person who will be operating the character, not an enjoyable task since it involves getting your head completely covered in plaster and other gunk with nothing but two straws jammed up your nose," Sharon Dunsford explains, "but we're a bunch of dedicated masochists and a few hours of



■ The Beatles ain't got anything on this. Imagitec's backroom boys pose for the cameras in the lobby of Field House. The girls from the "sunbed parlour" are strangely absent.

physical anguish and claustrophobia is all in a day's work." A Plasticine representation of the head is then sent off to Soft Options – the company who make the Spitting Image puppets – and is cast into a latex head and foam mask. Because the masks are made to fit pretty snugly, a wide range of facial expressions is possible. Additional hydraulic levers are then fitted to the mask, so that a cat character, for example, is able to twitch its ears.

Programmers from hell

Once a game design has been storyboarded by the art department it is passed onto the programmers and computer artists who convert it onto the screen. At Imagitec, all the artwork and programming is done on PCs and, for a major game like *Ragnarok*, can take up to a year to complete. Finished games are then converted using a cross compiler into the different machine formats with some additional programming necessary. A typical conversion from a PC onto an ST takes two to three months and mainly involves



■ Nigel "Pig" Kershaw and Imagitec's resident sculptress Dawn Whitehead-Binns pose with some of the plaster heads used in the creation of *Space Junk*'s animated characters.



■ "It's Johnny!" When Kevin Macintosh isn't doing his Jack Nicholson impersonation, he's responsible for converting *Ragnarok* onto the ST.

■ The man behind the cat mask and *Space Junk*, "Pig" likes to terrorise the accountancy firm down-stairs by roaming around dressed as a Human and waving a spear above his head.



degrading the sprites and backgrounds from 256 colours to 16.

The work of the computer artists involves animating the sprites and creating the backdrops so that the characters have something to interact against. Sprite animation works in the same way as cartoon animation, with slight variations in each sprite from frame to frame – a character animated at 20 frames per second is going to be much more fluid than one ani-



■ Imagitec managed to get their paws on a Falcon long before most people have even seen one, and *Space Junk* is the game to put Atari's baby on the map.



■ Like all of Imagitec's products, *Space Junk* is extensively storyboarded before the concept is put on to the Falcon.

mated at two frames per second. For more details on animation, turn to the feature on page 14.

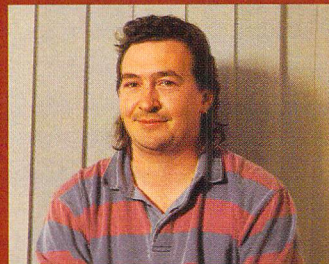
For *Space Junk*, the backdrops are created on paper using airbrush and gouache techniques, before being scanned into a PC. This process makes the backgrounds look more realistic and is also easier and quicker to accomplish. However, there are problems with digitised images as Hugh David, PC programmer for *Ragnarok*, explains: "Once they've been digitised, a computer artist has to cut them up into their component parts and define areas of depth, so the computer knows which parts of the scenery a character will walk behind or in front of. This is more complex than it sounds because there might often be up to eight planes of depth in a single backdrop." Finally, scenery animations – such as flying birds and flashing lights – are added to make a scene come alive. This also gives the protagonists something to act against.

Music to the ears

Imagitec employs its own musicians to write music for its games, and they also do a lot of outside work for other companies. It's sad to say, from an ST point of view, that the vast majority of the music is written on either an Amiga 1500 with Protracker or on a PC with a Roland sound card. The music is then converted into other formats using a utility developed by one of the company's programmers.

Writing the music for a game can work in one of two ways, as Ian Howe reveals: "One way is that I get a copy of the game design and will then have a basic idea of what is required. When I have a piece I think is suitable, the designer is shown the music. If the designer is happy, the piece is tidied up, ready to be coded into the game. The other, more preferable option, involves the designer actually sitting in with me while the piece is being written, giving instant response and criticism as the piece progresses."

MAD ABOUT ATARI

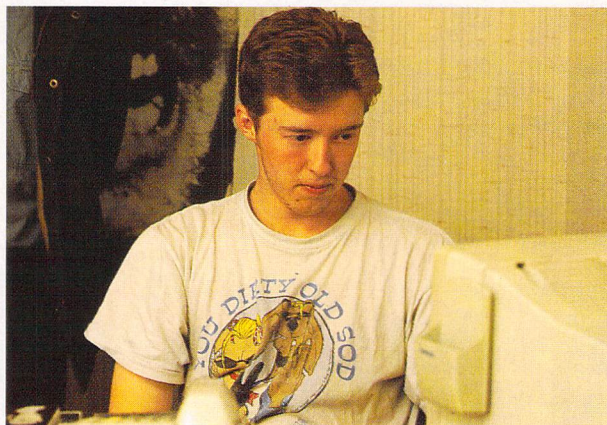


■ Imagitec president Martin Hooley visited the set of the *American Gladiators* show in the US only to discover that half the so-called audience were painted onto the backdrop.

Imagitec have been one of the first software developers to get their hands on the Falcon, so STF are naturally curious about the kind of relationship the company has with Atari. This is what Martin Hooley, Imagitec's president, had to say:

"The relationship between Atari and Imagitec has been awesome. We were fortunate to have been produced by the Sunnyvale office and John Skruch, Director of Software Development, at Atari has been very, very supportive... Imagitec intends to be one of Atari's staunchest developers. With the ST, the market will dictate the scenario, but on the Falcon I expect we will have completed at least five products by the end of 1993. There's also the Lynx... and the looming Jaguar to be considered.

As for the development of *Space Junk*, we are developing the product as the lead format which will have a guaranteed exclusive window of exposure before any other versions of the product are released. I believe that this product will be one of many of the same genre that we produce for them (Atari). In fact, Atari are so taken with the characterisations in *Space Junk* we have signed the toy rights with them."



■ Andy Walker, one of Imagitec's computer artists, working on the animated conflict sequences in *Ragnarok*.

This is the very end of it

When Imagitec started out, they were a very small conversion house who were kept busy doing other people's dirty work. Now it's a major player in the software

development market, with the in-house facilities to take a product from design to completion. If *Space Junk* and the Falcon live up to their promise, then 1993 could be a very bright year indeed. **stf**



■ Richard Lodge is responsible for making sure that the graphics on the ST version of *Ragnarok* are pixel perfect.

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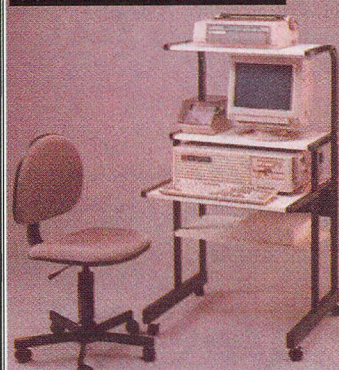
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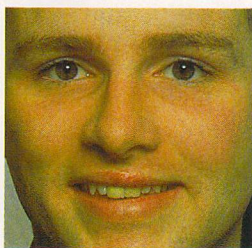
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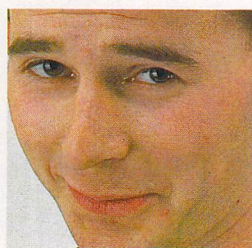
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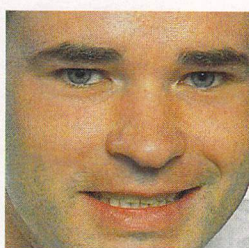
ANDY NUTTALL

■ Keeps pigs in his flat. "I tickle them whenever I get a craving for pork scratchings," he said.



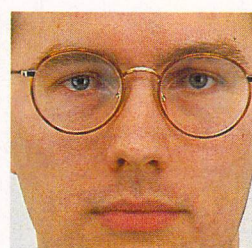
MARK WINSTANLEY

■ Keeps a python in his wardrobe to prevent the unlikely event of burglars stealing his clothes.



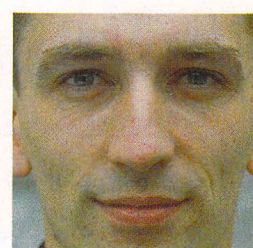
ROB MEAD

■ Rob had a hamster which ate some rice, drank some water and exploded. Sad, but true.



TIM NORRIS

■ Tim farms clangers. "The demand from soup dragons is quite phenomenal," he explained patiently.



TIM TUCKER

■ Tim has a lot in common with Michael Jackson - his only pal is a babbling chimp called Bubbles.

POKED ABOUT THIS MONTH

Bat 2	page 82	Pit-Fighter	page 90
Bignose	page 90	Pool	page 80
CJ in the USA	page 90	Premier Manager	page 86
Captain Dynamo	page 90	Robin Hood	page 90
Dyna Blaster	page 86	Sabre Team	page 84
Final Fight	page 90	Sensible Soccer v1.1	
Goblins 2	page 78	Steg the Slug	page 90
Lethal Weapon	page 88	WWF Wrestlemania	page 90
Magician Dizzy	page 90		

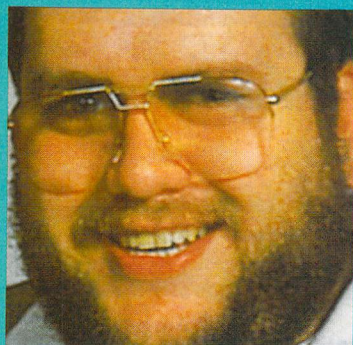


■ What's the biggest RPG to come out on your ST? How many months will it take to complete? Turn to page 82 to find out.



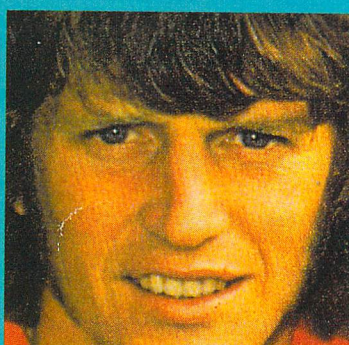
■ How many people can play this furiously paced and addictive blast-'em-up? Check Dyna Blaster out on page 86.

DEAD SERIOUS



ANDY CURTIS

■ As a cleaner at Old Sodbury Zoo, Andy has developed a keen interest in the dietary tracts of elephants.



PETER CRUSH

■ Fancies pigeons, it's a bit sad, but they're the only "birds" who can take his corny chat-up lines.

■ If you have kids or have fond memories of the characters who peppered your childhood, you'll love Noddy - it's both fun and educational.

ON THE "SERIOUS" SIDE

Image Cat v2.1A

Find that elusive piece of clip-art without any hassle. Page 97

Lapcat

Discover which other computer your ST can be linked to without giving it disturbing or adverse side-effects. Page 99

Laserjet 4

We find out if the new printer from Hewlett Packard is actually any good. Page 94

Power Scanner

This device scans real-time in 16 greyscales - but can it retain the scanning quality? Page 94

Noddy's Playtime

A full review of the educational and entertainment package featured on this month's Cover Disk. Page 101



IN PUBLIC!



■ Take in a tour of vineyards, come home and fall over.

Turn to page 102 to check out the latest releases into the Public Domain



■ "Look out! There's a cow with a coloured shape on it."



CHRIS LLOYD

■ Chris is a Cor!nithologist and now has over 400 girls in his extensive collection. He likes PD games and demos too.



CLIVE PARKER

■ Clive collects horses - he runs a knacker's yard and pet food factory in Hull. And he reviews PD utilities during his spare time.

GOBBLIINS

Fingus and Winkle may sound like the names of two clap-clinic doctors, but they're local heroes in Goblinsville. Rob Mead puts on his jester's cap and transports himself to an eccentric and puzzling world

THE PRINCE BUFFOON



■ Oh dear, Fingus and Winkle have popped one drop of the old jungle juice too many - here they are in the Beatnik dream sequence.

King Angoulafre's son has been kidnapped and is being held prisoner in a remote castle by the evil Amoniak. To exact his revenge on his old rival, the King, Amoniak has turned the Prince into a court jester. In desperation, the King turns to Modemus the Wizard and asks him for help. A message is sent out for local heroes to rescue the Prince and so your adventure begins... The first thing you notice about *Goblins 2* is its startling similarity to the original game, reviewed in *STF 36* - see page 66 to order your copy if you missed it. The same highly-detailed graphics and guffaw-inducing jokes are prominent in both. However, where the first adventure placed you in charge of three Goblins, this time there are only two - Fingus and Winkle. The two Goblins have vastly different personality traits but together they complement one another - Fingus is well-

behaved, polite and serious, while Winkle is a joker and a loudmouth. Doesn't sound like the Prince has got much hope, does it?

You're presented with a series of different game worlds - Village,

■ The Prince Buffoon - he doesn't look so different from someone in our own dear Royal Family.

Castle, Underwater and so on - each containing puzzles for you to solve. You can usually get either Fingus or Winkle to pick an object up and use it, but the key to each level is how you string the different elements together to get an end result. After all, it's not every day you get to hit a chicken over the head with a piece of salami, is it? For example, when you get to Tom's tree house you have to rescue a ball, alert the Mayor and get a timepiece from the clockmaker. However, to do all this you need to get certain objects to do things in particular order, and, if you choose the wrong Goblin to use the object, the end results can be



■ Vivalart has a rather unusual hobby - he likes to spend his money on collecting exotic animals - piranhas, vultures, worms and... Goblins.

Heaven knows I'm notable now, or how to get that sausage



1

Get Winkle to steal the sausage. While the Old Men are laughing at Winkle's failure, persuade Fingus to take the bottle. Now head straight for the fountain screen.



2

Get Fingus to activate the Fountain, now use the bottle with Winkle on the jet of water, then get Winkle to use the bottle of water on the toad. Collect the stone and send Fingus to use it on the Mechanism.



3

Send Winkle onto the roof of the house - get Fingus to pull down the rung so Winkle can climb up. Get Fingus to knock on the door and talk to the Wizard four times..



4

On the fourth occasion the wizard shakes his head - this is your cue to send Winkle down the chimney. The wizard invites you in...



■ "It is I, Jacques Cousteau. 'Ere we zee ze seggsy mermaid of ze deep." "What's the matter with you, Fingus? Are you auditioning for a part on 'Allo 'Allo or something?"

either comic or tragic. You also find plenty of red herrings dotted throughout the different worlds, so you could end up spending ages on something only to find it has no use whatsoever. Usually though, an object discovered on one screen can be used to good effect elsewhere.

Double vision

When it comes to moving Fingus and Winkle around the screen, you can either use them separately or in tandem – for example, you sometimes need one of them to hold an object while the other does something to it. This can get a bit confusing at first and you have to be positive about which Goblin you want to use to do which thing, otherwise they wander around the screen shrugging and giggling at you while you decide what to do next.

Because *Gobliins 2* is a linear puzzle-'em-up, you can easily get stuck on a single screen with no short-term hope of moving onto the next – it's not like *Monkey Island* where you can choose various routes to reach the same objective. Your only hope is to keep trying the same things in a number of different ways until you get a

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Above the main screen there's a menu bar which gives you different game options. Here they are in all their glamorous glory:

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You can allocate up to 15 places on a blank disk or hard drive for your saved games.

2. Jokers



You usually have three jokers on each screen that you can play if you get really stuck. The clues tend to be rather cryptic and for some situations you don't get a joker at all.

3. Inventory



Fingus and Winkle have a shared inventory – to access it either click on this icon, or use the right mouse button.

4. Object Exchange



This icon enables you to swap items between Gobliins without having to use the inventory first.

5. Movement



Enables you to go back to screens you have visited without having to use the exit doors.

Beware!

We had problems running *Gobliins 2* on every ST but our 4MByte Mega STE – DI claim *Gobliins* runs on all versions of ST, so they'll be pleased to send you a replacement if you have probs. Contact Debbie Durrant on ☎ 0276 684959.



■ "That chap on the left - didn't he used to be in the Harlem Globetrotters?" "No, Harlow Road Menders." "Are you sure?"

combination which clicks – it's extremely easy to get frustrated, even bored, if you get marooned for too long, but, oddly, it makes you even more determined to crack the level. Part of this determination springs from the sheer enjoyment you get out of playing the game, gawping at the colourful graphics and grimacing at the visual jokes. The sound samples are pretty hot too, although the music and cackling can get aggravating after a while.

Verdict

Gobliins 2 certainly lives up to the expectations created by the origi-

nal. It's got great graphics and can be an addictive game to play. However, if you get stuck on a screen for any length of time you start to get bored and irritated – you could even end up reaching for the Off

switch. The other major drawback is the control mechanism – it can be a tad awkward to try and get the hang of, especially when you're trying to control both characters at the same time.



■ It must be the nightshift down the Goblin car factory. "Has anyone seen me sprockets?" "They're in your Y-fronts, mate." "Oh, very witty."

Gobliins 2

£29.99

Digital Integration

☎ 0276 684959

Highs

Graphically superb romp with a wacky sense of humour.

Lows

Fail to solve a puzzle on one level and you get permanently stuck.

STEALING THE 88



5

Get Winkle to stand on the cat's tail and Fingus to fetch the matches from its mouth. Then fill the kettle from the bottle and light it. A key is revealed. Get Winkle to blow out the flames and collect the key.



6

Use the key in the cuckoo clock - this has the effect of revealing the key to the cellar. Winkle collects it by throwing the stone at it. Now go to the cellar and collect the wine.



7

...When you've finished with the Wizard, head back to the Village. Use the bottle of water with Fingus on the flowers. Pick a flower and use it on the Notable.



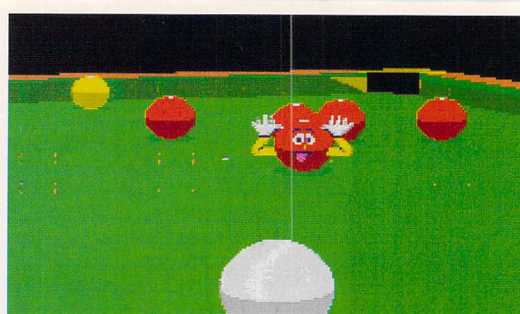
8

Place Winkle on the raised area by the door to the house. Get Fingus to operate the switch - this propels Winkle onto the roof. Now get Winkle to collect the sausage. Now complete the rest of the game...

POOL



■ Use the View Line option to see where the cue ball's going to go... Look, you'll stay like that you know.



■ "Hurry up! What's your name Steve 'Interesting' Davis?" "Wrong game, Bozo, You're going to get this cue right between the eyes."

There have not really been many green baize games on the ST – Jimmy White's *Whirlwind Snooker*, Steve Davis' *World Snooker* and 3D *Pool* being the only

ones of note. Until now. Following hot on the heels of Jimmy White, the irrepressible Archer Maclean has come up with a game which is going to have eight-ball addicts champing at the bit. Archer Maclean's *Pool* follows the familiar

3D format of his snooker game, right down to the balls that pull funny faces at you when you take too long over a shot.

What makes *Pool* so different from Jimmy is its simplicity – a lot of people were put off by the snooker game because of all the complicated rules and cumbersome gameplay inherent in the green baize game. However, because pool has fewer balls and rules, there are less obstacles to producing a cracking version for the ST.

Before you even start to play the game, you are presented with a variety of options – everything from a human eight player tournament to a trick shot screen. There

are also three different versions of *Pool* – English eight-ball, American eight-ball and American nine-ball – enough to satisfy even the most accomplished hustler. In tournament mode you can choose from 20 different ST players with names like Alex Smartarse and Silly Willy.

Because each of your ST opponents has different playing abilities and styles, taking part in a tournament becomes wildly reminiscent of your local boozer – just when you think you've cracked the championship by defeating Cross-Eyed Chris (every pub has one), along comes Flash Harry to wipe the floor with the pointy bits on your head.

To play the game you are presented with over 20 icons which enable you to set ball spin, angle and cue speed and so on. It's a bit daunting to start with and you find that even Boring Bob manages to thrash the pants off you on your first attempt. However, you soon suss it out and, after an hour or so, are playing like a true pro. The graphics are very realistic – you could almost be playing the real thing and the action is very slick, you can even follow the cue ball when you're taking a shot. However, if you change your table view while cueing up a shot, then go back to your original perspective, you have to start again – but this is only a minor criticism.

Verdict

If you loved *Whirlwind Snooker*, then *Pool* is going to make you take out a lifetime's subscription to Mills and Boon – it's that good. Incredibly realistic graphics combined with excellent gameplay make this a joy to have on your ST. Brilliant.

OK, who's got the nine ball?

There are over 20 different gameplay options in *Pool*, which can all make it a bit confusing. This is the STF guide to those crazy icons



1 View Cue Ball

Click here to zoom in on the cue ball.

2 View Line

This traces a path that the cue ball is going to follow. Great for lining up those tricky long-distance shots.

3 Game Control

Gives you access to the game's control menus.

4 Chalk Cue

Prevents you from mis-cueing and also has the effect of annoying your opponent.

5 Top Spin

Enables the cue ball to follow through on a particular shot.

6 Information

Gives you various statistics about the game in progress.

7 Side Spin Left

Sends the cue ball off at a tangent to the original shot.

8 Take Shot

A cross on the ball indicates where the cue is going to hit. "No" means a shot is not possible from the angle you've chosen.

9 Side Spin Right

See Side Spin Left.

10 Screen Type

Toggles the Control Panel between the left and top of the screen.

11 Back Spin

The ball appears to bounce back and travels in the opposite direction.

12 Plan View

This gives you a bird's-eye view of the table from a number of different angles.

13 Zoom Out

Gives you a wider perspective on the gameplay.

14 View Angle Increase

Enables you to look down at the table, useful when balls are packed tightly together and you need to cue up a shot.

15 View Angle Decrease

The opposite of View Angle Increase.

16 Zoom In

Enables you to take a closer look at what's going on.

17 Cue Left

Moves your viewpoint around the table in a clockwise direction.

18 Right

Moves your viewpoint around the table in an anti-clockwise direction.

19 Player One Status

20 Player Two Status

21 Set Power

Enables you to change the power of your cue shots.

BY ROB MEAD

Pool

£25.99

Virgin Games

081 960 2255

Highs

Great 3D graphics and brilliant gameplay make *Pool* an even better proposition than *JWWS*.

Lows

Can be a bit confusing at first, but you soon get the hang of it.

95%
STYLING

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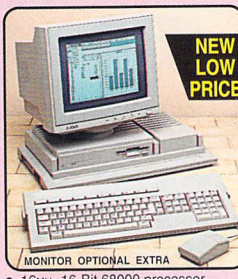


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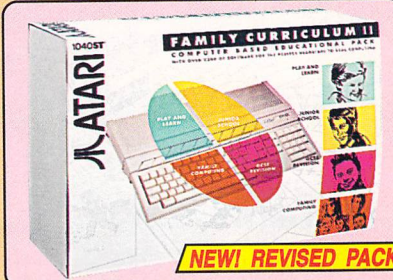
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BAT 2

You can travel to strange, interesting worlds, meet strange interesting people... then nicks loads off stuff them and kill 'em. Rob Mead hops onto the Express Via, goes the wrong way and ends up behind bars. He really should have known better

Koshan Inc is holding the planetary system of Shedishan to ransom. The company has a virtual monopoly over a rare, but essential mineral, Echiatone 21, and is keen to expand its empire. However, there is some doubt over the ownership of the planet Bedhin, Koshan's principal source of Echiatone. According to the Shedish Treaty, six people actually own the planet, and two of them are already dead.

It's your job – as a Bureau of Astral Troubleshooters (BAT) agent – to track down the others, reclaim the title deeds and rescue Shedishan from corporate tyranny. All sounds like a day in the life of your typical solicitor, doesn't it? *Bat 2* is a massive role-playing adventure –

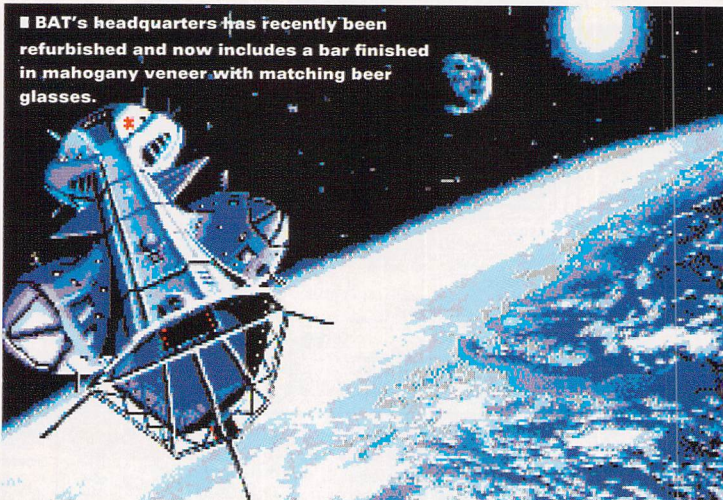


■ *Bat 2* – probably the biggest role-playing game in the world.

after you've created your agent you're dropped off at a busy airport and wander through the streets of Roma 2, Shedishan's capital city. Your first task is to find the hotel where another BAT agent, Sylvia, is waiting to brief you.

On your way there you come across over 200 characters you can chat to, fight with and steal from in a variety of fast food joints, bars and amusement arcades. Because

Bat 2 is an open-ended game you can take time out and spend a few days getting drunk or playing games in the amusement arcades – or you could even get a job. And if that isn't enough, you can always travel around in four different flight simulators, compete in car races on the Expressway Via or battle with rather mean-looking gladiators. Well, all this sounds mighty fine in theory, but what's *Bat 2* actually like to play?



■ BAT's headquarters has recently been refurbished and now includes a bar finished in mahogany veneer with matching beer glasses.

Character control

Virtually anything you want to do in *Bat 2* is done by mouse-controlled menus and icons. For example, if you want to talk to a character a menu appears with a list of options available to you. The same thing applies when you go into a shop, bar and so on. Although the control system and menus are better than in *Bat 1*, the process still seems very cumbersome – if you want to get a couple of drinks from your inventory, for example, you have to scroll through the whole thing to find what you want and use it. The menu then takes you back to the

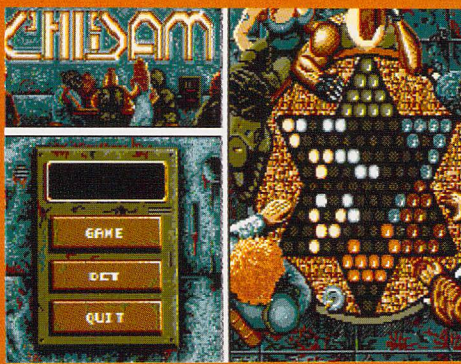
ADVENTUROUS ARCADIA

Bat 2 includes three arcade games in its make-up which you can use to win those vital credits needed for jetting about Shedishan. However, you already need to have accrued a certain amount of money before you can play – as with all the arcade games in *Bat 2*, the more you bet, the less chance you have of winning



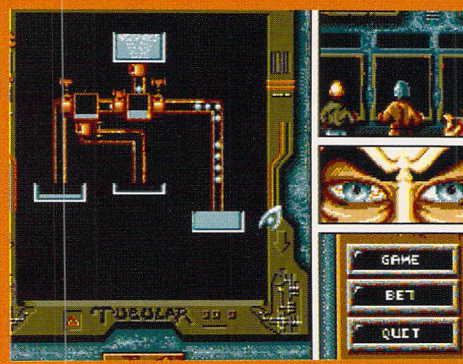
Quattro

■ A *Breakout* style game with four paddles. And if you don't know how to play *Breakout*, well, it's simple – you just have to destroy all the bricks that are in the centre before you can move onto the next level. Easy, eh?



Chidam

■ You control three game players and play against your ST's team in a Chinese checkers style game. The object is to move all your counters into your opponents' home bases.



Tubular

■ Here you have to fill three reservoirs with equal amounts of water by controlling the taps at your disposal. The face you see is that of your character who becomes elated or annoyed depending on how well, or badly, you do.

CAN I HAVE A SURGICAL IMPLANT PLEASE, BOB?

As a BAT agent you have to your own powerful computer called BOB, with its own programming language built into your wrist. Let's take a quick look at the main functions

FORCE	078
INTELLIGENCE	084
VITALITY	073
PERCEPTION	075
REFLEX	068
CHARISMA	076
EXPERIENCE	006
PROGRESSION	00
EXIT	

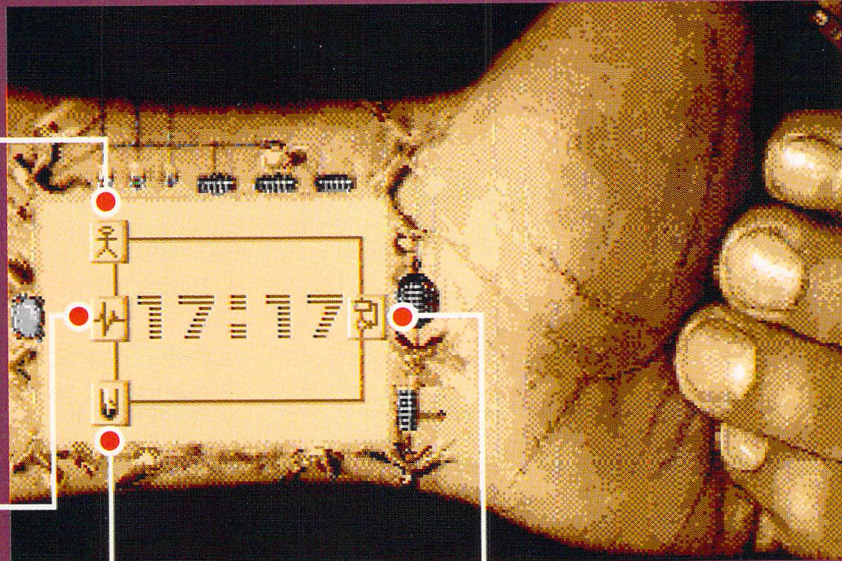
Characteristics icon

This is a summary of all your agent's characteristics – intelligence, vitality, strength, reflexes, perception and charisma. Individual items flash in red if they reach critical levels.



Bio icon

This button enables you to see graphs of your heartbeat, consumption levels and the hits you've received. Use the Diagnostics to see whether you need to eat, sleep, drink or seek medical help.



ATS 34	(S1)
FIBRINE	(S2)
HYPERCEP	(S3)
MORPHO L7	(S4)
FSV	(S5)
EXIT	

Implants icon

You are given five cybernetic implants which improve your agents' capabilities; ATS 34 enables you stay awake for long periods, while Morpho L7 enables you to disguise your facial features.

DISPLAY FORCE	
DO	5
DEL	
JOIN	
NEW	
EXIT	

Programming icon

This enables you to create new routines for BOB so your agent can perform more effectively, for example by translating the speech of Shedishan's simian population.

beginning of the inventory, so you have to scroll through it again to get the other drink – it all gets a bit tedious and frustrating. Other bits – like programming BOB, your agent's computer – seem so incredibly involved that you really can't be bothered – you just want to get on with playing the game.

Another drawback is the movement cursor – it merely displays an arrow for the directions in which you could travel. This can mean you end up walking around in circles, or even backwards to see

a bit of the game you haven't seen before. However, *Bat 2* more than makes up for these shortcomings with its incredible sound effects – if you have an MV16 sound card that is (get in touch with UBI Soft if you want one) – and graphics which gives the world of Shedishan a very realistic, atmospheric feel. It's unlike any other adventure you've played before.

Verdict

Bat 2 is going to take you months to complete, if not



■ In *Bat 2* behave like a tramp and harangue passers-by for money, a chat and a fight. Don't pick on the police, especially if there are more than six of them.

■ You should aim to choose an agent with balanced capabilities – strength and intelligence, ying and yang... Bill and Ben. Avoid Thicco like the plague.



longer – it is a seriously long-term proposition. The whole thing is jam-packed with detail and has some excellent graphics and sound effects. However, the program's developers have neglected the playability side of the game equation to an extent – getting around is still a hit-and-miss affair and some options such as the Inventory screen, for example – are extraordinarily cumbersome. However, whether you're role playing game addict or not, *Bat 2* is a thoroughly engaging adventure – one of the best games of its kind. **stf**

Bat 2

£34.99
UBI Soft ☎ 081 343 9055
MV16 sound card recommended

Highs

Stunning graphics in massive adventure that could take you ages to complete.

Lows

With five disks it's a shame it's not hard drive installable. Cumbersome control mechanism.

SABRE TEAM



Learn to love every bit of this screen - you see rather a lot of it.

If you missed the end of that dull John Wayne movie in 1980 because of the storming of the Iranian Embassy, then you probably relate black clad, gas-mask wearing storm-troopers to the SAS. Bruce Willis did it in *Die Hard*, Lewis Collins did it in *Who Dares Wins*, and you get a chance to do it in *Sabre Team*, but it's not, as Noël Coward once suggested, falling in love. It's hostage rescue, and it's up to you to control a team of SAS soldiers through missions in this combined strategy and action game.

Gear up, people...

To start with you're presented with mugshots of eight squaddies, from which you must choose four to make up the Sabre Team. They've all got varying combinations of strength, marksmanship, perception and action points, and it's up to you to pick out a balanced team.

Once you've got a group of guys who look suitably stubbly and mean, it's time to bedeck them in all that matt black hardware that makes the bad guys wish they'd put on their brown combat trousers instead of their beige ones. You can load down your boys with a fearsome choice of weaponry, from sniper rifles to belt-fed machine guns, plus the right ammunition, and then add

grenades (CS gas or Stun) before choosing body armour, gas masks, and just a few band-aids in case those nasty terrorists take offence to you blowing holes in them and start shooting back. The relevant word here is "load," because although one of the team could carry an MP5K for close quarters, an L7A2 for suppressing fire and a sniper rifle for, err, sniping, the chances are that he's so weighed down that he can only manage a few wheezing steps before putting his feet up, claiming that he's hurt his back and asking all the other team members for cups of tea as they rush past holding their severed limbs. Getting the balance right between equipment and mobility is the sort of thing you only get right after a few missions.

Lock and load!

You've got the men, they've got the right gear, so it's time to send them out on a mission. There are five missions in all, the first being an assault on a jungle POW camp, with an embassy (inevitably), an underground military base, a hi-

jacked liner and a missile factory to challenge you later. The game plays like a board game, with all characters having a certain number of action points per round; the less heavily laden they are, the more action points they have. Everything from walking to throwing a grenade is animated beautifully on-screen, but use action points, and a certain degree of forethought is needed in their use. For instance, there's no point in opening a door if you haven't got enough action points to blow away the room's occupant, it's much better to wait until the next round and do the job properly. Even rescued hostages have action points, though all they can do is leg it!

What your men can't see, you can't see, so if a squad member turns away from an enemy, he vanishes off the screen. It's all a bit strange and assumes that the team are incapable of turning their heads, but this "line of sight" method enables you to look through windows and doorways and spot enemies in other rooms. You run, shoot, and bomb until

you've no action points left, then let your ST do its thing...

ZZZZzzzz...

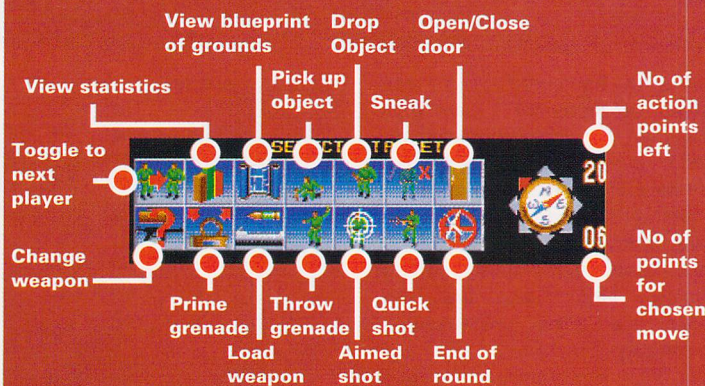
Sorry, must have dropped off for a moment. The problem about *Sabre Team* is the speed your ST moves, or rather its lack of speed. This is "pop into the kitchen for a bacon sarnie" slow. Sit through three updates and any illusions that this is an action game with elements of strategy are dispelled. This is an attractive strategy game, period.

Verdict

Your ST's the perfect place to play such a statistic filled game, but at the speed this runs, you could probably play a board version of *Sabre Team* as fast. It's very similar to *Space Crusade* because of the isometric 3D view as well as the gameplay, but it runs slower than that. However, it's engrossing enough to play all evening (and that's how long it takes for a game) and you do get that satisfied feeling when you drop the bad guys and extract the hostages, but there's really no reason for it to run this slowly.

Controlling the heavies

Click on these boxes to move around in the game



Sabre Team

£25.99 Krisalis
☎ 0709 372290

Highs

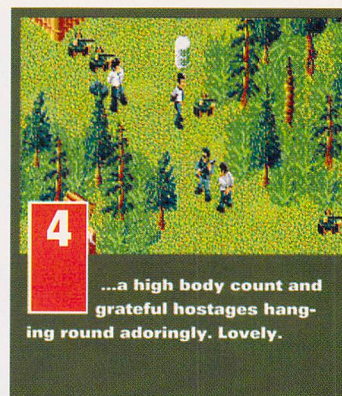
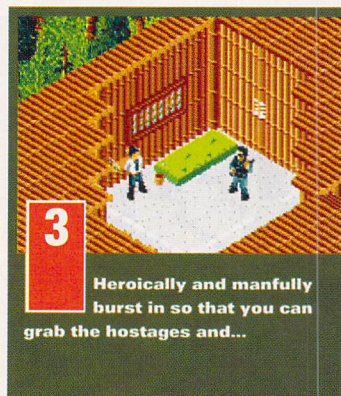
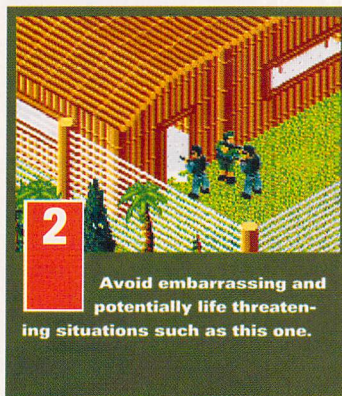
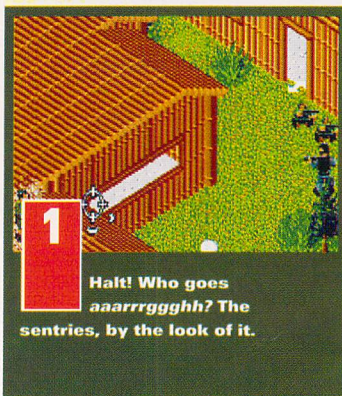
Extremely playable one-on-one strategy game, with superb graphics and lasting appeal.

Lows

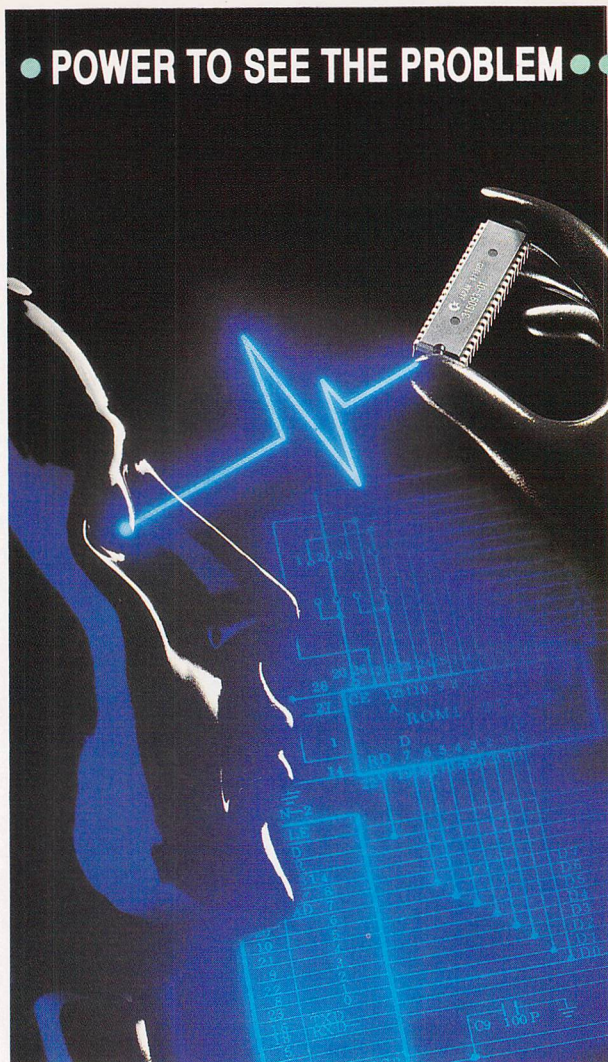
Slower than a sloth driving a Reliant in a traffic jam.

BY MARK WINSTANLEY

Four steps to carefree slaughter and an easier life



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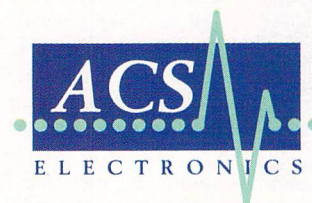
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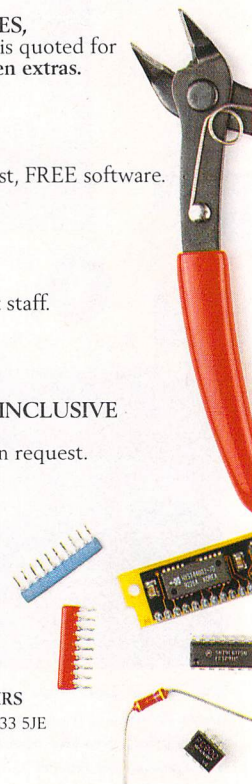
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onto your ST and looks set to become one of the biggest games of 1993. Why's that, then? Well...

The idea behind the game is that you charge around destroying various monsters by strategically placing bombs in their path and then hiding behind walls so you don't get blown up yourself. Once you have rid a level of all its baddies, you then have to blow up the walls to find the flashing blue exit door and any bonuses that may be lying around. The bonuses enable you to control the way a bomb is detonated, give you extra lives or the ability to pass through walls.

■ A bout or two with your pals in *Dyna Blaster's* multi-player mode soon gives you the chance to see who your real friends are.

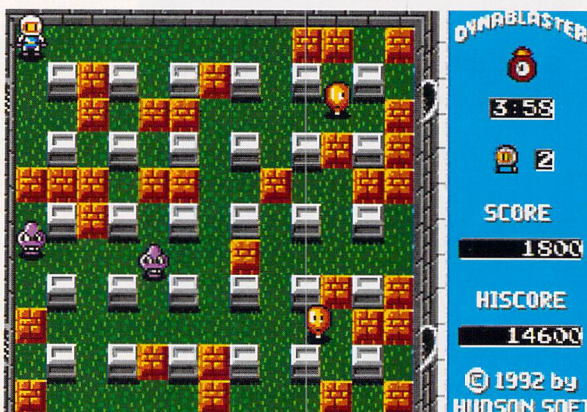


DYNA

blow-'em-up that's going to have you propping up your eyelids with matchsticks just to see if you can get to that next level. The levels get progressively harder as you have to tackle more monsters and you are given less and less time to complete each screen. Fortunately, you are given three lives and three continues – giving you, in effect, nine lives – so you have plenty of opportunity to blast the hell out of everything on-screen.

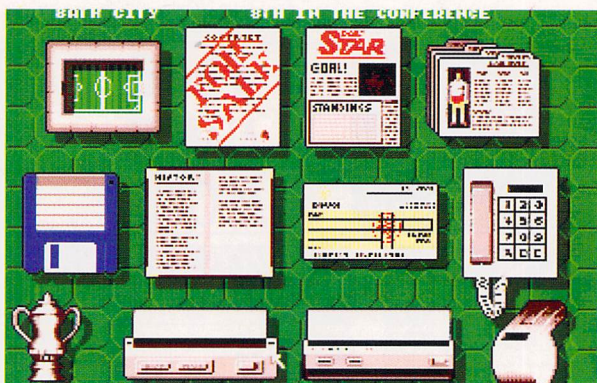
In single-player mode the game is really rather good, but

when you realise up to four of your mates can have a go as well, you know you're in for some serious fun. The sight of five of you charging about the same screen, blowing up baddies, collecting the bonuses and trying to destroy each other just has to be experienced. If that's not enough for you, then just try treading on the the Skull icon – this has unpredictable effects from making you move faster or slower to making your explosions very small. You can also pass on the effects to other players by running



■ You have to kill the monsters before they kill you. Some have homing instincts and move very rapidly, while others have the ability to pass through walls.

■ Here you can see the main screen, where you can access all the sections of the game.



It says on the box: "The only one good enough to be called *Premier Manager*." Hmm. Ever since the early days of computers such as the VIC-20 and the Spectrum, footy management games have almost without exception been similar in style. Text-based, number crunching dinosaurs which are about as much fun as typing your tax returns into a spreadsheet.

So what's different about *Premier Manager*? The answer to that is – presentation. Gremlin have gone for the recently trendy option of presenting everything via a set of icons, as with games such as *Championship Manager* and *Leeds United*, but this game is far more clearly presented than any previous game on the ST. The colours used are easy on the eye, and the game is

very quick. The main screen of the game presents you with various icons, enabling you to access the many different areas of management – see the picture above.

Right from the start, it is apparent that Gremlin have left no stone unturned as far as detail is concerned – the word here is comprehensive. Without making the game too difficult to follow, every imaginable feature has been included, from transfer markets to club finances, from your managerial history to ground improvements. These options generally produce sub-menus, with a number of small icons which can be used to call up various aspects of footballing life.

You must start off the game by sorting out your internal affairs.

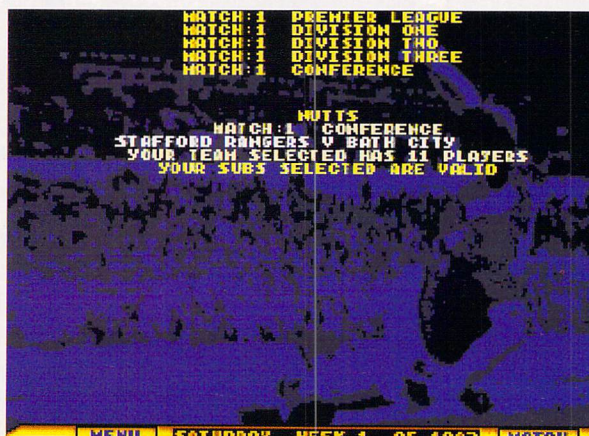
PREMIER

As well as sorting out your staff, such as your coach and physio, you also need to look after your ground. This involves improving its safety, keeping your supporters' club happy, and selling advertising space to companies. The space is sold in batches of several weeks at a time for large amounts of money, so an eye must be kept on the advertising screen to make sure that no space is blank at any time.

The speed of play can be adjusted as required, from snail's

pace to ultra-quick. If you intend to make some team changes during the match, however, it's not a good idea to zip through every game at high speed. If an incident occurs during the game which requires your attention – such as an injury to a player – the game is paused as it waits for your input.

The best feature, though, is the ability to adjust each players' skills individually, and not stick them into specific groups of mid-field, defence or forward. This way,



■ Occasional digitised graphics like this add to the presentation - but why didn't Gremlin use the spare memory for the in-match graphics?

BLASTER



into them. Whether you're in single or multi-player mode, you have to plug your joysticks into an adaptor that's supplied which plugs into your ST's parallel port.

The graphics are nothing out of the ordinary, although the sprites are well-animated and have that certain endearing, cutesy quality that's likely to keep you coming back for more. Gameplay could be better – it can be jerky and unre-

sponsive. Despite this, *Dyna Blaster* is a joy to play.

Verdict

Dyna Blaster is a top-notch arcade adventure which is very addictive, incredibly frustrating and fantastic fun to play – with five players it's sheer mayhem. This is a game to keep coming back to time and again. Virtually a classic already.



■ Explosive action *Dyna Blaster* style. To be this good takes... a wicked joystick and some friends who are just a bit worse at the game than you are.



■ Another *Dyna Blaster* level and yet more baddies to blast into oblivion – by this stage you're having so much fun that it hurts.

Don't forget your power-ups

There are various power-ups located on each level which can vastly improve your chances of survival. Here they are in full

BOMB: gives you the opportunity to collect another bomb

CHARACTER: gives you an extra life

FLAME: collect this to make explosions bigger

JACKET: you become immune from explosions

PAINTED BOMB: enables you to pass through bombs

PAINTED WALL: enables you to pass through walls

REMOTE CONTROL: bombs don't go off automatically, but are triggered when you press the Spacebar

ROLLER SKATE: the game becomes faster

BY ROB MEAD

Dyna Blaster

£39.99
UBI Soft ☎ 081 343 9055

Highs

Brilliant arcade adventure with cutesy graphics. Astounding multi-player game.

Lows

Control is a bit jerky but you soon get used to it.

MANAGER

players can be tweaked – as in real life – to play in several roles, such as midfielders who can attack, and defenders who can play as a sweeper. This is something that most management sims overlook, so, well done, Gremlin.

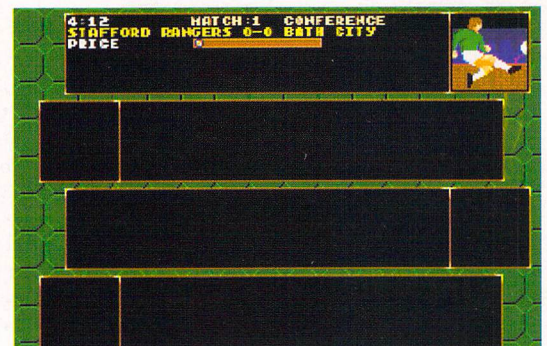
There are, however, some features which could have been better. Although Gremlin have attempted to produce some in-game graphics, they haven't really done very well. Small icons show jerky stop-frame animations of the

action, and the players wear the same coloured strip regardless of their team. The position of the ball in relation to the rest of the field is displayed using a pointer moving along a horizontal bar. This is pretty basic stuff given the power of your ST, and this area of the game could and should have been much improved – as should the sound effects. Also, strange and unrealistic fines are doled out at random intervals, seemingly for no reason whatsoever. This type of fine can hit at any time, and with no warning. The game also bandies around ridiculous amounts of money – play begins in the GM Vauxhall Conference, and you're given a budget of £200,000 (and an overdraft of £300,000). This is far more money than most Conference managers are given, and the player values are similarly over-rated.

Verdict

Grumbles aside, the main game is superb. It's safe to say that most people sitting down to play a footy manager game are going to have a certain

■ A fine example of the in-match screen. Notice the incredible stationary animation – it's not much different to this in the game itself...



amount of apathy, but after a couple of hours of solid play *Premier Manager* changes all that. Merely calling it addictive doesn't do the game justice – it's only when you look down at your watch and ten minutes has turned into four hours that you appreciate the quality of the game.

If you're a fan of a particular football team you probably recognise the feelings you get when you're team is playing. Despair when you're losing, absolute elation when you're winning. The difference here is that if you're losing, you can actually do something about it. Instead of shouting "Don

Howe, you're a crap coach" at the screen, you can sack him and hire someone else in his place. Every single aspect of the game is under your con-

trol, and this, combined with the excellent presentation, pushes every other footy sim on the market into the Sunday League.

BY ANDY NUTTALL

Premier Manager

£25.99
Gremlin ☎ 0742 753423

Highs

slick interface, comprehensive options and high speed make this an addictive game.

Lows

Small gripes include the money levels and silly fines.

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DV3: SCUNTHORPE UTD AT GLANFORD PARK	DV3: HALIFAX
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PAGE 1 OF 4 PLAYING ON SATURDAY

■ Listings of forthcoming matches (such as this one in the FA Cup) are just a mouse click away.

LETHAL

WEAPON



■ Our man Mel wanders around the office looking for the toilet. Meanwhile, the secretary asks how many sugars he wants in his tea.

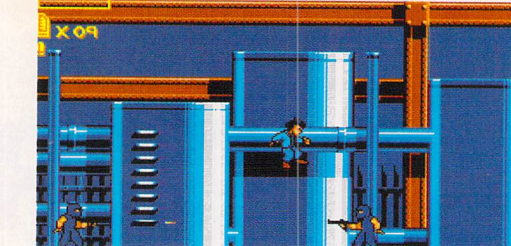
It's seemed inevitable since the first *Lethal Weapon* film came out that there would be a game based on it. They've all been popular films which can easily lend themselves to a game, so why has it taken two sequels to finally get round to it? Well, never mind that, it's here now in tandem with the third instalment of the series. Now the business of licensing films for games is one that should be exciting – films offer an excellent chance to tie in the game plot with that of the film, you've got ready-made characters from the film to represent in pixel form, all the scenes are already set, there's an atmosphere to be conjured up. So why is it that film tie-ins so rarely manage to be any good? Let's see if this one's any different.

From the start it's got a good chance of being a winner. The films usually involve the two characters wandering along the street and bumping into an international drugs ring smuggling something into the country, so there are no confining plot restrictions. They're action packed affairs, there are bundles of humour, the characterisation is superb (well, Mel Gibson's

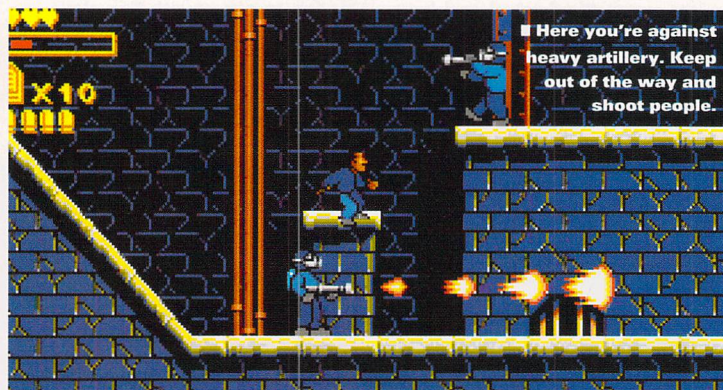
mad-man-with-a-police-badge routine is the high point of most of the films), and it all looks thoroughly suitable for a game.

Loading it up you first get to choose which of the two characters you want to be. Oh, so it's not a buddy buddy affair like in the films? Well, maybe that wouldn't have been such an easy thing to weave into a game, and it may not have been so exciting anyway, so let's move on. Next you're presented with a platform scenario. That's OK, it's what you'd expect with this kind of film, a good platform thriller with plenty of thrills and spills. Wait a minute, this first level's not very exciting is it? Oh, it's an intro game type thing where you have to go and choose the mission you want to go on. You wander round this office and you can enter three rooms where you're offered a mission that you either accept or turn down. There is a fourth room which is marked classified, and you can't enter here until you've completed the other missions. Aha, a goal – looking good.

So let's try this one. Blah blah dockside, blah blah container filled with money, blah blah drug rack-



■ Whoah. Try jumping on them if all else fails. The hair-style's quite realistic, isn't it?



■ Here you're against heavy artillery. Keep out of the way and shoot people.

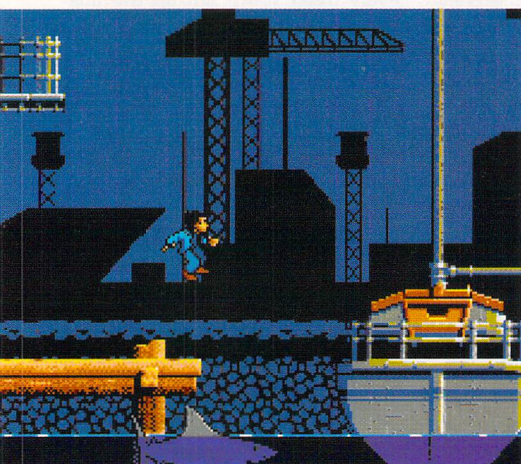
teers – sounds perfect, where's the gun? So off you go down to the dockside on your first mission. It's all standard platform type stuff. You jump around shooting baddies, while they jump around trying to shoot you. On the way you can pick up more ammunition and weapons, there are a few secret rooms and locations, and you can also fight hand to hand too. And it's, er, boring. It's just like a typical platform game except the backgrounds are dull, the action is non-existent and the sprites are poorly animated. No, let's try another mission, maybe this is just a tame one to get you going. Mission three – blah blah hostage, blah blah steelworks – let's go. And guess what, it's no better. The other mission is another clichéd scenario, and this time you're in the subway where a terrorist group is planting bombs on the line in order to hold the city to ran-

som. And again it's standard platform stuff, with no surprises.

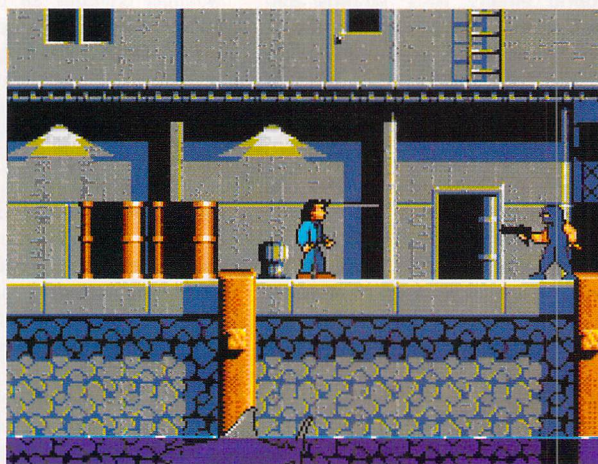
But let's get this straight, it's not a crap game. There are elements of it which are rather good in fact. It's just that it's nothing special, and if you're parting with £25 you want to be sure that you're getting something worth while, something that will stick with you, that you'll want to carry on playing for ages. This isn't it.

Verdict

It's another case of nice film, shame about the game. Some brilliant potential for an action packed affair has ended up as an average platformer that never really picks up into anything truly exciting. It has its moments, sure, but not enough to make it a recommendable game. It's undoubtedly going to be a hit, but it really doesn't deserve to be.



■ On the dockside at night. You have to avoid the shark, of course, but you can swim in the water and hop between the boats.



■ On the dockside Mel faces someone who looks like an enemy. You can tell by the balaclava and the gun. It's not worth taking any chances in this job, so shoot him, and ask questions later.

BY TIM TUCKER

Lethal Weapon

£29.99
Ocean ☎ 061 832 6633

Highs

Quite manic and a good challenge. A competent, straightforward platform game.

Lows

It's not at all original, it looks smooth but uninteresting, the animation is limited and it lacks any real excitement.

62
STEATING

RICOH PCL5 LASER PRINTER

Ricoh UK Ltd is part of the worldwide Ricoh Group of companies, originally established in Japan, in 1936. With a turnover of over \$5 billion and 37,000 employees, Ricoh have been producing computers and peripherals since 1971 and are the world's second largest manufacturer of Laser Printer engines. Ricoh have employed their expertise to produce a 'first' in laser printers for the world market, the LP1200 with FLASH ROM.

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PCL 5 Printer Command Language	-	YES	YES	YES	YES
HP-GL/2 Vector Graphics included	-	YES	YES	YES	YES
Resolution Improvement/Enhancement	YES	YES	YES	YES	YES
Standard RAM	0.5Mb	1Mb	1Mb	1Mb	2Mb
Full A4/300 dpi graphics with standard RAM	-	-	-	-	YES
Warm Up Time	<45 secs	<60 secs	60 secs	33 secs	45 secs
First Page of Text Output	<20 secs	<40 secs	34 secs	20 secs	<15 secs
Document Description Language included	-	-	-	-	YES
Flash ROM	-	-	-	-	YES
Upgradable Firmware	-	-	-	-	YES
IC Card Slot	YES	-	-	YES	YES
Scalable Resident Fonts - in HP LJ III Emulation	-	8	8	0	8
Resident Bit-Mapped Fonts	11	14	14	16	14
AGFA IntelliFont Scalable Font Technology	-	YES	-	-	YES
HP LaserJet III Emulation Included	-	YES	YES	-	YES
EPSON FX Emulation Included	YES	-	YES	-	YES
IBM ProPrinter Emulation Included	-	-	YES	-	YES
Standard Tray Capacity	100	70	100	200	100
Protective cover on standard tray	YES	-	YES	YES	YES
Cost per copy**	1.65p	2.00p	1.71p	1.64p	1.65p
Min-Max Paper Weight in gsm	60-157	60-105	60-120	60-131	60-157
Ability to print on OHP Film	YES	YES	YES	YES	YES
Ability to print on card (157gsm - Manual Feed)	YES	-	-	-	YES
Standby - Noise Level	<40dB	31.7dB	<35dB	38 dB	<38dB
Printing - Noise Level	<50dB	43.3dB	<46dB	50 dB	<48dB

**As quoted by manufacturers - 2/4/92

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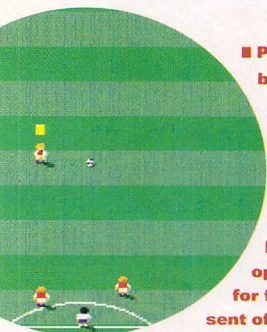
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SENSIBLE SOCCER V1.1



■ Possibly the best new feature here is the inclusion of penalty cards. No longer can you afford to hack at your opponent's legs for fear of being sent off...

Proving that you can't keep a good idea down, the lads at Sensible Software have attempted to build on the phenomenal success of *Sensible Soccer* by releasing this reworked and revamped version.

Sensible Soccer presents you with a bird's eye view of the pitch, which is similar to *Kick Off 2* except that more of the action is crammed on to the screen, consequently the players are quite small, the screen doesn't have to scroll very far to cover the whole pitch, and the whole game is slightly less manic than *Kick Off 2*. Also, creating passing manoeuvres is easy, because you can instantly see more of your team. Hardened *Kick Off* fans don't agree with this, of course. They say

that frenetic action is what it's all about, and passing is easy because of the scanner option. Also, *Sensible Soccer* doesn't enable you to control your goalkeeper, whereas *Kick Off 2* offers you that option. Anyway, the two schools of thought remain – *Kick Off 2* appeals to the speed merchants, and *Sensible Soccer* appeals to more strategic players.

Although *Soccer* was released to critical acclaim, you might have felt that some of the features were a bit limited – the lack of yellow cards and the inordinately stupid goalkeepers being the two main bones of contention.

Sensible Software have taken the opportunity to alter the line-up of teams following recent world events. Instead of the once powerful USSR, we are now presented with a selec-

tion of small-fry teams such as Latvia and Estonia. Still, this makes winning the World Cup a bit easier for the rest of us. Also, the inclusion of the new back-pass rule is set to cause as much controversy in the computer world as it did in the Football League.

Playing the new game is an absolute dream. Gone are the days of goalkeepers who constantly drop the ball in the path of an opponent, and the regular annoyance of an ST player hacking you to pieces without so much as a ticking-off. The changes are very subtle, but they add a surprising amount to the gameplay.

Verdict

If you haven't played *Sensible Soccer* before, then it's about time you did. If you

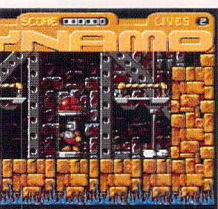
■ Pass back to your goalie? No fear, not now. If you do, all he can do is either kick it away, or let it go – and if it's heading for your goal, you know what might happen...



SUPER ALL STARS

Five games for the price of one, how can you beat that? The problem is that software houses usually use compilations as an excuse to fob us off with a couple of lemons in with the good stuff. Have the Codies done any fobbing-off with *Super All Stars*? Here's the evidence.

Captain Dynamo



■ Is it a bird? Is it a plane? Is it an overweight moggy in a Batman suit? No it's... Geriatric jumping about from the world's oldest superhero.

Captain Ernest P. Dynamo, retired super-hero, has to rescue the world's diamond collection from the arch-villain Austen Von Flyswatter. The names are a tad on the sad side and the plot is so old it needs leather patches on its elbows. The gameplay lacks originality since this is merely a straight platform game. However, the result is rather entertaining. The Captain is endearing though he does look like an overweight cat in a Batman suit. All in all, *Captain Dynamo* is something of a winner.



■ If only CJ had stayed in the USA, we would never have had to witness all this.

CJ In The USA

Oh dear. The first CJ game – *CJ's Elephant Antics* – was almost a winner, in a platformy kind of way. This next outing is a duffer beyond the dreams of duffness. The wretched pachyderm leaps between platforms, collecting bombs and food, shooting baddies with his trunk and generally has a boring time of it. The controls are awkward, the backgrounds bland, and the whole thing extremely irritating. It should never have seen the light of day.

Magicland Dizzy

This game remains one of Dizzy's best adventures with the usual blend of platforms and puzzle-solving. The graphics are bright and breezy – apart from that damn fool egg – the music is bouncy and bubbly and the whole thing is, er, some other thing beginning with "b." Dizzy is on his way to

being something of an institution and this little romp does nothing to tarnish his reputation.

Steg The Slug

This is a sort of *Lemmings*-esque puzzle save-'em-up. Steg has a family of young slugs to support. They eat maggots and all Steg has to do is to move them from where he and the maggots are, to where the ever-hungry baby slugs are. Thankfully, Steg looks nothing like a slug and is rather lovable. The puzzle element is sufficiently intriguing to keep you coming back for more – overall this is another winner. It is that rarest of things: an original idea for an ST game.

Robin Hood: Legend Quest

Sadly this game is utter tat. It's an arcade adventure which, alone in this compilation, was never released on its own. Why not? Because no-one would have bought it. Ever. The plot, as you might imagine, involves the Sheriff of Nottingham, Robin Hood and dear old Maid Marian. The former has the latter and Robin has to get her back. But if you can be bothered to help him, you're made of jolly stern stuff. It looks shabby, it plays shabbily and by golly, it is shabby.

already have the game, then Sensible Software are happy to replace your disks with the new version for a mere £4.95 – just send your original disk with your name and address back to Sensible Soccer Offer, Unit B3, Edison Road, St Ives, Huntingdon, Cambs PE17 4LF, making your cheque payable to Sensible Soccer Offer. Either way, this is a game which should be in every discerning game player's collection.

BY ANDY NUTTALL

Sensible Soccer v1.1

£4.95 for upgrade
£25.99 for full version
Renegade ☎ 071 702 3644

Highs

Slack presentation, great graphics, smooth scrolling and spot-on sound effects.

Lows

Penalty taking is still difficult, and the referees are still a bit too soft.

Verdict

So there you have it. Three little treasures, a poor one and a bit of tat. A bit of mental arithmetic shows that at £25, this equals three games for the usual £8 budget price with two bits of tat thrown in for a quid. Not all that bad, really. If you're young and naive you might get some enjoyment from the pack – even if you're an old cynic you might, unless you've had a complete sense-of-fun by-pass.

BY TIM NORRIS

Super All Stars

£24.99
Codemasters
☎ 0926 814132

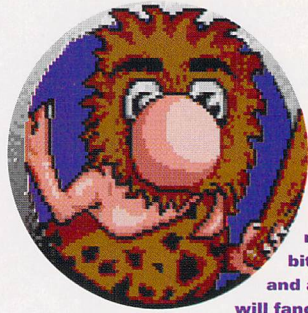
Highs

Three of the five games almost justify the asking price on their own.

Lows

Two of the games are tat so if you own one of the others, there's no value for money.

BIGNOSE THE CAVEMAN



■ What an attractive fellow I am, I'll just polish my nose a bit harder and all the girls will fancy me.

Stuck in a draughty cave with nothing to eat but rocks, Bignose the Caveman is looking forward to a really terrible Thanksgiving. The only way to fill his rumbling gut is to trawl through his dinosaur-infested island and catch himself a pterodactyl roast.

Bignose the Caveman is a cutesy arcade adventure that's reminiscent of all those *Dizzy* games. You have to guide your hero along a series of themed levels, collecting bonuses and rocks and clubbing anything that gets in your way. The baddies include spiders, snakes and a host of small dinosaurs. At the end of every level you meet a major baddiesaurus who can be killed by throwing rocks at it, but for diffi-

cult cases you can always turn to your faithful friend and secret weapon – your nose.

If you like *Dizzy* games you're bound to love this – it's great fun, it's cute and dead easy to play. The graphics and sprites have a real cartoon feel and the game has a brilliant sense of humour – even if it is limited to one joke. There are also plenty of quirks to keep the game-play interesting. For example, hit a certain rock and your joystick swaps orientation – left becomes right and vice versa.

Verdict

A great afternoon's entertainment, but it's addictive enough for you to want to

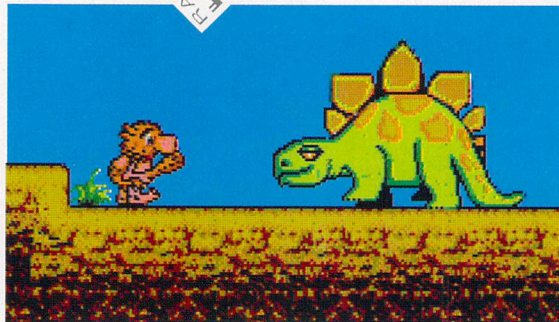


■ "Little Miss Muffet sat on a tuffet... Oi! This space is reserved for nursery rhyme spiders and girlyies only, not big noses." "That's it. I don't want to be in this game any more."

play again for the sheer hell of it. *Bignose* is hardly original, but what do you expect for the money?

Codemasters obviously know they're onto a winning formula with *Dizzy* and his pals – *Bignose* is just another member of the gang.

■ "I haven't got a big nose. It's horizontally challenged... they just couldn't fit the name *Horizontally-challengednose the Caveman* on the game box."



ESTIMATING
78

BY ROB MEAD

Bignose the Caveman

£7.99
Codemasters
☎ 0926 814132

Highs

Fun, cartoon graphics with a cutesy sense of humour. Brilliant game-play. You can't help liking it.

Lows

You could finish the whole thing in a couple of hours.



■ Pit Fighter – he's mean, he's tough, he wears his underpants over his head.

With a title like *Superfighter* you could be forgiven for thinking that all your beat-'em-up fantasies were going to come true – and, well, you'd be wrong. Ocean have merely taken three of their old games – *Final Fight*, *Pit-Fighter* and *WWF Wrestlemania* – and given them a new lease of life by sticking them in the same box.

Final Fight

You play Haggar, or one of his pals, as he fights his way through the mean streets of Metro City. You're attacked by so many people you sometimes feel someone's put a "Kick Me" sticker on your back. Unfortunately for the baddies you're an expert at the Back Drop and the Pile Drive and soon show them who's boss.

All this action takes place against a backdrop of urban decay in warehouses, underground stations and back alleys. Of the three games

included in *Superfighter*, this is by far the best. The graphics are good and the control mechanism is a cinch. The sprites aren't particularly well-animated, but then that's not your main consideration in a beat-'em-up, is it?

Pit-Fighter

When you're tired of fighting in tube trains, how about some motorcycle throwing? *Pit-Fighter* is apparently one of the world's favourite illegal sports and you get to play Ty, Kato or Buzz in a one or two-player game.

There are no pretensions to plot in this one, you just bash away at eight different opponents in a series of no-holds barred contests, with the ultimate aim of becoming the pit-fighting champion. If you're victorious at the end of the bout you're awarded a series of bonuses – you get more money in your fight purse, a knockout bonus and a brutality bonus. This

game really is the pits. The graphics and sprites are crap and the whole setup is so tacky you just can't wait to switch your ST off. A total bummer.

WWF Wrestlemania

You've bought the T-shirt, eaten the cereal, played the pop record and watched them on *The Word*. Hulk Hogan and his pals are simply the Osmonds for people who drag their knuckles on the floor when they walk.

Ocean are obviously trying to get as much mileage out of this game as they can before the whole WWF bubble bursts because it also appears in their *Dream Team* compilation, reviewed in *STF* 42 – turn to page 66 to order your copy if you missed it.

You play Hulk Hogan, the Ultimate Warrior or the British Bulldog in a series of tussles against Sgt Slaughter and the Warlord, among others. The game has a reasonably good

control mechanism and some neat touches – you have to waggle the joystick like mad if you're going to stand a chance of beating your opponent during, say, a grappling session. Despite this, *WWF Wrestlemania* is still a shoddy exploitative exercise.

Verdict

This is a sadly average compilation – none of the games is anything remotely special and *Pit-Fighter* is definitely past its sell-by date. For beat-'em-up addicts who can't wait for *Street Fighter 2* only.

BY ROB MEAD

Superfighter

£25.99
Ocean ☎ 061 832 6633

Highs

Good for a quick bash before breakfast. *Final Fight* is the best.

Lows

None of these is going to be able to hold its head up when *Street Fighter 2* comes out.



■ "Give us your money or we'll kkk your head in." "Alright, alright, so you're the ticket inspectors."

ESTIMATING
52

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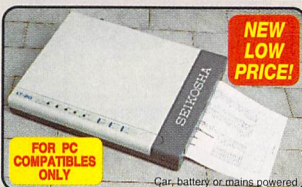
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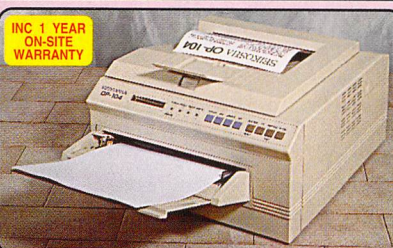
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TECHNOLOGY

Turn to page 44
for our huge
printer roundup

■ The 60 line Test Print provides a full A4 page for the HP4 laserprinter to output from Protex. Since there isn't an HP4 printer driver yet, we used Protex's standard Laserjet 2 driver which produced a respectable but dull page in the default Courier typeface, the other typefaces are more interesting.

get the best control from your word processing software you really need a suitable printer driver. The HP4 is so new that no driver for any ST program has been completed yet, but at the moment drivers for Protex, Callig-

rapher, and That's Write 2 are already being prepared.

The tests

To print the STF Test Page it took 30 seconds from clicking

on the "Print" button in Protex to the page dropping into the recessed top tray on the HP4. Selecting alternative typefaces resulted in far better printouts, the other 44 fonts are much more interesting and stylish than the default typewriter-style Courier typeface, and they still only took the same time to output. To test the printer with graphical output, we output a page of PageStream which took just under eight minutes – reasonably fast compared to the usual time of between 12 and 24 minutes.



FINE GRAINS MAKE FINER PRINTS

Here are those essential ultrafine details...

The Laserjet 4's printer engine was designed to handle 600 dpi output, and can automatically translate 300 dpi commands into 600 dpi prints without any special printer driver or any extra work from you. The "Microfine" toner powder used in the laser printer is specially formulated and 20 to 30 per cent smaller than particles used in typical laser printers.

These features combine to give more precise dot placement and smaller dots, resulting in better looking printed output.

Four times the amount of image data uses much more memory and should logically mean longer transmission and processing times, but HP have used data compression and fast processing RISC chips to maintain the customary speed of laser printers. In fact, the HP4 can print eight pages per minute; pretty fast considering

that most lasers work at four or six pages per minute. These test times refer to the continuous printing (photocopier style) of the same page, but the production of the first page takes longer than the copies; how much longer depends how complex it is. The HP PCL5 printer language used in the 3 and 3P has been optimised for faster graphics in the HP4, and supports a PostScript Level 2 upgrade cartridge which also offers faster than usual PostScript printing.

Is there an alternative?

No, there isn't any direct competition yet, but 600 dpi is bound to be the new standard for lasers in 1993, and, no doubt, the other manufacturers are already hard at work. The HP4 has to be a **FORMAT Gold**, it is a major new printer and widens the gap between inkjet and laser quality. The quoted official price of the machine is high at present, but it's already on-sale at around the £1,200 mark. If tradition is anything to go by, HP usually follow up with a "personal" model P of their laser printers, so perhaps we can look forward to a slightly smaller and cheaper cut-down model 4P before too long.

BY PETER CRUSH

SCANNING

Turn to page 14
to see how you can
use scanners in
animation!

external extra software, and not built into the main program, so this is a plus for Power.

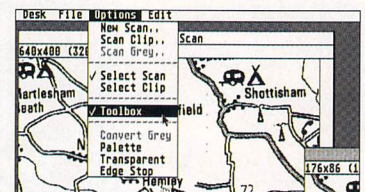
Before you take a scan, you have to set the size of the desired image in either dots or inches; you can set the height and width, although the width cannot be more than the four inches of the scanning head, and available memory may also limit you. You can save to disk in the

file formats of Degas P13, Degas P11, GEM IMG and C Source for mono scans, and greyscale scans can be saved as Degas P11, Neochrome NEO and C Source. In addition, Power's own PWS PowerScan format can be used, and future editions of the software may incorporate the IFF format too. If you want to modify the image before you save it, there are a set of tools to enable you to do some rudimentary editing – for anything more complex you would probably be better off using a separate drawing program. For simple adjustments it's convenient to have the tools handy in the program.

So how does the Power Scanner measure up? The

hardware side of all scanners is much of a muchness; many suppliers use the same scanning head. On the software side of things, most suppliers have plumped for bundling Touch-Up, which is an excellent combined scanning, drawing and editing program from Migraph.

Where the Power program cannot rival the complexity and completeness of Touch-Up, it scores well for being very direct, fast and easy to use, and with one or two unique features it stands up well. If you just want to scan images quickly, cleanly and without fuss, the Power Scanner does it with aplomb, and provides you with very good results.



■ The Toolbox enables you to draw lines, shrink the images, magnify images for pixel editing and flip the pictures in all directions.

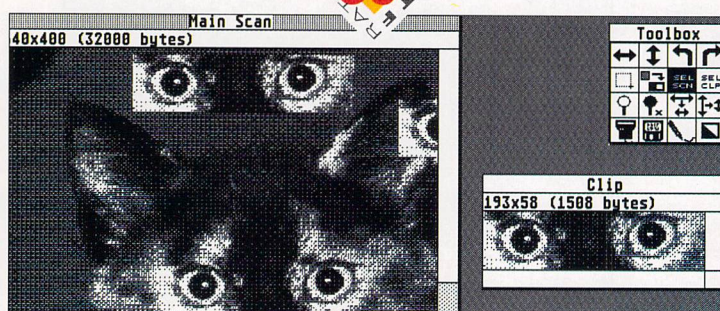
What else is there?

Other scanners for the ST absolutely abound: Golden Image Scanner, £119.99, Ladbroke Computing ☎ 0772 203166. Naksha Scanner, £116.33, Naksha (UK) Ltd, ☎ 0925 56398. Daatascan Professional, £89.95, City Beat, ☎ 0234 327422.

It's good to see a "British" product (apart from the Taiwanese head, that is). The software is simple to use and lacks the finesse of Touch-Up, but has some unique good features of its own.

BY PETER CRUSH

■ The Power scanner also gives you the ability to load in from disk pictures in any number of file formats; once you're in the windows you can mess around with them to your heart's content.



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PC FORMAT
Expect the unexpected!

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COOL FOR CATS

IMAGE CAT V2.1A

MACHINE: ALL STs, MEDIUM AND HIGH RESOLUTION

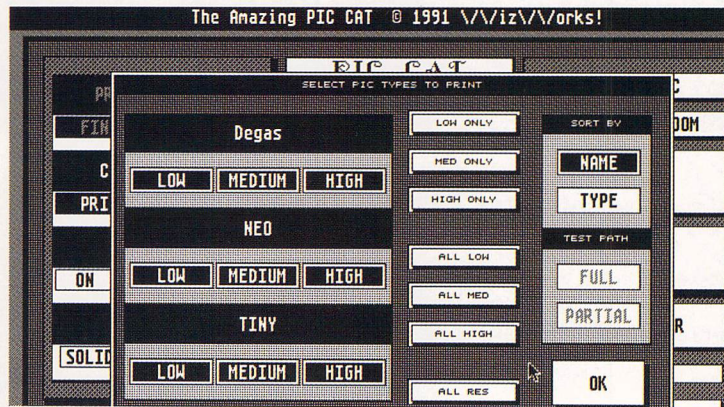
PRICE: £24.99

FROM: LADBROKE COMPUTING INTERNATIONAL

CONTACT: ☎ 0772 203166

OK, so you need to find a piece of clip-art. You're pretty sure it's on one of those disks which you plonked on top of the wardrobe ages ago, but which one? To add to the confusion, the disks all have unhelpful titles like "Clipart Disk 1" or just the name given to the disk by the PD library where it came from. The old-fashioned way to solve this problem is to load up an art package and work your way through the disk until you find the picture you need. The trendy new way is to use this excellent package from Wiz Works.

Image Cat is actually not one, but seven separate programs. Each self-contained program deals with a different set of picture formats. They can all be launched from the supplied "Cat's Paw" shell. What *Image Cat* does is to look at all the picture files on a disk and print out a small rendering of each one using a special,



■ This picture filter in PIC CAT conveniently enables you to select exactly which picture types are printed.

non-GDOS, print routine. Below each picture is printed its name and its size in pixels. At the top of each page is printed a title of your choosing (probably something like the disk's title) and the pathname. If you want a quick look at the pictures on an individual disk, then you can use the supplied slide show program. This displays every picture in a defined path, together with its name.

Compiling the catalogues is a long process if you have a lot of artwork but everything possible has

been done to make life as painless as possible. If you have standard fanfold paper or a cut sheet feeder you can define a path for printing, hit the "Catalogue" button and retire for a well-earned cuppa.

Printer support is acceptable, if not extensive. The bias is towards inkjet and laser printers, although standard Epson FX and LQ machines are supported. The manual, however, needs updating, so check out the update documentation on the disk. It would have you believe that there are only three cat programs when, in fact, there are seven. The program it refers to as *IMG Cat* has been renamed to *Tom Cat* in the current release. No mention is made of the other four *Cats*. However, the descriptions of general operation are adequate and clear. You can apply what you learn to the extra programs since they are all very similar.

Care must be taken when cataloguing .IMG files produced by Atari's *Hyperpaint* program – files saved with a colour palette do not print correctly. If you want to save with colours, it is better to use the *Degas* format which can be dithered and printed correctly.

The shell program used to launch the programs has six *Cats* installed, but you need to run *Mac Cat* from the independent program launcher provided within the shell. You can run any of the programs independently from the Desktop and this is probably the best thing to do unless you need to switch between them a great deal.

This is an innovative and useful program under continuing development

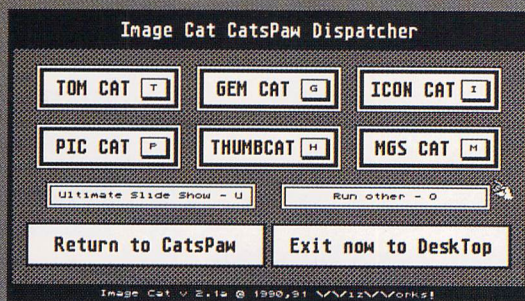
The *Thumb Cat* program is the best place to start since it prints 49 images per page and can give you an excellent, if microscopic, speedy guide to what is actually on your disks. The images are just big enough to see which picture is which so you can make your selection.

Each program has a view option so you can check on individual pictures before printing. A delete option would be good here so you could weed out unwanted art before committing the whole disk to the printer.

This is an innovative and useful program under continuing development. As far as we know, there is nothing else even remotely like it currently available. If you work with DTP programs, then you are likely to find the catalogues produced with *Image Cat* invaluable in locating the right illustrations for your work. If you are simply a picture hoarder, then the *Image Cat* package is a useful aid in keeping track of what pictures you

have. Grumbles aside, at £24.99 the package is excellent value for money.

CatsPaw Dispatcher © 1990,91 \\v\iz\works!



■ The "CATS PAW" shell only shows six of the seven available "CAT" programs. All of the programs can easily be launched from the Desktop.

THOSE CATS IN QUESTION

Image Cat is comprised of seven individual programs that you can run from the Cat's Paw shell

1. **TOM CAT.** This program (referred to in the manual as *IMG Cat*) handles .IMG, .PI3, .PC3, .PCX and .IFF file formats. You can choose between 6, 12 or 15 pictures per page. This is a great one to use for large .IMG files; they are scaled down and their pixel size listed below each box.

2. **GEM CAT.** This program catalogues any .GEM vector files

you may have. The small, non vector .GEM files saved by some programs are carefully ignored.

3. **PIC CAT.** This program catalogues colour pictures in most formats. A useful bonus here is the compatibility with .TNY formats. Many PD libraries use this compressed format for their clip-art disks. Also covered are *Neochrome* and *Degas* files. Colour files are scaled and dithered for optimum print-out.

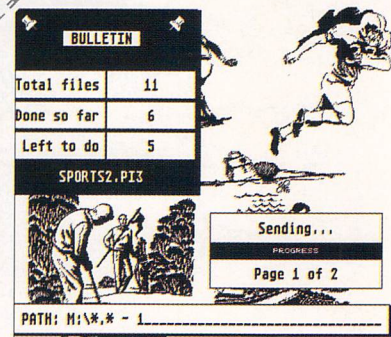
4. **THUMB CAT.** This program is identical to *Tom Cat* in its file coverage. It can print up to 49

small images per page. This makes it ideal for building up a quick reference guide to your images... provided, of course, you're handy with a magnifying glass!

5. **MGS CAT.** If you own the *Mug Shot!* program you can print out your .MGS files using MGS CAT.

6. **MAC CAT.** This program catalogues genuine .MAC files as well as the "pseudo-MAC" file formats.

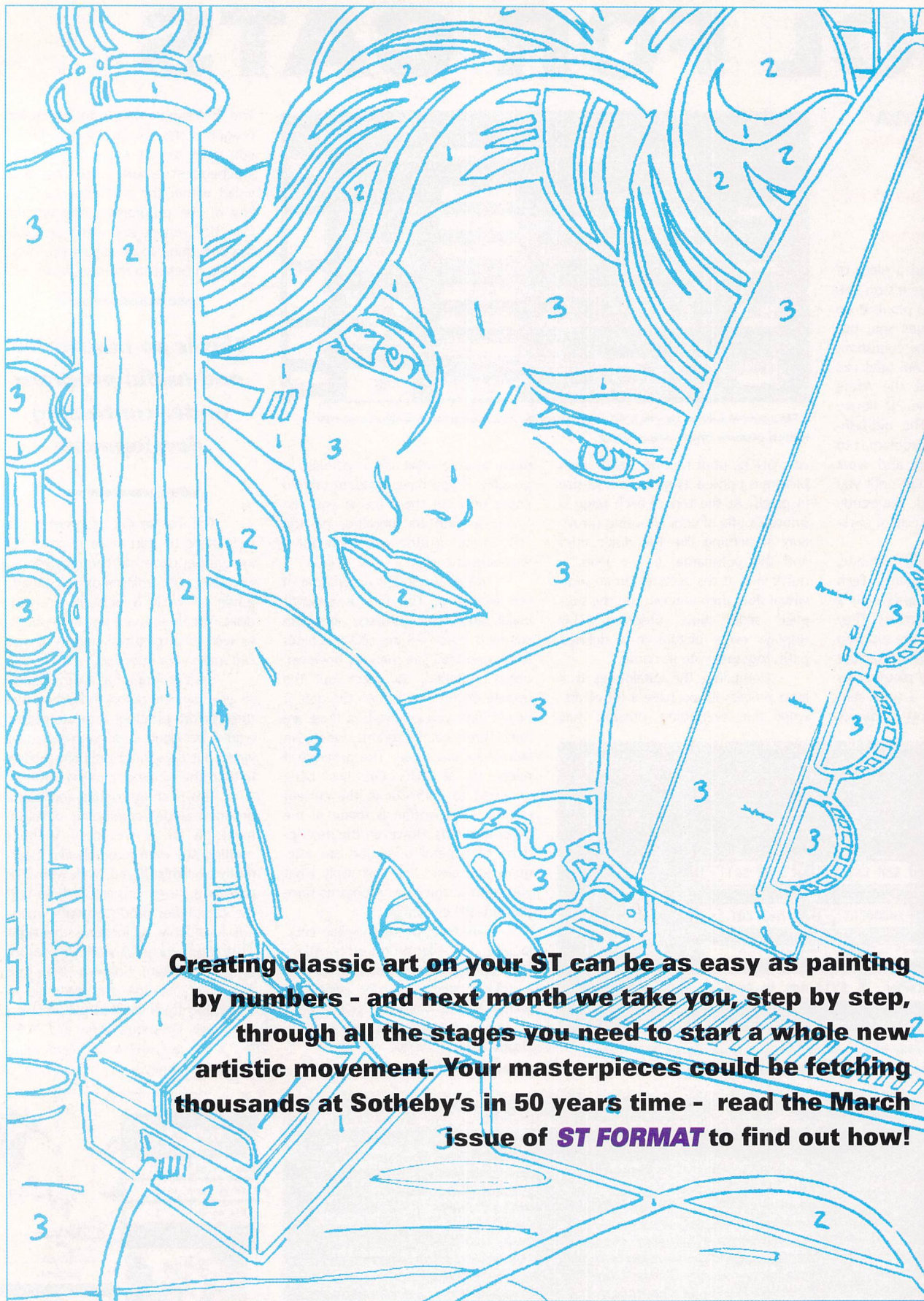
7. **ICON CAT.** This program catalogues icon files produced by *Neodesk*, *DC Desktop*, *Print Master* and *Newsmaster*.



■ You can see the pictures as they are sent to the printer.

BY **ANDY CURTIS**

78



Creating classic art on your ST can be as easy as painting by numbers - and next month we take you, step by step, through all the stages you need to start a whole new artistic movement. Your masterpieces could be fetching thousands at Sotheby's in 50 years time - read the March issue of **ST FORMAT** to find out how!

1= RED GREEN BLUE

2= GREEN BLUE RED

3= BLUE RED GREEN

ST FORMAT ON SALE

TUESDAY 9 FEBRUARY 1993

**ST
FORMAT**

LAPPING CATS

LAPCAT

MACHINE: ALL STs

PRICE: £40

FROM: ARNOR LTD

CONTACT: ☎ 0733 68909

If you want to do a bit of quick word processing on the move, you could do worse than spend £200 on an Amstrad Notepad NC100 – after all, there are no STs available at such a low price that you can take on the train with you. It comes from Arnor, the people who make *Protext* – and,

not surprisingly, they've used *Protext* as the in-built word processor. However, you're likely to soon fill the Notepad's memory – it's a mere 40K in size – and have to delete documents to make room for new ones. What you need is an easy way to transfer files to a bulk storage device. Well, your ST can store as much data as you like using standard floppy disks, so if you could transfer data from the Notepad to the ST, the problem would be solved. And that is exactly what Arnor have

made possible using their Lapcat package. Lapcat comprises a custom-made lead which plugs into the parallel port on the rear of the Notepad at one end and the parallel port of your ST at the other. The lead is around 1.5m long, and being the flat ribbon variety, it rolls up very small if you need to carry it around with you. Also supplied is software on disk for your ST, and a short printed manual which explains the procedure. The Lapcat software is already on-board the Notepad, so you can make your two computers communicate very easily and without fuss. Running the *Lapcat* software on your ST gives a straightforward menu on-screen with the options to Send or Receive files, and by what protocol. You have to specify a file name for the file to be received either by typing it in or using a file selector very similar to that used in *Protext*. Unfortunately you can't use the usual ST file selectors with Lapcat, but the *Protext*-type file selector does enable you to make many useful file maintenance operations.

The transfer of *Protext* files from the NC100 on to the ST enables you

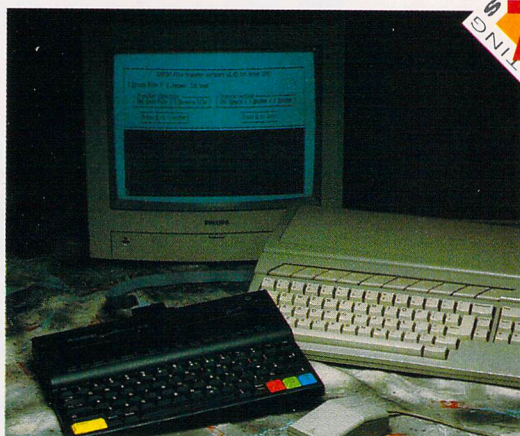
LAPCAT File	
AUTORAIS.ACC	2K
AUTORAIS.DOC	2K
HPLASER4.BAK	8K
HPLASER4.DOC	8K
LAPCAT .PRG	93K
NOTEPAD .DOC	8K
STF_43 .BAK	17K

■ By clicking with the mouse, or typing the underlined letters which are keyboard shortcuts, it is very easy to send or receive files to and from the Notepad and ST. Transfer times are quite fast, and you can speed things further by using a RAMdisk on the ST. It's virtually fool-proof.

to load any document created on the Notepad into *Protext* on your ST, and retaining any text styles. *Lapcat* provides a very easy and effective method of file transfer – if you already use *Protext* on your ST you don't need to do any further conversion. If you don't use *Protext* that must be because you didn't get STF 41 where we gave it away – turn to page 66 to rectify this immediately.

BY PETER CRUSH

■ The flat ribbon lead provided with *Lapcat* has good quality parallel printer plugs at each end, and, according to Arnor, links any two computers. Software on disk and a 16 page A5 manual completes the package, and ensures your ST gets together with Amstrad's Notepad NC100.



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ISSUE 3
JANUARY 1993

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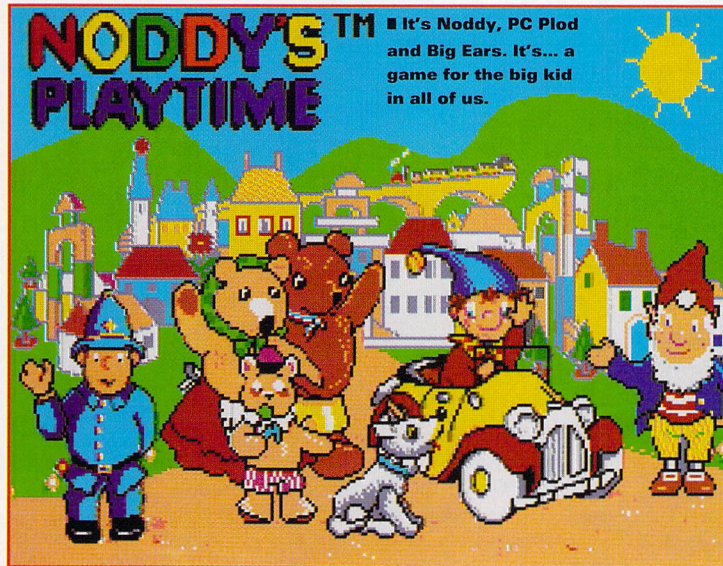
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NODDY'S PLAYTIME



Toytown is never going to be the same again – you won't find Noddy playing with Bumpy Dog or annoying PC Plod anymore. Nope, he's confined himself to his bedroom and spends all day with his ST instead.

Noddy's Playtime is an educational software package with three difficulty levels, aimed at 3 to 7 year olds. There are eight different activities dotted around a variety of locations in Toytown which enable your child to learn different skills – there are counting, memory, observation, letter recognition and matching games, as well as jigsaw puzzles, a maze and a comprehensive art package. All of the different activities are linked together with the aid of Noddy and his little car – children can either guide him around Toytown themselves or they can choose the Autodrive option



from the main menu which takes them straight to the desired activity. The whole package has been designed by educationalists and psychologists with the National Curriculum in mind.

The art package is one of the program's best features and you can access it at all times. There are nine different tool options including pattern fill, line draw and a spray can. Other options on the menu screen enable you to draw using different Noddy characters – Jumping Bean describe it as "electronic fuzzy felt." Because Noddy has separate drawing and menu screens, there's a lot of swapping between the two – this can be very irritating when you want to change brush shapes

during the middle of a picture. Surely a better solution would have been to include all the tools and colour options on the same screen you wanted to draw on?

The other activities are generally rather good with great sound effects and bright, colourful graphics. The package also has a wicked sense of humour – get all the answers right in the market and PC Plod falls into a barrel of water, while you can squash jelly rabbits in the N and B Works factory. However, *Noddy's Piano* is unbelievably difficult at the hardest level – it plays you a tune once, then you have to repeat it from memory with no help whatsoever. Every time you make a mistake Big

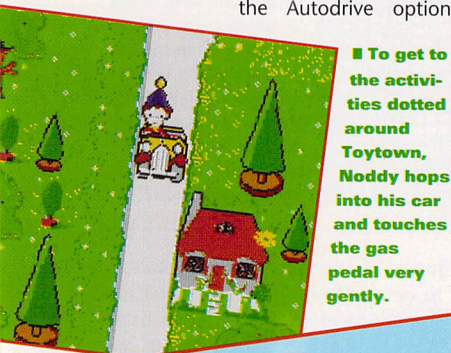
Ears blows you a rasp-

berry and shows you the next correct note – OK for budding Mozarts or kids with photographic memories, but you could end up with tears of frustration streaming down your face because you can't play *Three Blind Mice* without Big Ears shaking his head irritably at you.

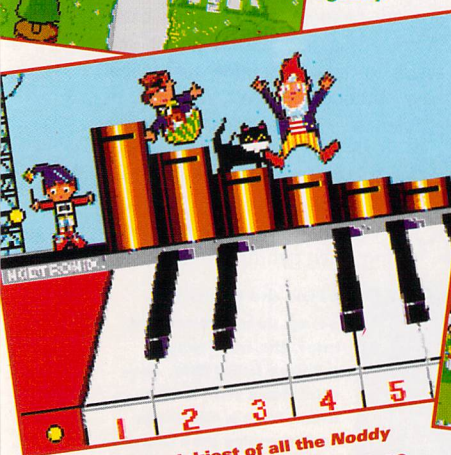
Getting around in *Noddy's Playtime* is no problem because virtually everything is controlled with the mouse. However, there does seem to be an inordinate amount of disk-swaps – every time you leave the Driving option and enter an activity, in fact – you may need to ask a grown-up to help you if you get stuck.

Verdict

Noddy's Playtime has an immediate impact on you – it's bright, cheerful and fun and packed with playability. However, you can't help thinking that some of the activities are too advanced for the target age group, but if you can live with all those disk swaps, this is a hit. **stf**



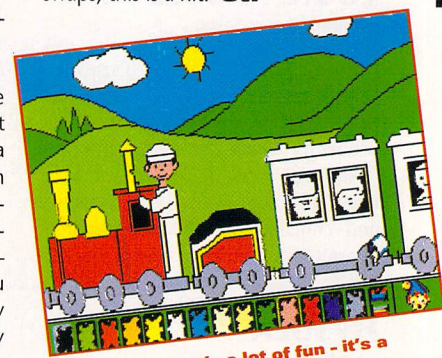
■ To get to the activities dotted around Toytown, Noddy hops into his car and touches the gas pedal very gently.



■ The trickiest of all the Noddy activities is playing back a tune when you've only heard it once. Still, it's worth doing just to see Big Ears fly up into the air.



■ When Noddy's at the Post Office he doesn't have to queue for ages and get to the front as the counter closes. He just posts his letter right away.



■ The art option's a lot of fun – it's a shame the paint options aren't on the same screen though.

BY **ROB MEAD**

Noddy's Playtime

£24.99
Jumping Bean
0602 706707

Highs
Educational and colourful; suitable for kids of all ages.

Lows
Some of the activities are too complex for the target age group.

■ "What can I do for you then, Noddy?" "I'd like three different forms of culinary equipment beginning with the letter 'D.'" "Right you are."

PUBLIC SECTOR

Chris Lloyd and Clive Parker wish to make it clear they don't know Mr Smith, they were both somewhere else last Monday and anyway we've never been to Leeds. So it wasn't us, OK?

GAMES

MEGAPEDE

LAPD - DISK G 247

An oldie but goldie, *Megapede* has mushrooms and a myriad of creepy-crawlies pitted against you. In fact, it's not unlike *Centipede* from this month's Cover Disk. Damn fine version it is, too - it moves smoothly and plays a mean game. The multi-legged monster squiggles down the screen at you while you try to clear a path through the mushrooms and avoid all

the other antagonists. The action is frantic and challenging but not too frustrating. One of the better arcade blasts, with lots of baddies and every few levels some *really* nasty baddies just in case you thought the other baddies weren't bad enough. *Megapede* is Shareware and registration brings a smile to the programmer's face, an improved version in the post to you, with sampled sound effects and a two player mode - groovy.



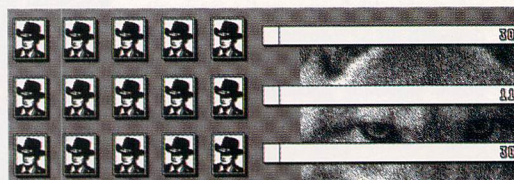
■ Flying in the face of current environmental thinking, *Megapede* has the classic theme - blast the little creeps to kingdom come.

COYOTE DAVE'S POKER

GOODMANS PDL - DISK GD 1701

There aren't many games that run in high resolution but those that do tend to be pretty good. *Coyote Dave's Poker* is no exception, it's a beautifully presented game of poker - you play against five opponents with names like Slime and Tex. Each character has his own personality and if you don't

like them there are six more sets you can load in. There are sampled sound effects and an excellent help function. Plays a pretty mean game of poker, too - ideal to practise on before tackling the real thing and separating your friends and their money. There's also another version of poker, cribbage and *Tetris* on the disk.



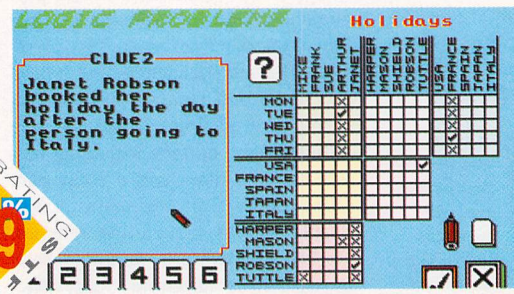
■ Decisions, decisions - fold, raise or make a run for the door? *Coyote Dave's Poker* is a man's game - er, except when the women play, anyway. Howdy, partner.

LOGIC PROBLEMS

LAPD - DISK L 19

Not sure why this is in the games section because it's actually mental torture. The Disk contains horrible logic problems which leave you with the feeling you must be really thick. Solving a problem takes time, patience and concentration, so be prepared. There's is a knack to solving these -

er, logic. You're given a series of clues and a grid where you use that logic business to work out the answers. Sounds a bit on the dull side at first, but it slowly grips you as you grow increasingly frustrated. You know you should be able to complete it and it can turn into a battle royal as you swear you're not going to be beaten by a simple logic puzzle, damn it.



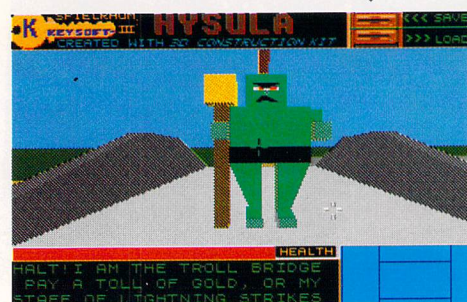
■ If you reckon you're incredibly intelligent, you should try this, it's a devilish logic puzzle devised by the devil. Probably. It's more fun than you might imagine, though. You're just scared you won't be able to do it, aren't you?

HYSULA

LAPD - DISK G 246

Here's another game that's been created using Domark's *3D Construction Kit* and it's one of the best ones going. The plot involves a series of quests and puzzles, princes to vanquish and dragons to rescue - that sort of thing - and there are no surprises either. The objects are detailed and

there are more than the usual smattering of people about, even if they do look as if they are made out of Lego. Everything looks as if the author has taken some time and care over it. As with all *3DCK* games it moves fairly slowly, and you spend a lot of time trying to do simple things like climb stairs without falling off the edge. If you can put up with that, it's worth exploring.



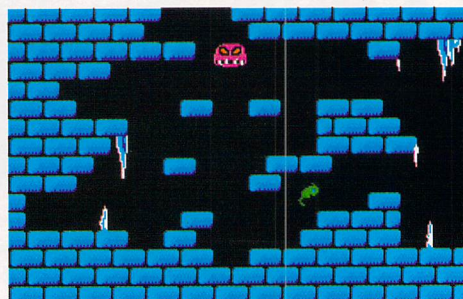
■ A troll chap who guards the bridge - to get past you must pay a toll of gold. To get gold you need to make some using the philosopher's stone, an egg and some lead. To get the stone you need to move the old man who's sitting on it. And so it goes on in true RPG style - you love it, don't you?

FRED, THE FRISKY FLEA

PAGE 6 PD LIBRARY - DISK 714

The one is frustrating to say the least. You control a little green flea chappie who has to jump his way through some screens. Move the joystick left, right or up and a green bar representing your jump strength appears. The longer the bar, the stronger the

jump. You need to be pretty exacting to get the jump right. If you hit the scenery head-on, you bounce back. There are a few nasties about you need to avoid. Sounds reasonably easy although it isn't, actually. It takes a while to suss a possible path and even longer to make it, and to make matters worse it's against the clock. At least you get a warm satisfying feeling when get through a level.



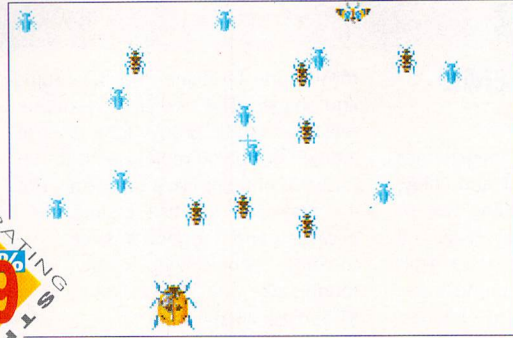
■ Fred the Frisky Flea going, as we found out later, the hard way through Level One. Joystick fans with a light touch face a challenge and if you're less dexterously-gifted, you'll find the whole thing a rather severe challenge, only to be tackled when you're feeling really brave.

INSECTICIDE

LAPD - DISK G 249

Insecticide is another squash-the-bugs affair. You control a ladybird apparently armed with some sort of projectile weapon in a bid to clear a series of screens of other insect life. A moth floats about and if you shoot it you can crawl faster for the rest of the level, it also shouts "Nairobi" when you hit it for some reason. The sound effects are all sampled and rather

smart. When things get too hot you can move your joystick diagonally and fly to a safer bit of the screen, although the joystick response is pretty ropery often dumping you on top of a nasty at the wrong moment. The gameplay style is in the *Llamatron* mould; the enemy constantly moves towards you. It's nowhere near as smooth, hectic or addictive, though. Competent but not outstanding and marred by poor control response.



■ A slave to your instinctive, pathetically human response to the sight of small multi-legged creatures, you try and kill them without hesitation, repetition or deviation. *Insecticide* - a fun-filled game of entomological destruction.

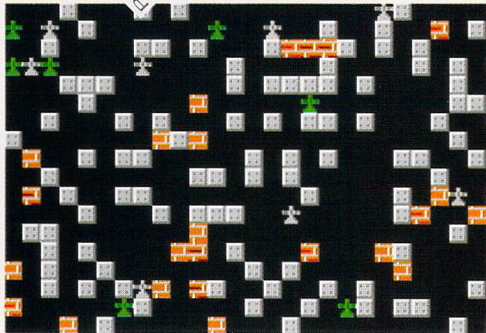
MAZE WAR

STE CLUB - DISK G 27

You've probably seen lots of versions of this game - you battle it out controlling little tanks on a screen filled with walls. This game has a few extras; when you've bought it, a grave is left behind which explodes when it's shot. There are eight players, either joystick-controlled or looked after by your ST, regular STs

use both joystick ports and an adaptor that connects to the printer port. If you have an STE, you can also use its extra joystick ports on the side resulting in eight human players and a truly confusing time for all. The graphics are on the small side and things a tad jerky, but it comes into its own when there's a few of you blasting the hell out of each other. The STE has extra bits and bobs - it's good to see them getting used.

■ Multi-player mayhem, with *Maze War* up to eight players can crowd in front of your monitor, assuming you've got an STE and know that many willing people. The game itself is a frantic blasting mission with frustratingly small tanks - only fun with friends, though.



DOTMAN, DAM TOWN AND MR MARBLE

GOODMANS PDL -
DISK GD 1836

Three games put together by a Mr King using *STOS Basic*. *Dotman* is a *Pacman* clone - copyright be damned. It's playable but not good enough to threaten the hordes of other *Pacman* clones. *Dam Town* is a bit

like *Blitz*; you bomb aliens as they try and destroy a dam. Presented well, but very simple. *Mr Marble* is a platform game where your chap needs to collect coloured marbles in a certain order. You'll play this one the most, it not that good but you feel obliged to complete a few levels and it's not that easy. Not a collection to set the heart racing, although it's bug-free and reasonably put together, the basic game ideas are lacking.



■ *Dam Town* is in deadly danger, it's up to you to bomb the hell out of the aliens. No surprises there, you don't have to enter into free and frank discussions and solve things peacefully, no it's bombs, bombs, bombs all the way to the end.

ART AND MUSIC

ART UTILITIES

FLOPPYSHOP - DISK ART 3412

A disk packed full of graphic utilities including a high resolution 24-pin and 9-pin clip-art printing program, a program for running *Cyber* animations, a sprite animation program and a program for playing .IFF format animation files. The best program of the bunch is *Cartoon* - the sprite animation designer and player combination. The program enables *Degas* P11

pictures to be imported and have sections defined as sprites. This means that you can design your sprites in a standard art package, save them as a *Degas* file and, using *Cartoon*, chop the sprites and save them as an animation file.

The program has no built-in facility for displaying animations but a separate player program is supplied along with source code in both C and assembler. All in all this is an excellent small utility.

■ See that bloke, he's a sprite, he is. Using *Cartoon* you can define up to 16 sprites and then save them as a looping animation file, and each sprite can be as large as a full screen.

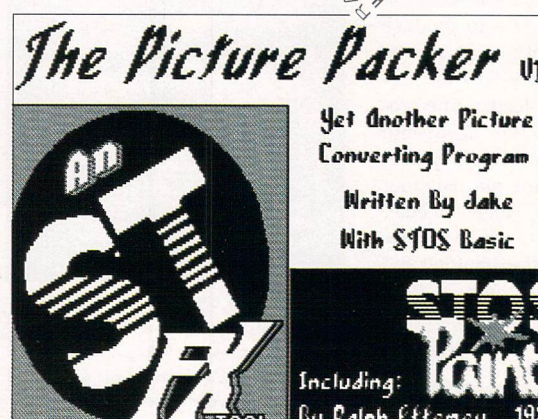


PICTURE PACKER

PAGE 6 PD LIBRARY -
DISK ST 712

A neat idea for a utility written in *STOS* and compiled to run as a program (so it won't run under TOS 2 or above unless fixed with this month's *STOS* fix program from the Cover Disk), *Picture Packer* enables you to load and compact picture files into its own special format from 16 different file formats. It also

includes an early version of *STOS Paint* built in to edit the pictures. Supported file formats include all *Degas* (compressed and normal), all *Tiny*, *Doodle*, *Neochrome*, *Art* and its own PP? format. *Picture Packer* is quite good but it can be a bit quirky, the mouse pointer disappears for no apparent reason and the program crashes on a regular basis. Designed to work in all resolutions, this program's bugs are its undoing... ultimately a disappointment.



■ The intro screen fades in in a slooow but impressive manner and then fades out again. In the end *Picture Packer* faded completely from our disk collection when we re-formatted the disk.

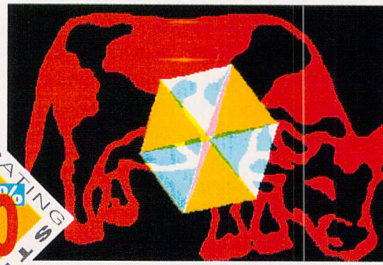
DEMOS

GROTESQUE DEMO CALEDONIA PDL



One of those megademos you just still back and enjoy; no tedious scrolling text or terrible chip music here. The *Grotesque Demo* has a neat, if rather manic sampled sound track. The visuals are flashing images,

mostly one bit-plane and 3D drums and shapes. The two tie in together making a terrific groovy little raver of a disk. OK, so you're not going to run it zillions of times like a top game, but it's great fun the first couple of occasions and is a good answer to those people who come round, take one look at your ST and ask what it can do.

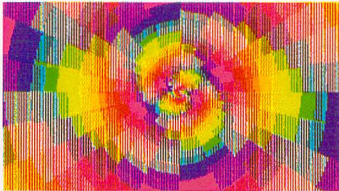


■ Yes, yes, don't think you're being clever by saying sarcastically that all this looks like is a cow with a coloured shape on it, because it is a cow with a coloured shape on it. Just like you see them in the fields, eh? The *Grotesque Demo* is a barrage of flashing, moving images accompanied by a thrashy, housey, dancey sounds.

AMBIENCE

STATE 808 PDL -
DISK MDEM 79

Put together a good long sample and some swirling coloured graphics, whack it out as a demo and impress your friends. The *Ambience* demo features sounds by Orb - hippies with synths, and whizzy sparkly screens. Nothing original or special but pleasing stuff to while away a slice of the early hours sitting in the lotus position in a darkened room being especially deep, man, or, as is more politically correct, "person." Doesn't quite



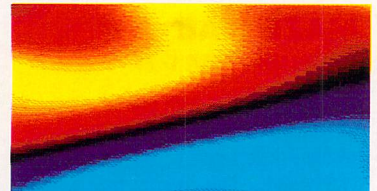
■ Yo! Funky flashing graphics assault your eyeballs; and some excellent sounds, too. *Ambience* is another sit-and-watch job with a tendency to hypnotise the unwary.

sound the same, does it? Did you know ambience means the atmosphere of a place? Well, now you do, person.

IF PIGS COULD FLY

CALEDONIA PDL - DISK D 212

A snazzy intro with a long piece of sampled sound leads to a sequence of demo screens. No menu, just one effect after the other, including light-sourced lines and vector balls, splines, interesting scroll text effects and all your old favourites. Like a lot of demos, it hails from Scandinavia, where to pass the long winter nights they code demos like this. The effects are all competently produced and smoothly executed, but not new. It's like watching a programmer's



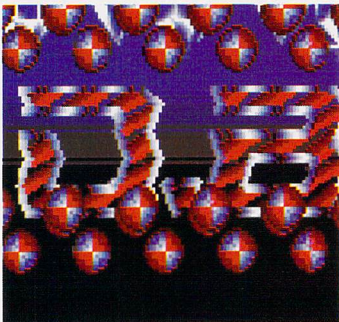
■ A delightfully colourful full-screen plasma effect from the demo called, for no apparent reason, *If Pigs Could Fly*. Why? Well, why not?

portfolio; "Look, I can do this and this..." It would be good to linger on the better effects and experiment more. Not as bad as most or as good as some.

JUST FUN DEMO

FLOPPYSHOP - DISK DEM 3397

Just Fun is a collection of sub-demos with the usual themes; the menu is a painless scrolling affair. Among the clutch of sub-demos is a couple of good bits of sampled music, including one about a bus stop that sounds dead smart. There are also some brief interviews with the demo crew where you get to find out what their favourite fizzy drinks are. Although there is nothing wildly original here, what there is is good and smooth. Suffers from common demo problems: too many scrolling text lines and not enough imagination.

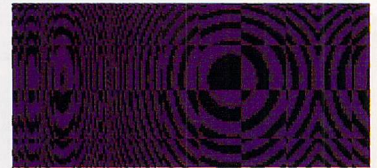


■ A riot of colours, sine wave graphics and scrolling text. Yes, it's yet another megademo with even more scroll text. Swish programming effects don't always entertain, clever as they are.

MATHEMATICAL

STATE 808 PDL -
DISK MDEM 81

After a long series of credits, *Mathematical* delivers psychedelic-style patterns generated in real-time. Instead of the screens being stored as bit-mapped images, they are generated using numbers. Certainly more impressive on the programming side but some of the results move a little slowly and aren't always any more mind-bending than the quick 'n' dirty way of doing things. There is a self-affining fractal generator, you can play about with the parameters though you can't save pics. The whole job is



■ Yo! Funky flashing graphics assault the eyeballs - er, sorry, haven't we met this somewhere before? *Mathematical* displays the demo effect of the season.

accompanied by some average-type chip music, but we recommend you turn the volume down. Why do demos insist on having music? A couple of the real-time graphics effects are good, but otherwise average.

UTILITIES

BJ CHROME

CALEDONIA PDL - DISK AU-202

BJ Chrome enables you - if you have a Canon BJ-10 printer - to produce colour printouts with a colour kit (cyan, magenta and yellow ink cartridges) and a sheet feeder. The program breaks the picture down into its component colours and passes the paper through the machine four times, hence the sheet feeder. Options enable you to define the size and orientation of the printout and you can also crop sections of the printout. The program can cope with *Degas* and *Neochrome* files and even works on a mono monitor. At £5 to register, this is a bargain.



■ Using *BJ Chrome* you can create colour hard copy versions of the famous Tutenkamen burial mask even if you only have a chromatically-challenged mono monitor.

MONOTARI FINANCE MANAGER

CALEDONIA PDL - DISK AU 207

This is likely to have you screaming with excitement - well, maybe - it's a personal money manager program! If it looks familiar, that's because an earlier version was on *STF* Cover Disk 36, the programmer has discovered the *Auto ZeST* program from another *STF* disk and incorporated it into his program to improve the look of it. Enter details of bills, debits, credits and so on, and the program keeps a running total of your current financial status. It's really a program to keep your cheque book balanced, although if you can't normally be both-

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17	25/11/92	AB CASH WITHDRAWAL	210

■ The new jazzed-up look of *Monotari Finance Manager* with an actual example of Chris Lloyd's bank statement in the background. Up to 500 entries can be entered into each file, that's the equivalent of 20 cheque books, y'know.

ered to keep your cheque stubs up to date, are you going to bother to use the program instead? Complete with full printing options, this is well-written and professional looking.

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

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As well as these disks listed we also cover clipart, education, fonts, programming, on-disk magazines etc. We are official distributors of Budgie UK, Shoestring Software (education), Organised Chaos (adventure/strategy) and we are the ONLY distributor of Creative Influence (see Genocide and Dark Carpathian above)

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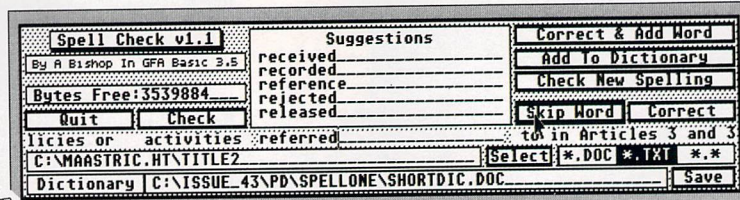
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SPELLONE

PAGE 6 PD LIBRARY -
DISK ST 709

This is an excellent addition to your collection if you have a word processor like *Protext* or *Write On* without a spell checker option built in. *Spellone* is written in *GFA Basic* and can be used either as a normal program or the file extender can be changed to

.ACC and the program can be loaded into memory as a Desk Accessory. This option makes it ideal for use with the above two WPs, although the checker only spell checks the saved version of the document, not the one in memory. Some fiddling about has to be done with the path names if you are using a hard drive, but this does not detract from a useful utility.



■ *Spellone* is simply laid out and simple to use. The path name for the dictionary is shown in the bottom line and clicking on the Select button loads a file into memory to be checked.

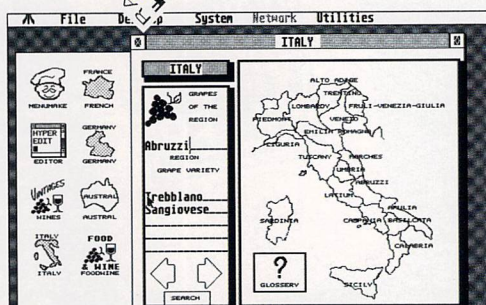
FOOD AND WINE

GOODMANS PDL -
DISK GD 1734

Constructed using a new Canadian program called *Hyperlink*, *Food and Wine* is a trip round the vineyards of the world, including a menu planning section. Click on "starter" and up pops a list

of starters; click on one and up pops the ingredients you need. Finished menus can be printed out. It's impressive; everything is mouse-controlled, easy to use and flexible. A polished example of what's possible with the system although the subject is possibly of rather limited interest - it is terribly polished, though.

■ A fine example of the interactive database *Hyperlink* in action. Here we are in the wine regions of Italy in fine interactive graphics and text mix window-type way. Very slick interface indeed - more interesting examples of the system, please.

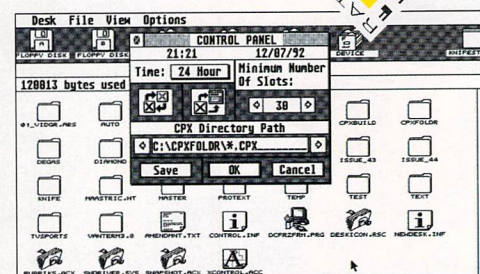


CONTROL PANEL

PAGE 6 PD LIBRARY -
DISK ST 695

This disk is a compilation of all CPX modules known to Atari-kind; CPXs are a type of Desk Accessory used by the Xcontrol panel that has been around for a couple years now and enables you to load and remove utilities

from memory at any time. There are some new CPXs, among them one to show your Atari laser's ID, a calculator and an ASCII table. Other bits and pieces on the disk include a redesigned set of Desktop icons for TOS 2 and above, a reset proof RAMdisk for STEs and a utility to double the screen size on high resolution screens. Not bad, but not brilliant.



■ The Xcontrol set-up menu in all its glory, tucked away in the open window. You can see some of the swish new icons supplied on this disk.

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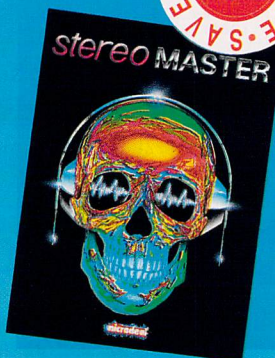
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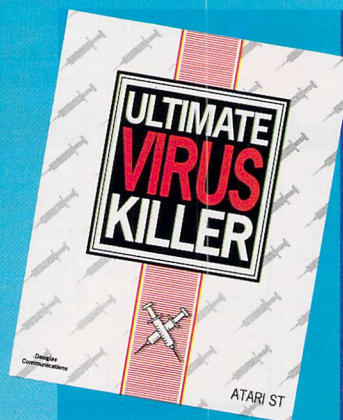
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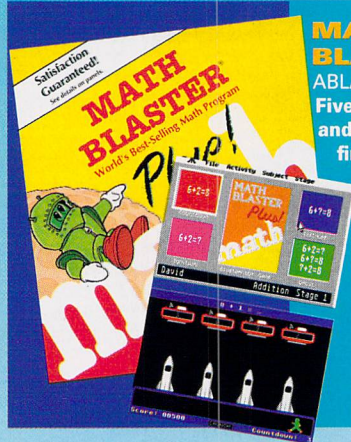
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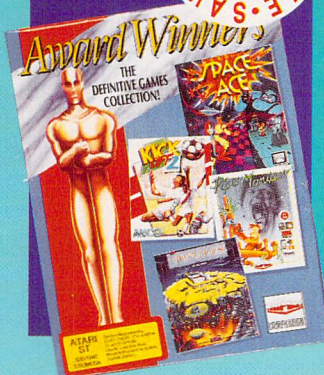
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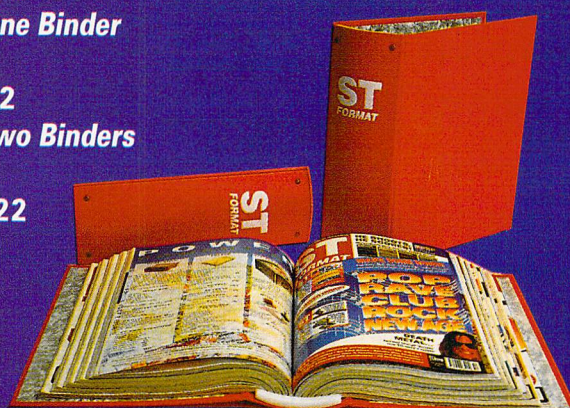
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If you've been walking around with a

bag on your head for the past few months, you probably haven't heard

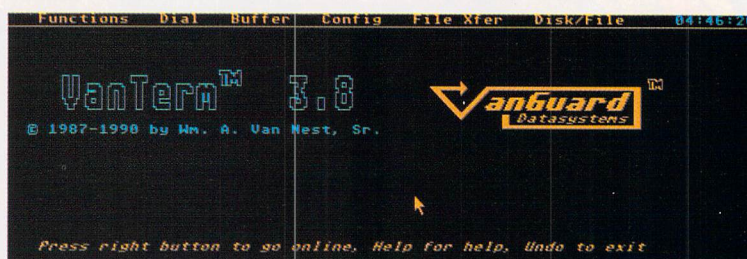
of the **STF BBS**. Well, listen now!

We set it up so you could contact us and each other directly. Clive Parker explains how to log-on with **Vanterm**



Comms is an area which is dead simple to get into – read this and believe it! Using just your trusty ST, a modem, a reasonably simple comms program like *Vanterm* and BT landlines, you can contact Bulletin Board Services easily. Here we tell you how to use *Vanterm* to log on to the *ST FORMAT* BBS, read messages, leave messages, leave private messages, and how to download files.

Most BBSs you call run at speeds of up to 2,400 baud; some are faster than this but the faster modems you need cost quite a bit more than a 2,400 baud modem. 2,400 baud modems can be now

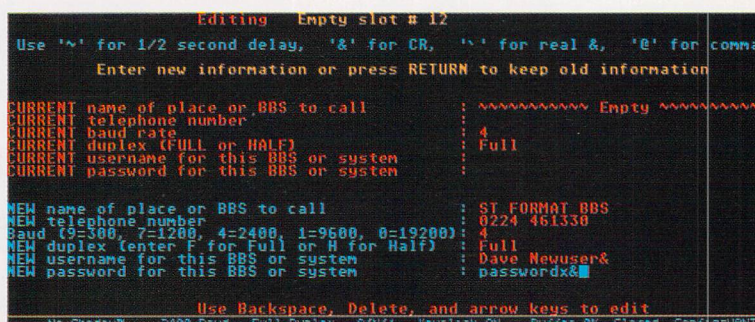


■ The action happens here. The menu bar at the top enables you to configure the program, while the status bar along the bottom of the screen tells you how the program is set up.

obtained for as little as £60 complete with comms software. Right, you've got the modem set up and you have a disk with *Vanterm* on it, now make a backup copy of the *Vanterm* disk and put the original in a safe place. Make two new folders on the disk called Upload and Download, these are to hold the

files that you send to and receive from the BBS. Once all this is done you can run the main program.

Setting up Vanterm

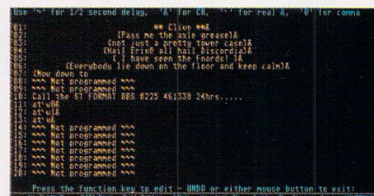


■ Enter the name of the BBS you wish to list followed by the phone number (including the area code), the code for the baud rate of your modem, F for full duplex and your name and password. An <E> character should be entered after your name and password, this acts as a carriage return. An individual box can be edited for each BBS number you wish to store.

asked to select WXYTR.TTP from the file selector, this is on your *Vanterm* disk. Click on the file and then on OK. You are then asked for the path for uploads; select the Upload folder you have created and then click on OK, repeat the procedure for the download path and save the setup.

Before you can do anything else in *Vanterm*, you must enter some BBS numbers into the dial directory. Go to the Config menu and select Edit Dial Directory. A screen appears with 30 boxes,

some of which may contain names. Either move the mouse to an empty box or click on the name of one of the BBSs listed. An alert box appears asking if you want to edit or delete the info – select edit. If you want to start from scratch, select Initialise Configuration from the Config menu – this clears the setup completely.

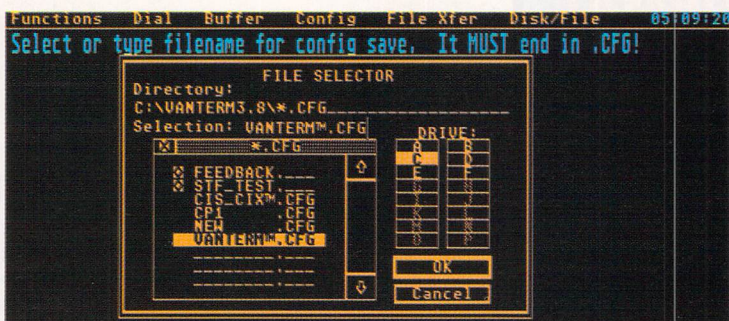


■ Another area that you can configure is the function keys – that is, the keys from <F1> to <F10> and <Shift> <F1> to <Shift> <F10>, can all have an ASCII string assigned to them. You can enter anything in these strings, usually they are used for entering lines of text that you use on a regular basis to save boring typing. Note the message assigned to the <F10> key.

Vanterm

Vanterm is available as a file on the *STF* BBS, but because the file is so large you may not wish to download it. It is also available from any of the PD libraries listed at the end of Public Sector on page 107, Goodmans PDL can supply it on disk GD1794, Merlin PD on disk MPD0049 and the ST Club on disk COM.27.

You are not restricted to using *Vanterm*, but it is probably the easiest comms program to get familiar with.



■ When you have entered all your numbers, press the right mouse button to return to the main screen. Go to the Config menu and select Save Configuration, you can then save the current setup to disk. It is a good idea to save the setup after you have modified any part of the configuration.

Logging off

When you've had enough, you can easily return to the main menu from any of the sub-menus by pressing <M> at the prompt. If you have finished your session and wish to log-off (disconnect) from the BBS, then all you have to do is simply press the <L> key when you're at the main menu. You are asked if you wish to leave a private message for the Sysop, so drop us a line to say hello and tell us what you think of the BBS. Cheers!

Logging on to the STF BBS

```

Autodial 0224 461330 Directo
Select name to dial with left mouse button or hit right button to ex
Selecting any CHAIN item initiates Chain Dialing for all CHAINED ite
AD Lib Murdoch's Hangout
Bath BBS My Little Phone
Bath BBS ST Answers Line OnLine AirWarrior
Bath BBS Subscriber Line Polynet
Cix Prestel
Cix HST Node Publishing Shop
Compo Software ST Brum BBS
CompuServe Bristol ST FORMAT BBS
CompuServe London STABB
CompuServe PSS Node STFORMAT BBS
Double Click Software Star Tel BBS
London Library STun Euronet NM
Habbs Scary Monster
Madness Shades
Mindscape BBS Soft-Look BBS
ss SHIT while selecting for Chain Dialing, Clickme to clear all Cha

```

■ First of all you want to connect to the BBS, so make your way to the Dial menu and select Dial Number. This brings up the dial directory, or you can press the right mouse button anywhere on the main screen which takes you to the on-line screen. Pressing the left button also brings up the dial directory. In either case, move the mouse pointer over the box marked **ST FORMAT BBS** and click once, the number is now dialled automatically by the modem.

Now you have the setup complete and saved to disk, you can log onto the **ST FORMAT BBS**. The system is running 24 hours a day, seven

days a week on 0225 461330 at speeds of up to 2,400 baud, so enter these figures into your dial directory and save them.

```

THE ST FORMAT BBS
THE 00000 00000 00000 0000 0000 0000 TM
00000 0000 000 0000 0000 00000
00000 0000 0000 0000 0000 00000
00000 0000 0000 0000 0000 00000

On line 24 hours a day, seven days a week
Running at speeds up to 2400 baud
call (+44) 0225 461330
Sysop: Clive Parker Editor: Paula Richards
\\\\ Extra line to be added soon \\\\
\\\\ Probably \\\\

to Modem 1
Dave Newuser
2400 Baud Full Duplex 8/N/1 Keyclick ON Buffer 0% Closed Config=VANTER

```

■ When the BBS answers your call, you get a message saying "Connect 2400" or "Connect 1200" which relates to the speed of your modem. After a few seconds a copyright message appears followed by the **STF BBS** title screen, you are prompted to enter your name, pressing the left cursor key enters your name from the dial directory setup.

```

Main Menu --> ? Current Command --> Query menu commands
C - Configure User Profile F - File Transfer P - Previous
L - Logout the System M - Message Base U - User List
D - Daily Data E - E-Mail Section V - Vodel File
R - Recommended BBS's N - News Base T - Text File

Main Menu -->

```

■ After you've entered all the details, the Main Menu prompt appears. Press **<Return>** in order to see a complete list of menu options. Pressing the letters next to each option then takes you to the relevant area, remember that you can add new options to your system if you want some more new and exciting features. Try all the options in turn to see where they lead, if you make a mistake don't worry, it's not the end of the world.

The message base

```

Message Base --> ? Current Command --> Query menu commands
S - Scan mail quickly R - Read mail L - Leave mail
I - Individual read M - New mail only M - Back to Main Menu
F - File transfers B - Bye - Log off

Message Base --> R Current Command --> Read Mail
Messages range from 309 to 423.
Start at what number? [309]
Show mail in which Sig(s) (? for list) [1-16] : ?

[*] = Cleared Sigs [D] = Your default
1 [D] GENERAL UTILITIES 2 [*] MUSIC & MIDI
3 [*] GRAPHICS 4 [*] NEWS
5 [*] Games Hints and Tips 6 [*] STE, STE, MEGA STE & TT
7 [*] FALCON 030 8 [*] LYNX HINTS AND TIPS
9 [*] PROGRAMMING 10 [*] Contributions and Feedback
11 [*] STF COVER DISK PROGRAMS 12 [*] COMMUNICATIONS
13 [*] CONTRIBUTIONS 14 [*] GRAPHIC IMAGES
15 [*] SYSTEM 16 [*] LANGUAGE BASE

Show mail in which Sig(s) (? for list) [1-16] :

```

■ Press the **<?>** key to get a list of all the message areas that you can look at, there are 16 areas altogether but four of them are reserved solely for **ST FORMAT** use. You can look at all the messages in areas 1 to 12 - that's including subjects such as music and MIDI, the **ST** range of computers, hints and tips for Atari's console the Lynx, or you could look at the feedback contributions - by pressing **<Return>** or you could select a specific area to look at by entering the appropriate number.

The message base is, not surprisingly, where you can leave messages for other people, hold discussions, complain about companies, ask questions, give replies and opinions on things you feel like sounding off about and that sort of thing. Press **<M>** from the main menu to go to the message area; pressing **<Return>** displays the menu for the area, this is true of all the menu areas. The best thing to do is to read all the messages on

```

[PIrev [N]ext [J]ump [R]eply [A]gain [Q]uit Next
Message : 315 [Open] 11-20-92 8:29pm
From : Ben Willcox
To : Timothy Giles (x)
Subject : #311 disc drives
Sig(s) : 1 (GENERAL UTILITIES)
There is 1 reply

Timothy:
Standard double density 3.5" disk drives require +5V supply at
1.25 watts. I work this out to be around 250 milliamps. Not much really.
Maplin Electronics do a regulated 300mA 5V mains transformer at
8.95, if you want their address I can give it to you. They also sell the
4 pin connectors, but only the female part. I don't know if that's the bit
you want or not, but if you need to know wot wire goes in wot 'ole I can
tell you that too.
Finally, maybe you can help me with a disk drive prob. I need the pin
out of the data connector for a 3.5" drive, but no-one seems to know. If
you can help, that would be great. See ya,
Ben.

[PIrev [N]ext [J]ump [R]eply [A]gain [Q]uit

```

the board before you do anything else. Pressing **<E>** at the menu enables you to enter a message on a new subject onto the board - remember not to use capitals for an entire message, since this is the comms equivalent of shouting. When you log-on, try and leave a message for someone, people want to make contact with other comms users, so don't be shy. When you have finished, press **<M>** to return to the main menu.

■ After each message is displayed you are offered a small sub-menu showing several options. Pressing **<Return>** or **<N>** scrolls the screen along to the next message, **<P>** takes you to the previous message that's been left regarding the same subject, the keystroke **<J>** jumps to a message number of your choice, **<R>** enables you to reply to the message, **<A>** shows the message again in case you missed it the first time and **<Q>** takes you back, once again, to the message base menu.

HOW TO DOWNLOAD A FILE

Downloading files is easy. Press **<F>** to go to the File Xfer Base, then press **<Return>** to display the file menu. All the commands are obvious so press **<L>** to generate a listing of the files. Press **<Return>** at the next six prompts and you are treated to a scrolling list of all the files on the BBS, pausing between each file. Each file has a description followed by a sub-menu, if you want to download a file, press **<X>**. When it is downloaded, follow the on-screen prompts until you are at the file listings, you can carry on looking and download more files or quit to the file menu. Pressing **<M>** from the file menu returns to the main menu.

```

Uploader : $950P
Sig(s) : 1 (GENERAL UTILITIES)
Downloaded : 30 time(s)
Description :

New version of STZIP. All files on this BBS will be compressed in ZIP format.
You will need either this file or ZIP2TOS (file 3) in order to unpack
files on the ST FORMAT BBS. Self-extracting.

[PIrev [N]ext [B]atch-Mark [X]mit [Q]uit Next

File :
Uploader : X ZIP2TOS.TOS 13006 bytes 9-20-92 7:43pm
Sig(s) : 1 (GENERAL UTILITIES)
Downloaded : 22 time(s)
Description :

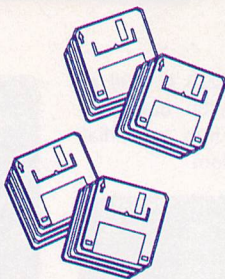
Converts ZIP files into self-extracting TOS files. Vital utility
This program converts ZIP files to self-extracting TOS files, can be used
instead of STZIP2 (file 2) to unpack ZIP files from the ST FORMAT BBS.

```

■ Selecting **<X>** from this menu enables the file to be downloaded to your machine. Another menu appears asking which protocol you wish to use, select **<K>**, this is the best method to use from within **Vanterm**. You are prompted to start your file transfer, press the right button to go to the main screen.

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ST game licences we'd like to see

Simon Barker of Chessington in Surrey sent us these suggestions

Norman Lamont's Super Economy where you are in charge of the mythical land of Britain; see how long you can keep playing and avoid bankruptcy or being chucked out of the cabinet.

Julian Clary's Worldwide Macho-man wrestling in which you take on the world's toughest men in this grip 'n' grapple wrestling simulation.

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Terminal 2, the British Rail Platform game where you guide your train around the network, but watch out for hazards like falling leaves, snow and passengers.

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Citizen Swift 24-pin colour printer. As new. Motor black and colour ribbons, printer driver disk, cable, manual, paper, envelopes, labels. £200 ono. Phone Kris on + 0932 352552

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Look!!! New ST and Amiga magazine issue one now available including excellent Cover Disk, features, loads of news, news and tips for ST and Amiga owners; amazing value – only £1.50. Try it and see! Contact Mark on + 0509 413643 after 7pm.

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THE ALTERNATIVE MAASTRICHT TREATY

Back in STF 41 we gave you the Maastricht Treaty for you to play with as you wished; the winner, John Quayle from Ayr is to blame for this effort...

PART 1

ARTICLE A

By this Treaty, the High Contracting Parties establish among themselves a European Union, hereinafter called "the Union" or anything else sarcastic that crosses your mind.

ARTICLE B

Britain shall be part of the Union whether they like it or not. Compulsory showings of old Coronation Street episodes shall be recommended to try and kick start the economy.

ARTICLE D

The European Council shall provide the Union with as many chocolate biscuits as are necessary ministers to leave meetings looking slightly bloated, confused and generally non-coherent. When asked about the meetings, the aforementioned ministers shall

smile nervously and adopt a knowing chuckle in saying: "I am very pleased about today's meeting." they shall then stumble towards their cars and do very well to disguise as just a stumble what was, in fact, a major trip.

ARTICLE E

The European Parliament, the Council, the Commission and the Court of Justice shall exercise their powers under the conditions and then finally allow Sooty and Sweep their own private hands.

ARTICLE F

The ST game Bomb Jack shall be renamed Bomb Jacques to increase its potential market in 1993.

PART TWO

ARTICLE G

"What is the hard ECU?"

Glad you asked this question because we believe that it is imperative to introduce something like the Hard ECU including, of course, the word hard and the initials E, C and, indeed, because... Several people have asked this, including me and we have concluded that the long run is not the short run and vice versa. It

would therefore appear that in addition to your fine question, which I'm glad you asked, that a credible answer would be that I don't know... but I know a man who does.

ARTICLE H

When weighing up the pros and cons of this treaty I came to the conclusion that it was a load of cobbles. What do you think?

I think you really must read this treaty and weigh up the pros and cons before making such a general conclusion.

ARTICLE I

This treaty is great! Why can't all treaties be as disrupting an patronising as this one?

Education is always a priority.

ARTICLE J

Advertising is rife in the UK. Why, only last night I switched on the TV to discover that Maureen Lipman had been given another job with a highly successful detergent manufacturer. There was 125mins 53 seconds of advertising on ITV last Thursday which is unacceptable. What will the union do about it?

Nothing

ARTICLE K

Hi Ben, I'd like to see you again. Pick you up at 8.30.

I think that you must read the treaty and weigh up the pros and cons before making such a general conclusion.

PART THREE

ARTICLE L

Bad spelling is an insult and shall not be tolerated. It may be severely punished.

ARTICLE M

The environment will cost Europe too much money. It will therefore be banned. The more astute will realise that breathing will become a problem. Air tanks will be sold over the counter at participating petrol stations. Esso will be willing to accept tiger tokens as payment.

ARTICLE N

Members of the unofficial Abba revival will have to pay something called Bjorn and Benny tax - around 50p in the £ for playing an Abba track and one in the ECU for buying an album.

Lemming-watch

Steve Fardy, STF's Art Editor, has been playing *Oh No! More Lemmings* and is very frustrated 'cos he can't get past the tricky stage of level 19 (that's the one with the code CCKHNNIBFP). He wants to know if it's possible to do it without cheating - please help him - he's driving us mad!

Won! Won! Won!

Back in STF 41 we asked you to identify the phrase "who controls the past controls the future." We had lots of correct answers - it came from 1984 by Eric Blair AKA George Orwell. Robin Pembro's entry was the first out of the hat so three games are on the way to Bristol.

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