ATARI ST USER

The top-selling Atari ST magazine

Volume 3
Number 11
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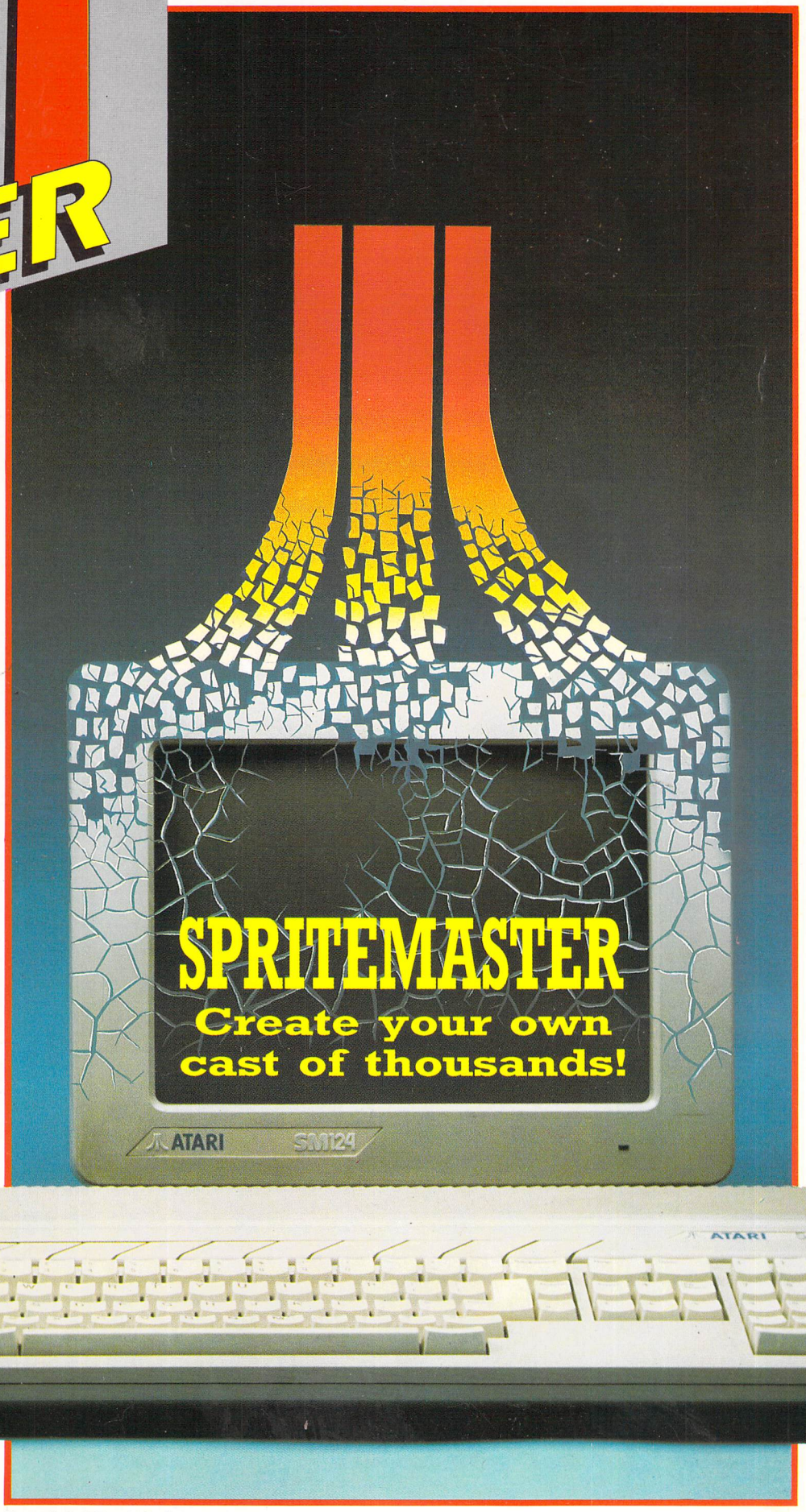

REVIEWS

Flexidump, Fontkit Plus, Swifte Lisp, Clockcards, Things to do with Words, Graphic Tablet, Wercs

In this month's pullout:

New: The ST in business
Computer art techniques
ST disc drives explored
Basic hints and tips

GAMES

1943, Lombard RAC Rally, Hostages, Bombuzal, Espionage plus many more top titles

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At Silica Shop, we have a dedicated service department of seven full time Atari trained technical staff. This team is totally dedicated to servicing Atari computer products. Their accumulated knowledge, skill and experience makes them second to none in their field. You can be sure that any work carried out by them is of the highest standard. A standard of servicing which we believe you will find **ONLY FROM SILICA**. In addition to providing full servicing facilities for Atari ST computers (both in and out of warranty), our team is also able to offer memory and modulator upgrades to ST computers.

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TV MODULATOR UPGRADE: Silica can upgrade the 1040ST-F to include a TV modulator so that you can then use it with your TV set. This is an internal upgrade and does not involve any untidy external boxes. A cable to connect your ST to any domestic TV is included in the price of the upgrade which is only £49 (inc VAT). The upgrade is also available for early 520ST computers at the same price.

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We aim to keep stocks of all Atari related products and our warehouse carries a stock of over £½ million. We import many software titles direct from the USA and you will find that we have new releases in advance of many of our competitors. Unlike dealers who may only stock selected titles, we have the full range. In addition, we carry a complete line of all books which have been written about the Atari ST. A range as wide as ours is something you will find is available **ONLY FROM SILICA**.

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Rest assured that when you buy your ST from Silica Shop, you will be fully supported. Our free mailings give news of releases and developments. This will help to keep you up to date with new software releases as well as what's happening in the Atari market. And in addition, our sales staff are at the end of a telephone line to service all of your Atari requirements. If you purchase an ST from Silica and would like any technical advice, we have a full time technical support team to help you get the best from your computer. Because we have both the staff and the systems specifically dedicated to providing after sales service on Atari ST computers, we are confident that our users enjoy an exceptionally high level of support. This can be received **ONLY FROM SILICA**.

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At Silica Shop, we recognise that serious users require an in-depth information service, which is why we mail free newsletters and price lists to our ST owners. These are up to 48 pages long and are crammed with technical details as well as special offers and product descriptions. If you have already purchased an ST and would like to have your name added to our mailing list, please complete the coupon & return it to us. This information service is available **ONLY FROM SILICA**.

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ATARI 520ST-FM NOW ONLY £260 (+VAT=£299)
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We are pleased to announce a new reduced price point on the 1040ST-F which is now available for only £499 (inc VAT). The 1040 is a powerful computer with 1Mb of RAM and also includes a built-in 1Mb double sided 3½" disk drive. The 1040 has been designed for use on business and professional applications most of which require a high resolution monochrome or colour monitor. It does not therefore have an RF modulator for use with a domestic TV set. Modulators can be fitted for £49 (inc VAT).

1040ST-F Keyboard Without Monitor ..... £499 (inc VAT)
1040ST-F Keyboard + High Res SM125 Mono Monitor ..... £599 (inc VAT)

If you would like further details of the 1040ST-F, return the coupon below.

MEGA ST's NOW IN STOCK

For the user who requires even more RAM than the 520 or 1040 ST's offer, the new MEGA ST computers are now available. There are two MEGA ST's, one with 2Mb of RAM and the other with a massive 4Mb. Both new computers are fully compatible with existing ST's and run currently available ST software. The MEGA ST's are styled as an expandable Central Processing Unit with open architecture and a detachable keyboard. They are supplied with GEM, a free mouse controller and all extras as with the 520 or 1040. Prices are as follows:

MEGA ST 2Mb Keyboard + CPU ..... £899 (inc VAT)
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MEGA ST 4Mb Keyboard + CPU ..... £1199 (inc VAT)
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If so, which one do you own? .....

Vol. 3 No. 11 January 1989

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Tel: 0625 878888 (All depts)
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FEATURES

News

All the latest stories and events from the ever-expanding world of the Atari ST, including the latest Gallup Chart of top-selling games software.

7

Brillig

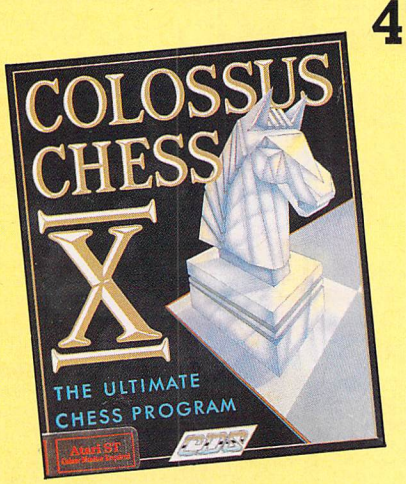
Fresh from a crash course in spelling, our resident wizard helps intrepid wayfarers everywhere. And there's a review of Magnetic Scrolls' Fish.

36

Colossus Chess X

The creator of this range of chess programs outlines the enhancements.

47



Gallery

Space – the final frontier – is the theme of our colourful picture show.

52

Midi

An interview with electronic music ace Ian Boddy reveals that an ST is the driving force behind his themes.

84

Beginners

Just got an ST for Christmas? This gentle introduction to the mysteries of computing is especially for you.

105

Arcade Corner

This month's column is a map of FTL's fantasy role playing adventure game Dungeon Master – level number two.

112

MORE FOR YOUR BINDER ...

Part 6 of The Complete Atari ST.
Over the months this illustrated pull-out, which comes free with *Atari ST User*, is building up into the definitive guide to the working and uses of this powerful micro.

Continuing this month with:

- **Creating feelings, depth and detailed pictures on your ST.**
- **A new series on using an ST to run a small business.**
- **Basic's logical operators and their use in programming.**
- **The ST's disc drive is explored and explained in depth.**

CONTENTS

Education

Nic Outterside continues his investigation of the growing trend of STs in education, this month concentrating on secondary school art and design.

114

Mailbag

Here's a further selection of the brightest and most informative letters from the editor's bulging mailbag.

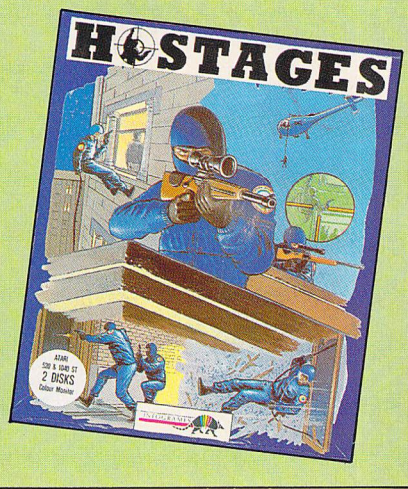
116

ATARI STAR USER GAME

Hostages

Simulation, strategy excercise, adventure, arcade game and much more. We take a close look at this superb product from Infogrames.

16

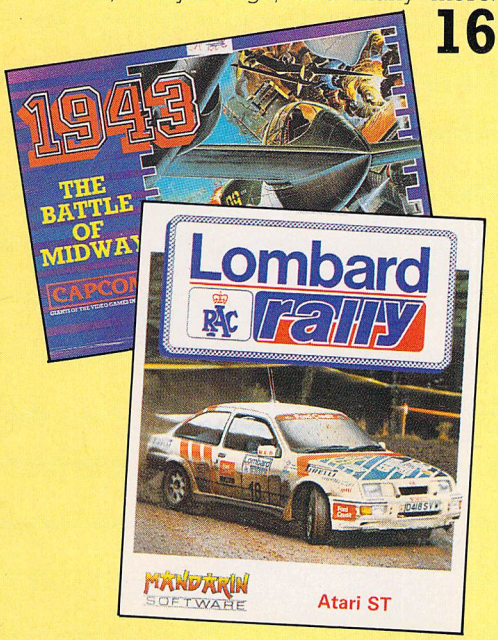


REVIEWS

Software

Hostages, Espionage, 1943, Lombard RAC Rally, Bombuzal, Around the World in 80 Days, Where Time Stood Still, Puffy's Saga, and many more.

16



Wercs

We investigate this powerful new resource construction set from HiSoft.

41

Free for all

Some of the best games software available in the Public Domain.

45

Swifte Lisp

This superb programming language is given an in-depth assessment by our man in the know. And he likes it.

54

Fontkit Plus

A commercial development of the ST Club's Fontkit utility gets a thorough testing by our experts.

59

Graphic Tablet

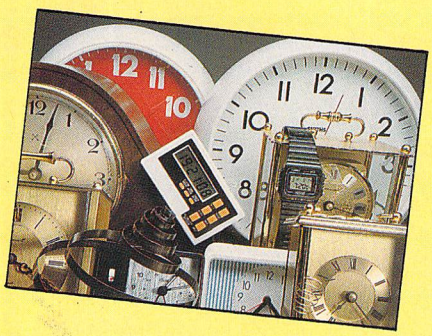
HB's new high-priced graphic tablet is reviewed by David McLachlan. You can draw your own conclusions.

63

Clock Cards

Two clock card hardware add-ons for your ST are put under the microscope.

81



Things to do with Words

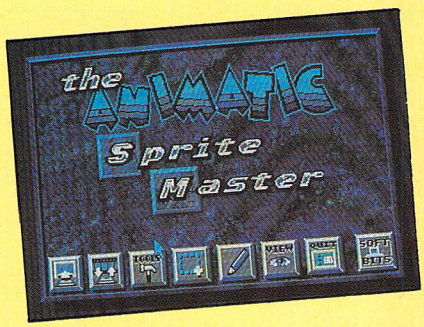
Nic Outterside examines the latest educational suite from Softstuff.

93

Sprite Master

Roland Waddilove reviews this development tool to create and customise your own games sprites for Basic and assembler programmers.

97



Flexidump

This flexible dump utility is assessed and its wide range of facilities is found to be very impressive indeed.

108

LISTING

Fractals

A full set of listings to create your own fractals, Mandelbrot and Julia sets.

99

SupraDrive

Atari ST Hard Disk Systems

- High performance hard disk drives for Atari ST and Mega ST computers
- DMA and SCSI connectors for daisy-chaining additional devices
- Battery backed-up real-time clock
- 20, 30, 45, 60, 120, and 198MB capacities
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  - Format software that allows dividing the drive into as many as 12 partitions
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- Connects to Atari ST DMA port
- Built-in SCSI and DMA connectors
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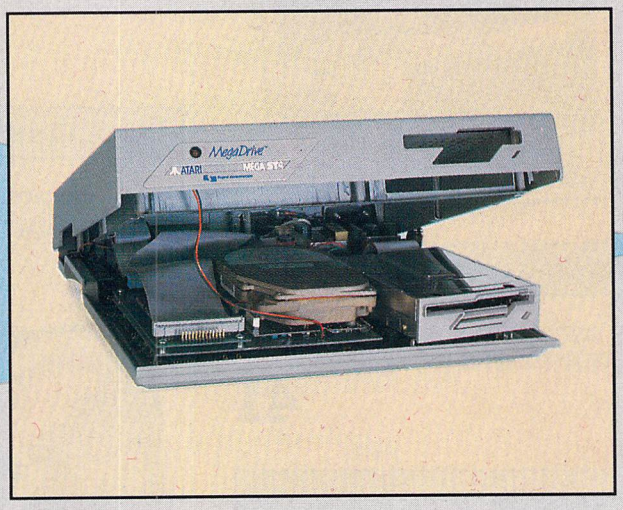
- Useful as primary storage and for hard disk backups and archival data storage

NEW!

MegaDrive

Internal Hard Disk System

- 40MB capacity
- Mounts inside the Atari Mega ST case
- High speed DMA data transfer
- Fast RLL drive — 28ms access time
- Leaves DMA and 68000 port free for other peripherals



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Atari deals clinch Dram supplies

ATARI has completed two major deals in a bid to ensure sufficient supplies of Dram chips for its ST and PC machines. One of the contracts is with an unnamed European manufacturer and the other with a factory in Asia.

"The immediate effect will be to improve supplies of the ST range", said Atari spokesman Peter Walker. "It also brings forward the availability of the Atari PC4 and PC5.

"Atari UK will have full volumes of all these systems very soon. This contrasts radically with the situation endured for most of 1988 where Atari UK has been constrained by Dram shortages.

"This inhibited growth of the ST series and delayed the desired availability of the full PC range".

Atari UK general manager Bob Gleadow said: "As a consequence of the new procurement agreements we now expect to be able to fulfill demand. We have developed a business-orientated dealer network in recent months, anticipating a greater stock supply – we are now confident of achieving the goals for both the ST and PC ranges in the current financial year".

In the longer term, industry observers expect Atari to set up its own Dram chip manufacturing operation. The plant – its location has not yet been revealed – could be underway within six months and is expected to cost between $100 and $250 million.

Powerplay takes over production

SUPER Professional joysticks from Zip Marketing are now being manufactured and distributed by Powerplay. The price of Super Professional Standard, at £14.99, and Super Professional Auto, £16.99, have been reduced by £2 each.

'Powerplay (0604 768711) has announced two new Cruiser joysticks, the all-black Cruiser 100, price £9.99, and the designer clear Cruiser 120 with auto fire feature at £12.99.

The company is also offering a new Mister Joystick Crystal range, created by Peter Lawton-Harris who designed Zip Stick and Super Professional. The Standard Crystal costs £14.99 and the Turbo Crystal with auto/manual fire £16.99.

Putting ST in the picture

NEW from Kempston Data (0908 677886) is Daatascan, a hand-held scanner for the Atari ST. The software provided incorporates windows, pull-down menus and icons, enabling an image to be scanned, cropped and printed on an Epson or compatible printer before saving to disc.

Images can be scanned from a variety of sources and saved in the most popular and widely supported graphics file formats, including IMG, Degas and Neochrome. Daatascan has a scan width of 105mm, a resolution of 200dpi and scanning speed of 2cm/sec. Price £275 including software and interface.

Daatascan images can be incorporated into the pages of Daatafax, Kempston's new computer-based personal organiser.

Daatafax is an integrated suite of programs for producing personal organiser pages on an Atari ST. It operates under Gem and utilises pull-down menus, multiple windows and icons. Price £49.95 including binder, set dividers and Daatafax stationery.

It's in the bag!

A copy of *Atari ST User* is one the most important items in the diplomatic bag addressed to the New Zealand embassy in Lima, Peru. Ambassador Barry H Brooks is an enthusiastic ST owner and reader of the magazine.

He said in a letter to the editor: "I have been meaning to write for some time to commend you on the speed with which you reacted to my opening a subscription. The back numbers and bonus discs arrived with great rapidity.

"When you think about the inordinate delays in opening subscriptions and getting other material from the average American magazine company, it is a great relief to enjoy the efficiency of a British company.

"I look forward to enjoying all that your magazine has to offer for many years to come".

Better bitta blitter

ATARI ST users can now enjoy the benefits of the blitter without having to modify their machines. Turbo ST from HiSoft (0525 718181) is a desk accessory which is copied on to the boot disc. When the user re-boots, it intercepts the most common operating system calls that control the screen and speeds them up dramatically.

Turbo ST is written entirely in hand-crafted assembly language. It uses special routines to replace those in the rom which write text to the screen, improving output speed, particularly when paging through a document. Price: £39.95.

Also new from HiSoft is FTL Modula-2 Developer, claimed to be the first Modula-2 development system for the ST. It includes a full Modula-2 compiler, linker, assembler, multi-file Gem editor, make utilities, symbolic debugger, standard and Gem libraries and a resource construction set. Price £99.95.

MICRODEAL

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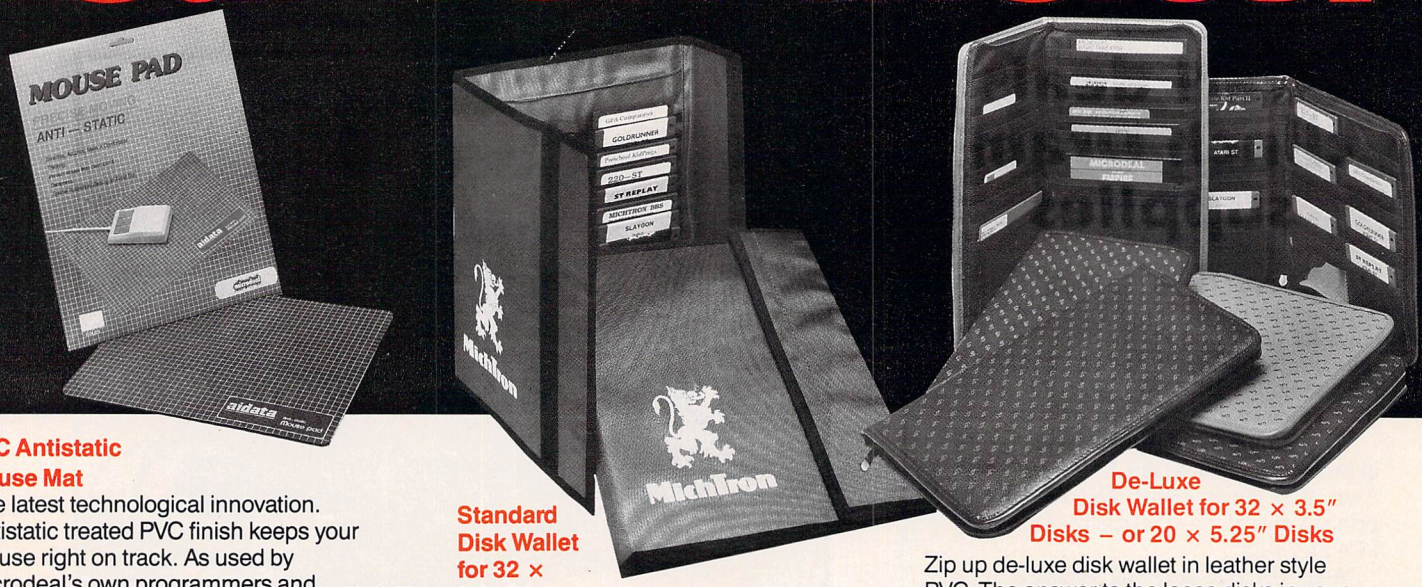

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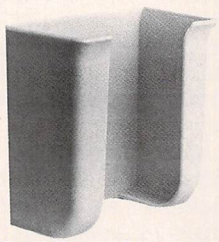
De-Luxe Disk Wallet for 32 × 3.5″ Disks – or 20 × 5.25″ Disks
Zip up de-luxe disk wallet in leather style PVC. The answer to the loose disks in your briefcase. Available in dark blue, maroon and grey. £19.95

De-Luxe Neoprene Mouse Mat
Our best selling mouse mat allows accurate mouse tracking and reduces wear. Cloth style neoprene finish in red or blue. £5.95



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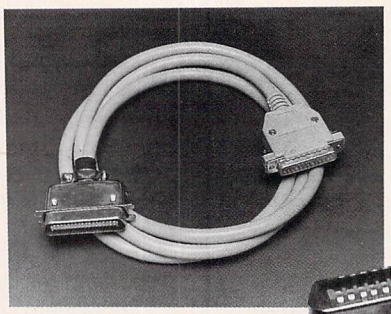

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Seen in the USA

Compiled by STEPHEN MORTIMER

YOU need two monitors to display all three resolutions on your ST, right? Not necessarily, thanks to OmniMon and OmniSpect from Wuztek.

OmniMon is a NEC Multisync, 12in, dark tint, non-glare, paper-white monochrome monitor. An adaptor box that comes with it allows you to switch from monochrome to colour on the same monitor.

In high resolution, it resembles the Atari SM124's monochrome screen. In low or medium resolution OmniMon represents colours as true shades of grey, 16 in low resolution, four in medium.

OmniSpect is based on a colour NEC Multisync monitor that displays all three ST resolutions in up to 512 colours. High resolution picture quality with OmniSpect isn't as crisp as a true monochrome monitor, but low and medium-resolution displays are very similar to those of the Atari SC1224 monitor.

OmniMon and OmniSpect retail for $299.95 and $499 respectively. For more information, contact Wuztek at 4521 Campus Drive, Suite 400, Irvine, California 92715, (714) 733-0189.

★ ★ ★

WHEN Atari Corporation president Sam Tramiel was the guest speaker at a formal conference on CompuServe, the largest US online service, he confirmed that Atari was working on a portable ST and hoped to show the 32 bit TT and other new ST computers early in the New Year.

Regarding the shortage of STs in the United States, he stated: "Atari has just signed a major deal with a big Dram supplier and the situation will get better, I hope, in early 1989".

★ ★ ★

MULTIDESK, a new program from CodeHead Software, lets you use more than six desk accessories at the same time. In its basic configuration, it is a desk accessory that can load an infinite number of utilities contained within its structure.

You can configure the program to load certain accessories automatically upon boot-up and to look for others stored in a folder.

MultiDesk occupies only 25k of memory itself, but you must define a buffer in memory for the accessories. However, in order to conserve memory you can reduce the buffer to the size of the current accessories.

MultiDesk retails for $29.95. For more information, contact CodeHead Software at P.O. Box 4336, North Hollywood, California 91607.

★ ★ ★

AT a recent Atari-sponsored consumer show in Glendale, California, Practical Solutions showed off Tweety Board, a solderless upgrade that enables any ST to produce stereo sound.

A hardware adapter with three RCA phono jacks connects to the RS-232 port on the ST. You can add two speakers for conventional stereo sound or three for full surround sound capability.

The adapter also includes a pass-through that lets you connect other RS-232 devices to your ST. Tweety Board costs $49.95. Contact Practical Solutions at 1930 East Grant Road, Tucson, Arizona 85719, (602) 884-9612.

★ ★ ★

BY the time you read this, Spectrum Holobyte, a division of Sphere, Inc., will have released Falcon in a superlative ST version. Tell your Mac and PC-using friends that they should take a look at your new super flight simulator. Falcon combines the features of the Mac version with the colour and some of the advanced F16a avionics of the Falcon AT version.

You can fly together with another pilot right next to your ST or in another city – even if he is flying a PC or Mac Falcon! This is an absolutely spectactular program. For more information, contact Spectrum Holobyte, 2061 Challenger Drive, Alameda, California 94501, (415) 522-3584.

★ ★ ★

WORDPERFECT Corporation has decided to halt development of new products for the ST because of a depressed market in the United States. Until the situation changes, there will be no new ST products from the company.

Taking snags out of fax

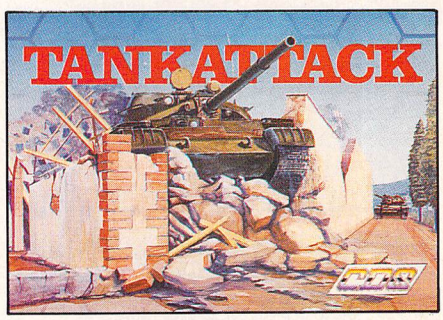
MICROLINK subscribers have been spared the problems reported by users of Telecom Gold's new fax service Mailfax. Because Mailfax bewildered many people, up to 30 per cent of messages were being addressed to invalid numbers.

But MicroLink (0625 878888) has come up with a simplified method for using the facility – called Easy Fax. "People were being asked to key in all sorts of different sequences in order to send fax messages", said MicroLink systems manager Tim Clarkson. "Even I found Mailfax difficult to use.

"But we've re-written the front end of the program for our own subscribers – now all they need do is type in the telephone number of the fax machine they want to send their message to".

At the same time, MicroLink has introduced Fax Check – a method of seeing whether messages queued for transmission have been sent or not.

"The whole principal behind using electronic mail for faxing is to make it as easy to use as possible", said Derek Meakin, head of MicroLink. "We feel that with Easy Fax and Fax Check as add-ons to the Telecom Gold fax gateway, we've managed to get it right for our subscribers".



SWEDISH father and son programming team Ake and Henrik Andersson devised the latest game for the ST from CDS Software (0302 21134).

Tankattack is an interactive computer game follow-up to the pair's successful board game. It can involve two, three or four players. Each takes the role of a Tank Corps general commanding one or more armoured divisions comprising eight tanks and four armoured cars.

The objective is to capture the enemy's headquarters or destroy all his forces by strategic deployment of your weaponry. Weather, morale, foresight, skill and judgement can all affect the outcome.

Tankattack for the ST should be released this month, probable price £19.99.

Takeover completed

FOLLOWING its acquisition of 45 per cent of the Mastertronic group just over a year ago, Virgin Communications has completed negotiations to buy the remaining stock.

A new company called Virgin Mastertronic, combining the computer and video game activities of both companies, is being formed.

With sales of more than £30 million a year it will be one of the largest firms of its kind in the world. Its labels include Virgin Games, Leisure Genius and Melbourne House.

Managing director Nick Alexander said: "This is the culmination of well over a year's hard work. After our initial involvement in Mastertronic we found that our operations were highly complementary and this latest step makes tremendous sense for us both.

"We are now one of the strongest companies in the industry and we intend to use that benefit to the full".

Ladbroke in the running

LADBROKE Computing International (0772 203166) is set to overturn the Midi apple cart with the release of its Midi Studio sequencer at only £99.99.

With a 20 track mixing deck, multiple phrasing and over dubbing facilities, the sequencer undercuts Steinberg's Pro-24 by over £150.

Ladbroke spokesman Richard Blunt says even without a drum editor and score facility, Midi Studio "out-performs Pro-24 v2.1 in almost every way".

Superbase Pro enhanced

POPULAR database Superbase Professional from Precision Software (01-330 7166) has been further enhanced for the Atari ST by features from Superbase 4, the company's powerful PC product.

Superbase Professional's text editor now includes cut, copy and paste. Communications facilities are fully programmable and allow for local RS232 links, and time-delayed automatic file transfer using Hayes-compatible modems.

Another new feature is automatic multi-line transaction handling. Previously available only by writing a Superbase program, this can now be built into invoices and other similar forms at design stage. Price £249.95.

Laptop sneaks into Comdex

ATARI'S new laptop system codenamed Stacy finally took its bow at Comdex, Las Vegas but it was shown only to selected visitors in a private suite.

Kept away from the official Atari stand, the laptop's launched date has yet to be announced.

Built around a normal ST system, it sports a 640 x 400 liquid crystal display screen with 1Mb of main memory, a 3.5in disc drive and serial and parallel interfaces.

And a unique feature of the system is a trackball instead of a mouse, to get the user across the screen easier and faster.

Although larger than the Toshiba 1000, the Stacy will retail in the States for $1,000, making it one of the cheapest 1Mb systems on the market.

Comdex visitors who had hoped to see the Atari ATW transputer workstation were also disappointed.

Formerly called Abaq, the ATW was close to production but Atari said design changes kept it away from the Nevada exhibition.

Trade sources said 300 of the machines would be manufactured in December and it would go on sale in America from January.

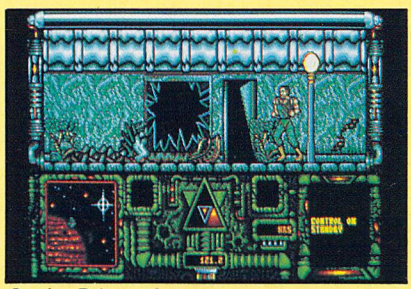
Chrysalis team Michael Hart (left) and Jason Wilson

ESCAPISM IS ALL . . .

NEW software house Chrysalis (0709 370102) is releasing its first game for the Atari ST this month. Prison, based on a penal colony planet deep in space, is pure escapist entertainment in more ways than one.

The player must search a series of screens for clues to the location of a hidden spaceship which is the only means of escape from the planet. Programmed by Michael Hart, with graphics by Jason Wilson, Prison costs £19.95.

Chrysalis has emerged from Teque, the development house responsible for such titles as Terramex and Pac Mania. "Consequently the company differs from other software houses as it is product rather than marketing orientated", said a spokesman.



On the Prison planet

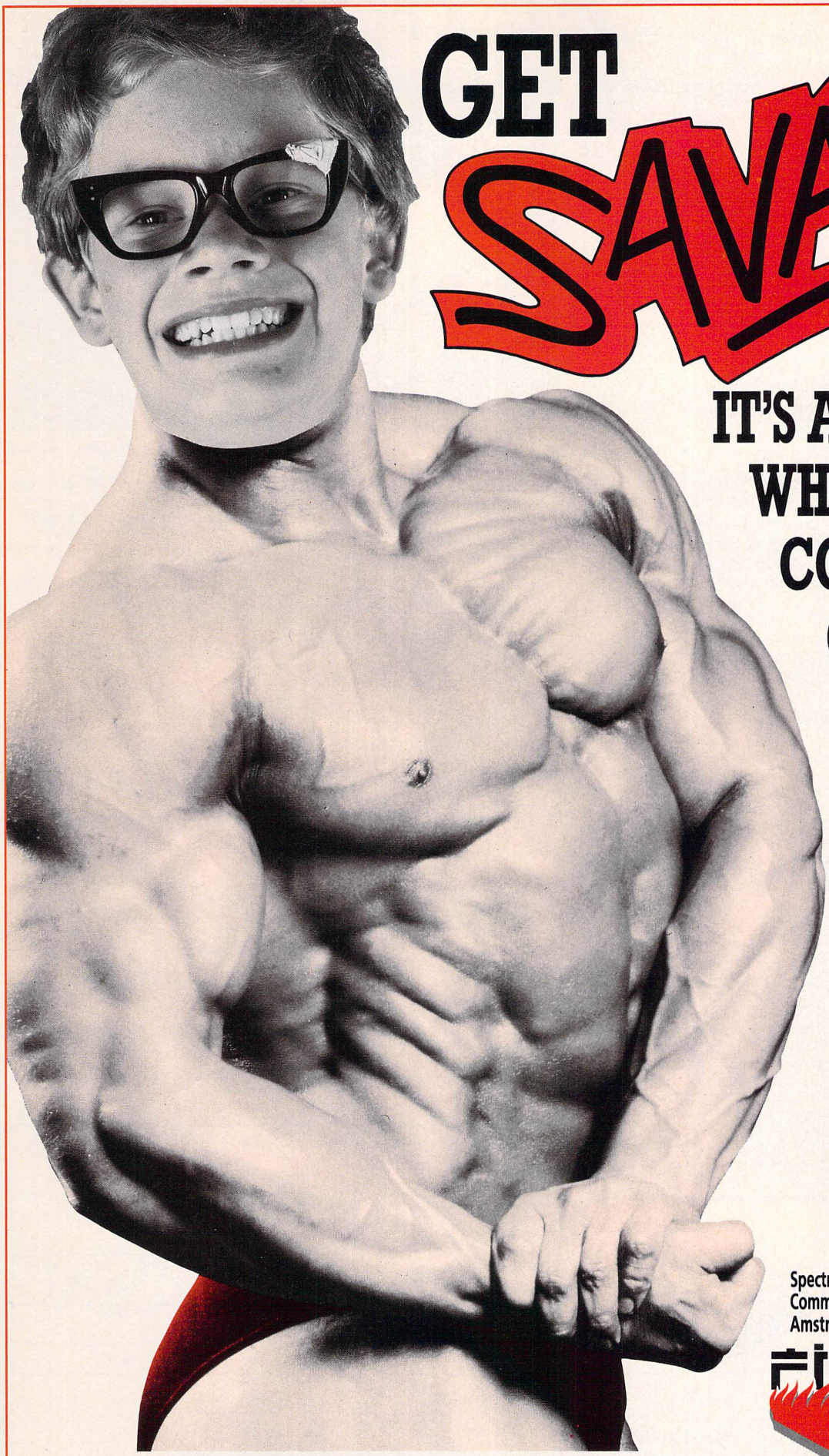
Thrills without the spills

REPORTERS covering the Lombard/RAC Rally had a rare chance to experience the thrills of being behind the wheel during the gruelling event.

At the Rally Show in Harrogate just before the cross-country challenge began they joined competitors in test driving the new simulation from Mandarin Software (0625 878888).

Lombard/RAC Rally, price £24.95, is a joint venture between Mandarin, Red Rat and the rally organisers. Journalists and drivers attending the Harrogate Show were able to get the feel of 300bhp Group A Ford Sierra Cosworth just by sitting in front of an Atari ST.

Leading driver George Donaldson said: "The program looks fantastic – and it doesn't cost a penny in repair bills when you go off the track. I may take it up instead of the real thing – it's just as thrilling and a lot safer".



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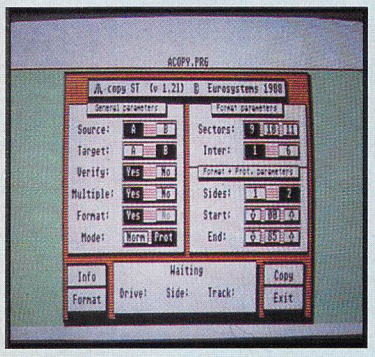

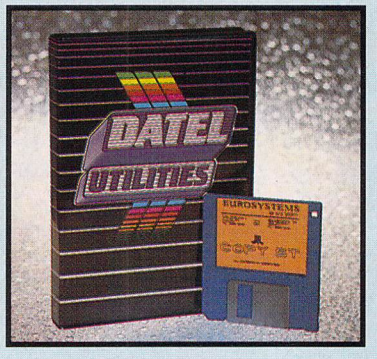

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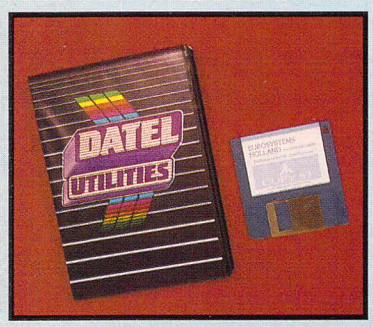

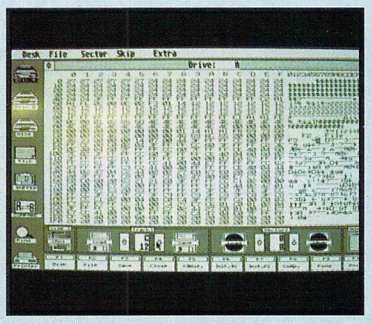

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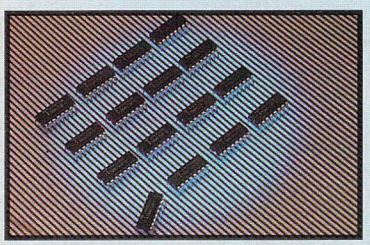

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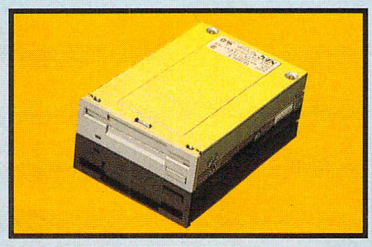

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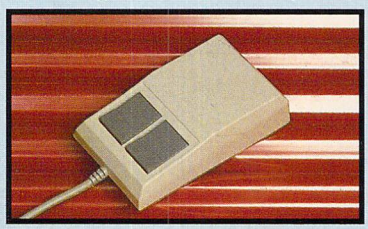

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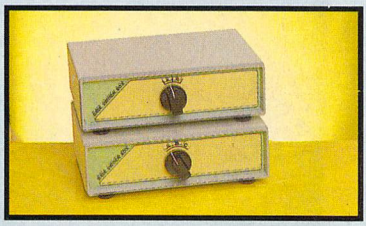

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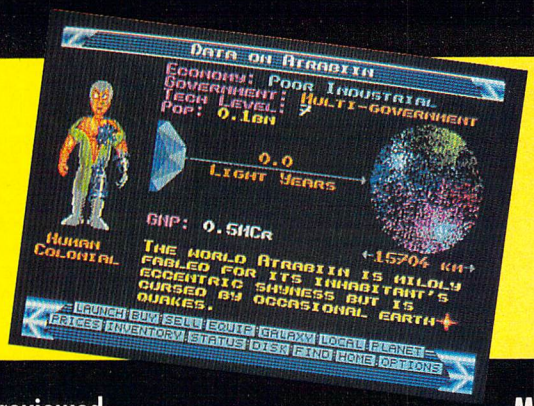


This month	Last month	Title (Software House)	Price	Month reviewed in Atari ST User	Comments	Marks from 10
1	●	**ELITE** *Firebird*	24.95	Nov	Where this game scores most is on playability and addictiveness. This solid 3D version is stunning – it's a classic.	9
2	▽1	**STAR GLIDER 2** *Rainbird*	24.95	Oct	This sequel is a must. It works equally as well on mono and colour monitors. This game is far beyond anything you could imagine.	9
3	▽2	**STOS GAME CREATOR** *Mandarin*	29.95	Dec	You can create your own games with superb graphics using this French system. Again the only non-games title in the charts.	*
4	▽3	**SUPER HANG ON** *Electric Dreams*	19.99	●	Another game that has been long in coming. Is it as good as the arcades? – Only you can decide, so try it and see.	*
5	▽4	**VIRUS** *Firebird*	19.95	Sept	Originally Zarch on the Archimedes, it is very, very different to other games for the ST. Another essential for any hardened fan.	9
6	△18	**WHERE TIME STOOD STILL** *Ocean*	19.95	Jan	If you remember Doug McClure in the film it might help. You are stranded in a world full of dinosaurs in this arcade adventure.	8
7	▽5	**LEADERBOARD BIRDIE** *US Gold*	19.99	●	If you are a golf fan you will definitely have bought Leaderboard. There are multiple additions to this range, and this is the latest.	*
8	△9	**NIGHT RAIDER** *Gremlin*	19.99	●	Fly the skies on a mission of secrecy and skill. If this is your forté, fasten your harness and prepare to meet your destiny.	*
9	●	**HOSTAGES** *Infogrames*	24.95	Jan	Beautiful and atmospheric graphics and a game of skill, strategy and tension as you plan and execute your mission to free the hostages.	10
10	●	**LANCELOT** *Mandarin*	19.95	Dec	The telling of the Arthurian legends is a splendid accomplishment which is unlikely to be bettered for a long time.	8
11	▽6	**DUNGEON MASTER** *Mirrorsoft*	24.99	May	Animated graphics and spot sampling effects make this quest worth dusting off your codpiece for. A superb role-playing adventure.	9
12	●	**DALEY THOMPSON'S OLYMPIC CHALLENGE** *Ocean*	19.99	Jan	The Olympics come and go, as do the games surrounding them. This one has some very nice digitised pictures – but also some niggles.	7
13	●	**CHRONO QUEST** *Psygnosis*	29.95	Jan	Extremely pleasing with an engaging plot and challenging puzzles. Graphically superb and easy to get into, thanks to the friendly interface.	8
14	●	**MOTORBIKE MADNESS** *Mastertronic*	14.99	●	Budget-priced title from Mastertronic – you must add this to your collection if you have all the other games of this genre.	*
15	●	**STARRAY** *Logotron*	19.95	●	Another game with parallax scrolling. Good graphics and sound with some original bits too. A sign of things to come from Logotron.	*
16	●	**STRIP POKER 2** *Anco*	19.99	●	If you enjoy poker and digitised pictures this could be your ideal game. A good game of poker can be had despite the gimmicks.	*
17	▽12	**OUT RUN** *US Gold*	19.99	July	After nine month's wait this is one of the best car simulations. A great improvement on other versions for home micros.	9
18	●	**MENACE** *Psygnosis*	19.95	Feb	Probably the best horizontally scrolling shoot-'em-up game seen on the ST to date. Enter Draconia and fire.	8
19	●	**POWER DROME** *Electronic Arts*	24.95	Jan	Flex your muscles and concentrate on this perfect blend of racing game and flight simulator. Beautiful animation abounds throughout.	9
20	●	**ST FIVE STAR** *Ocean*	24.95	●	Compilation time of the year brings you Barbarian, Crazy Cars, Enduroracer, Wizball and Rampage. All superb games in their own right.	*

CYBER SERIES

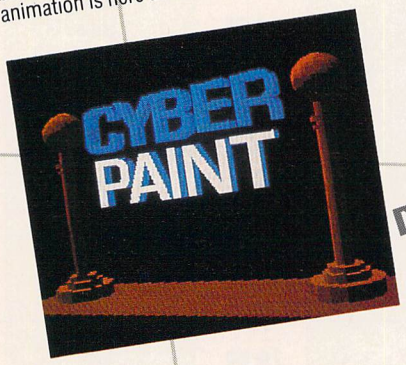
CYBER PAINT

CYBER PAINT is a powerful animation and paint program. Use it by itself to create colourful 2D animations, or add the final touch to your three-dimensional Cyber Studio animated sequences.

Choose from a host of flexible paint box techniques to retouch individual Cyber Studio frames. Cyber Paint lets you overlay one image with another, so you can even add imported Degas or Neochrome backdrops.

Animation isn't limited to simple cartoon-style movements, either. Cyber Paint has a range of special effects to resize, distort, move, and superimpose entire screens, so you can produce sophisticated video effects just like the ones on television — and the only studio you need is your ST.

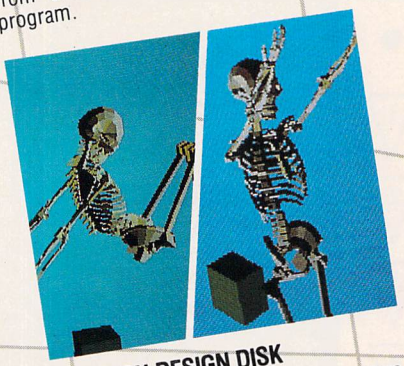
Whether you use Cyber Paint on its own or with other Cyber products, you'll be amazed at the results. Professional animation is here at last!



CYBER CONTROL

CYBER CONTROL is an easy to use, BASIC-like programming language specially designed to work with Cyber Studio. It enhances CAD-3D 2.0 with a host of new features. There are two new cameras, free to move around or through your 3D creations. Movable, multi-layered Cyber Paint blocks for colourful cel animations. And the power to create complex curved objects, using spline generation techniques. Together they let you animate complex objects you never thought possible — like a skeleton doing backflips!

Cyber Control is an independent desk accessory, so it's always ready for use from CAD-3D 2.0, or any other GEM program.



NEW! CARTOON DESIGN DISK

A collection of 3D comic characters, plus special Cyber Control programs to move them. You decide which way their heads turn, where their eyes look, how fast they move — or fly — and Cyber Control brings them to life automatically.

NEW! CYBER SCULPT

Want to create your own 3-dimensional designs? Need more sophisticated modelling techniques? Then CYBER SCULPT is for you! A mouse-driven, stand-alone program that does just one thing: build 3D objects. And not just spun or extruded — but twisted, pushed, pulled, tweaked and pummelled! The most fantastic shapes imaginable.

Working with Cyber Sculpt is just like working with clay. Your object's not quite the right shape? Then mould it into a new shape! Grab some vertices and move them into a better position. Or use a "magnet" to stretch them.

Cyber Sculpt has cross-sectional modelling, for easy creation of complex shapes like boat hulls, and for engineers, there's support for digitizing tablets.

NEW! VIDEO TITLING DESIGN DISK

Add that professional touch to your home videos with spectacular animated titles. Includes 3D font and objects specially designed for titling effects. Plus custom Cyber Control programs to animate them, create credit sequences, etc. All you need to challenge Hollywood!

HUMAN DESIGN DISK

An accessory disk packed with humanoid forms and figures to add life to your CAD-3D scenes. Includes complete male and female skeletal prototypes, plus detailed heads, hands, etc. Take a tour of the human skeleton!

FUTURE DESIGN DISK

Turn your ST into a space engineering factory with this library of futuristic objects. Everything from androids, rocket engines, and command pods, to complete spacecraft.

ARCHITECTURAL DESIGN DISK

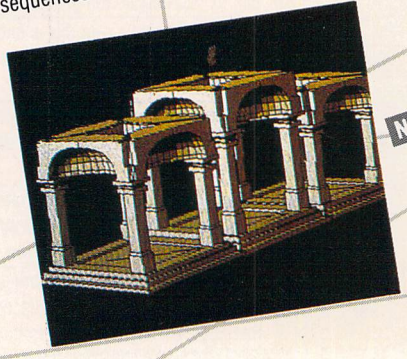
An electronic architect's studio packed with doors, windows, stairways — all you need to build your own CAD-3D dream house.

CYBER STUDIO

CYBER STUDIO combines STEREO CAD-3D 2.0, a three-dimensional design program, with CYBERMATE, a powerful animation control language. Together they transform your Atari ST and turn your ideas into realistic 3D moving images.

STEREO CAD-3D 2.0 allows you to create your own 3D objects and scenes — quickly and easily! Use the built-in 3D primitives to shape your ideas, then add more detail with CAD-3D 2.0's tools, combining several objects to build up more complex shapes. Add the final touch with subtle lighting effects and that's it — from starting point to starship in a matter of minutes!

CYBERMATE is an animation control language designed specifically for use with CAD-3D 2.0. Cybermate's interpreter allows you to combine standard Forth commands with specialised display control statements, to build up smooth, fast animation sequences.



3D DEVELOPER'S DISK

The 3D DEVELOPER'S DISK opens up a "pipeline" into Cyber Studio, allowing you to create your own 3D applications, without the need for specialised 3D mathematic knowledge.

3D PLOTTER & PRINTER DRIVERS

A library of drivers for use with Cyber Studio, supporting Hewlett-Packard pen plotters (and compatibles), plus Gemini, Star, Epson, Okidata, NEC, Panasonic and C Itoh matrix printers.

NEW! 3D FONTS I & II

Two packs of spectacular 3D fonts in a variety of styles and effects. Use them in your Cyber animations or design your own 3D greeting cards, logos, or letterheads. Plus, added bonuses: Tom Hudson's SUPER EXTRUDER TOOL, used to create these fonts, in pack 1; and multicoloured 3D clip art in pack 2.

STEREOTEK

Want to get right in with the action on your Cyber screen? Well, now you can! The amazing STEREOTEK glasses give you a startling insight to your creations, with a true stereoscopic view. Includes cartridge interface unit, stereo desk accessory, animation and slide show, complete developer's instructions, and source code.

G.I.S.T.

G.I.S.T. is a powerful GEM-based sound laboratory for use in designing, editing, and playing sound effects. Used as part of the Cyber series, it allows you to incorporate sound effects into your Cyber Studio and Cyber Control animations.

CYBER SERIES

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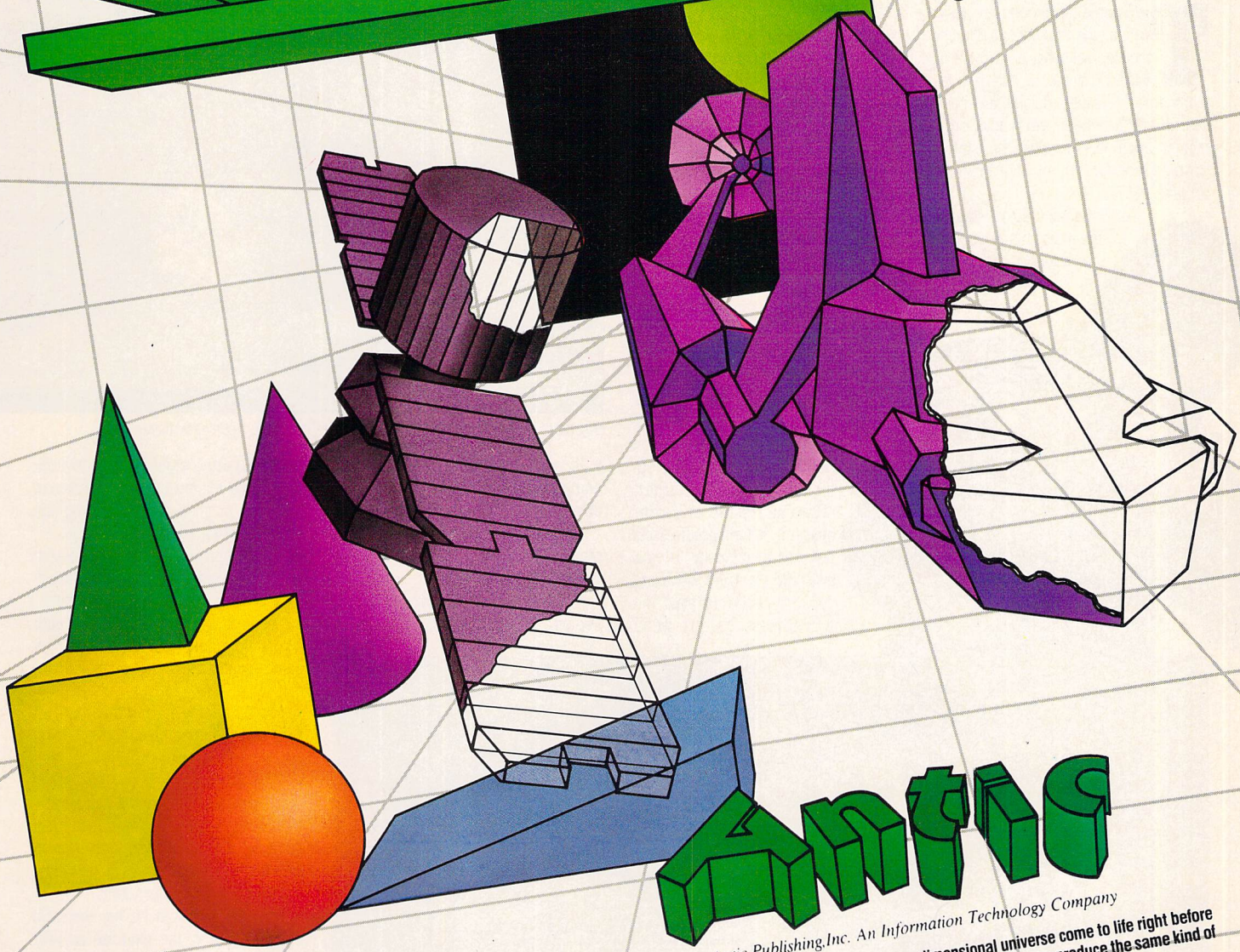

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THE CYBER SERIES

The Cyber Series from Antic Publishing Inc. is a family of programs which turn fantasy into reality on your ST's screen. Watch your own three-dimensional universe come to life right before your eyes, with everything from skyscrapers to spacecraft. Fill your imaginary worlds with realistic walking figures. Add subtle colours and sound effects. You can even produce the same kind of sophisticated special video effects as a television studio.

Cyber packages are more than just fun to use — there's a serious side too. Use them in the office or studio to visualise your ideas at pre-design stage, saving time and money by getting things right first time. And since you're working in 3D, you can see above, below, even inside your designs, just as if they were sitting on the desk in front of you.

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ATARI STAR USER GAME

HOSTAGES

Program: Hostages
Price: £19.95
Supplier: Infogrames, Mitre House, Abbey Road, Enfield, Middlesex EN1 2RQ
Tel: 01-364 0123

THIS game crept on to my desk with all the timidity of a church mouse, but what a surprise it held in store. In contrast to many titles released during the past year there has been very little pre-launch hype for this excellent Infogrames conversion of the French original.

Yet Hostages must be one of the most unique, highly developed and totally addictive games I have ever seen for the ST. It also defies categorisation, as it encompasses all the finest points of an arcade game, an adventure and a simulation exercise.

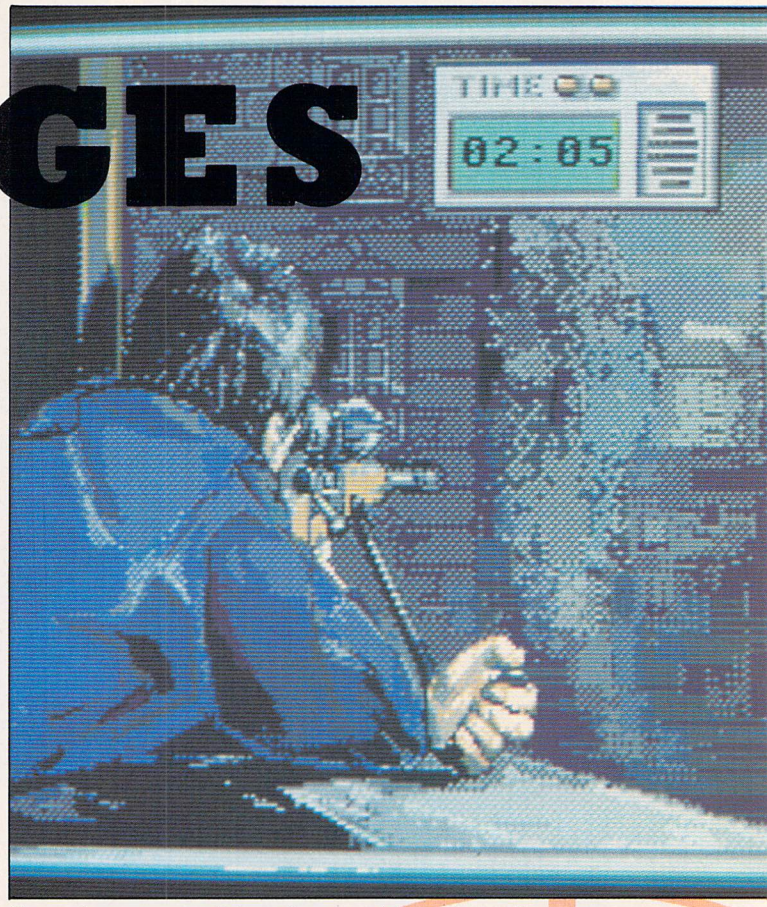
The graphics are sombre but stunning and the sound effects complementary, and at times startling.

Some people have been taken hostage and the terrorists responsible for this outrage have abandoned their cars and entered an embassy.

Your mission is to lead a team of crack combat commandos to their rescue. This should be achieved without loss to either your team or to the hostages.

The game loads with a beautifully animated screen of a black car and a police van dropping off your team of troops outside the Embassy.

You next have to decide the level of difficulty you wish to play at. You can choose between the rank of Lieutenant, Captain and Commander. With each ascending rank the number of terrorists increases and the ultimatum time for the mission decreases. You may also opt for a training, target, ultimatum, rescue or Jupiter mission, which again adds degrees of difficulty to your task. The briefing follows and you are ready to start the game in earnest. You are faced with a plan of the exterior of the embassy and its surrounding roads with three observation positions highlighted.



Supporting your assault team from a neighbouring rooftop

Your task is to place three of your men, Delta, Echo and Mike, in these positions.

Nothing is ever as easy as it first seems. Against a realistic street backdrop using eight different joystick operations you must move each man in turn into position while avoiding the terrorists' searchlights and bullets.

This section of the game is quite a cat and mouse situation and while enjoyable is difficult to master successfully.

Once your observers, armed with automatic rifles, are in position, the game switches to your assault helicopter.

You must now land three more of your direct intervention combat team on the embassy roof.

They in turn abseil down the walls of the Embassy and enter the building by breaking through an unguarded window. You are able to toggle action between the six members of your team via the F1 to F6 function keys.

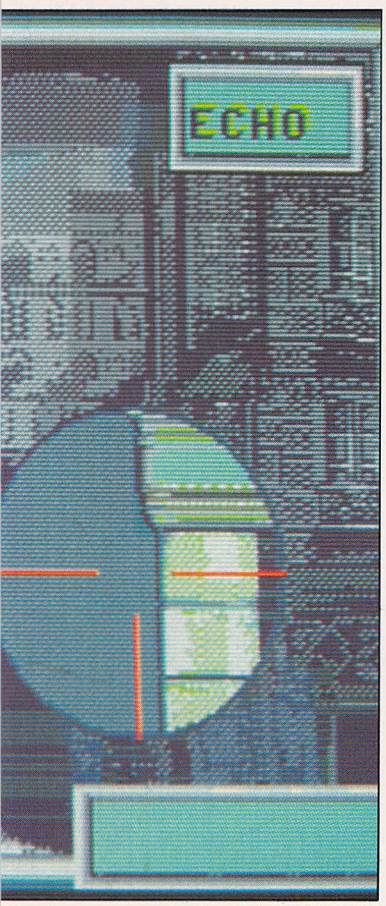
The abseiling was for me the most complex part of the exercise as your joystick movements must be precise if your man is not to plummet to his death in the street below.

Meanwhile your observation team can pick off any terrorist foolish enough to pass a window. However, care must be taken not to shoot a hostage by mistake.

Once inside the building your team can move along the corridors and through the rooms. Your aim must be to shoot any terrorist and transport every hostage up to the third floor and safety.

None of this is easy and it will take

The siege is over



SECOND Sight

This reminded me a little of Llothlorien's Special Operations, but really is in a different league entirely. The gameplay is totally addictive, graphics outstanding and sound effects thrilling.

Definitely an exercise involving as much cerebral activity as joystick dexterity. My personal game of the month.

Jayne West

several attempts at Lieutenant/Training level to master the basics of this game.

If successful, a stunning on-screen newspaper front page will announce your exploits to the world and a Croix de Guerre awaits you. If unsuccessful the same newspaper will denounce you and call for resignations at the highest level.

Hostages is outstanding – buy it today.

Nic Outterside

Sound	***9***
Graphics	***10***
Playability	***10***
Value for money	***10***
Overall	***10***

The joystick snapper

Program: Daley Thompson's Olympic Challenge
Price: £19.95
Supplier: Ocean, 6 Central Street, Manchester M2 5NS.
Tel: 061-832 6633

GAMES programmers may come and go but Pete Johnson must rank as one of the best around. He has been responsible for some excellent conversions and great originals – like Arkanoid and, more recently Whizball.

Daley Thompson's Olympic Challenge is his latest classic. It is a sports simulation, but unlike much of the recent wave it seeks to emulate an entire event from the gruelling training through to completion.

The game is supplied on two discs in a presentation pack with a giant poster and tape of specially recorded music – evidence that some manufacturers are aiming to give better value for money.

As it boots it presents a high-score table which bounces around the screen like a ball in Arkanoid.

The first event is the training. Here you must waggle the joystick very quickly for a full two minutes while a digitised picture of hunky Mr Thompson does its stuff in the gym, tossing weights around like paper. It looks and feels very realistic too.

The training is essential to build energy reserves – displayed as bottles of Lucozade. The more bottles you fill the better your chances in the main event, because they can be used before the start of your weaker events.

With training complete the games proper begin. These are played over two days just like the real thing. At the start of each one you are asked to select a pair of shoes, ranging from spikes to sandals.

I'm not well up on sportswear so I consulted the instructions only to be told – that I would have to work out which pair to wear myself. Correct selection was essential for optimum performance – or words to that effect. Some help they turned out to be.

The games follow a similar line. The digitised graphics are superb but the screen design could be improved. On the left is the animated digitised image of Daley in action, but in many events the real action, centre screen, consists of a few animated blobs.

SECOND Sight

My sporting prowess puts me firmly in the role of a Monthly Thompson, but this game had tired muscles working overtime again. Admittedly the muscles were in my wrists, but rarely has my joystick taken such punishment for such little reward.

This is a highly enjoyable but very difficult sports simulation with truly addictive gameplay. Not one for the faint-hearted.

Nic Outterside

I've played Olympic Challenge until my arms felt like falling off and still can't get very far. In many respects I found it just too difficult, and the instructions let you make a hash of things.

In the end, for all its superb graphics – without doubt the best of their type yet – the game is simply too frustrating to be fun and lacks the family appeal of lesser rivals. Only recommended for joystick-snapping, bulging bicep-owning decathletes.

Karen Adams

Sound	***7***
Graphics	***10***
Playability	***6***
Value for money	***6***
Overall	***7***

The Daley Papers' report on your performance

Racing against the clock

Program: Lombard RAC Rally
Price: £24.95
Supplier: Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.
Tel: 0625 878888

IN the depression year of 1931 it was decided to set up an alternative to the famous Monte Carlo Rally here in Britain. The result of this momentous decision is the now world famous Lombard RAC Rally.

Covering 1,700 miles, with special stages taking up 350 miles, it has gained international status, and is now a qualifying round for three world championships.

In this simulation, taking charge of a Ford Sierra RS Cosworth which, incidentally, hasn't yet won this event, your main objective is to finish in first place.

However, before being allowed to participate in this prestigous race you must cover each of the five separate legs, in any order you wish. You must finish in the top three in at least one of them by beating one of the pre-set time limits.

Each leg consists of three stages, which can be on normal roads, mountain roads or forest tracks, with the driving conditions being described as normal, night and fog. These last two will need a good pair of front lights, which can be bought in the workshop.

The workshop should be visited after every leg, and any necessary repairs carried out. New parts can also be bought, including extra engines, lights and steering systems. If the Cosworth becomes too damaged, you'll be forced out of the rally.

Money can become a big problem, especially when the car is in desperate need of attention. There are two ways of getting cash, the obvious one being completing a leg within a set time. The less evident method is to appear on a TV interview.

This is simply a multiple choice trivia quiz, which asks you a random set of five questions connected with rallying. The correct answers can be found in the accompanying driver's manual, but as you've only got 40 seconds to answer all five, a fair bit of guesswork is needed. £50 is awarded for each right answer, but £20 is lost for each wrong one.

The view from the car is from the back seat between driver and the co-driver, with the gear lever directly in front of you, and a couple of gauges indicating speed, revs and the general condition of the car.

To change gear, move the joystick up or down and press the fire button. As the up/down movement of the joystick also controls the revs of the engine, dropping down a gear and accelerating at the same time is nigh-on impossible.

Steering is carried out by moving the joystick left and right, which is copied by the driver turning the wheel. There's no reason why the car controls couldn't have been operated through the mouse, which would have made the game slightly easier for me to play.

Navigating the course

Lining the edge of the road are warning flags and other hazards including trees, oil drums, hay bales, bushes and banners, which are usually placed near corners, giving a good indication of the tightness of the bend. They can also prove rather dangerous when you crash into them.

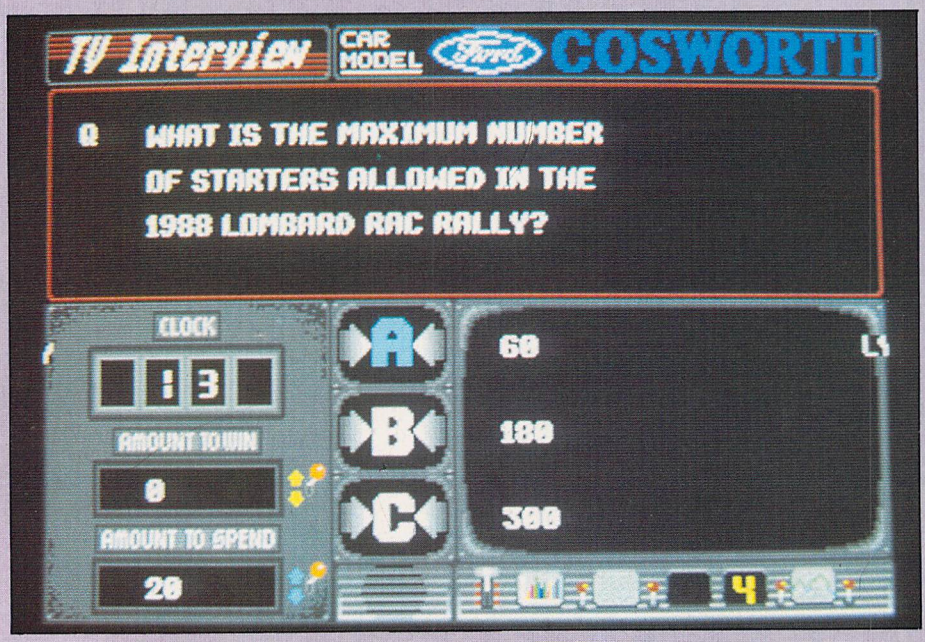
The main problem on mountains is avoiding the boulders and posts which line each side of the narrow twisting road. Passing other cars, which started out in front of you, can also be quite dodgy, and is best left for straight sections of road.

Watch out for blind corners just over the brow of hills, as driving on the grass will bring your speed right down.

The co-driver holds a clipboard which shows the map of the stage you're attempting, and a stop watch indicating how long you've taken.

Don't pay too much attention to the map, except for general orientation, as it occasionally shows bends where the road is straight. A clock gives your current time for all three stages.

The graphics are by no means the



The multiple-choice question interview

In the pit workshop

SECOND Sight

Just when I thought I had seen the last and best racing simulation, Mandarin decide to release Lombard RAC Rally.

This is unlike any racing simulation I have seen for the ST and provides a breath of fresh air after the high speed assaults of games like Outrun and Turbo ST. I have yet to get past the first leg, but find the game totally addictive.

Nic Outterside

best I've seen on the ST, but are still pretty good, especially the interior design of the car.

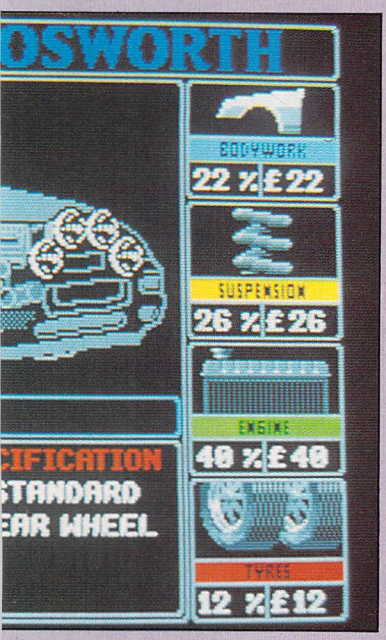
However, the speeds at which you'll be travelling leave little time to admire the scenery. A nice touch in this department is that when gears are changed the driver grabs the lever and moves it to its new position.

The packaging is sturdy and attractive and includes a driver's manual, 15 maps – one for each stage – and two Rally stickers to put on the back windscreen of your 2CV or whatever you drive.

If you like racing simulations this one is well worth taking a look at. The greatest prize in rallying is within your grasp, but are you up to it?

Henry Dee

Graphics	8
Sound	8
Playability	9
Value for money	9
Overall	9



1943

How I won the war

Program: 1943
Price: £19.95
Supplier: Capcom/US Gold, 2/3 Holford Way, Holford, Birmingham B6 7AX
Tel: 021-356 3388

THIS arcade conversion takes you back more than 40 years to the Midway Islands off which the Japanese navy suffered some of its biggest war losses.

You relive the action at the controls of an American P38 warplane. The aim – to devastate the gigantic battleship Yamato. You are no sooner airbourne from your carrier than you are the subject of hostile fire from many small warplanes flying towards you from all directions.

You get a bird's-eye view of the action. Most of the battle area is over the sea, however sometimes you will fly into clouds or over islands which makes spotting enemy fire more difficult. Larger aircraft will sometimes fly in from the bottom of the screen and blasting these out of the skies will take more than one hit. Whenever you fly into another plane or are hit by a bullet some of your fuel will be drained away.

As you progress slowly towards the Yamato, the word "Pow" will occasionally appear on the screen. If you fly over the word you will be given extra fuel. However, if it is shot it will change to one of six types of special weapon, for example, multi-direction or rapid fire. Fly over it now and you will have this weapon for a couple of minutes.

Once all the planes have been shot down you will encounter a massive plane not unlike the American B17 Flying Fortress. Dodge its fire and keep your guns blasting – it takes a lot to down this one.

Further stages with planes and small boats lead you up to the big kill you've been after. As you approach Yamato you will see all her guns swivel in your direction.

When you feel that the going is getting too tough, a quick tap on the spacebar will drop a smart bomb. This will have the effect of a single bullet hitting all enemy forces at once.

You start with three planes. One is lost whenever your fuel is drained but occasionally you will gain a bonus life. At the end of the game if you have achieved a high score your initials can be entered in the Hall of Fame.

Those who have played the coin-op version may remember that during a two-player game both players were on screen at the same time – as is shown in the screen shots in the advert for the game.

The advert says that these shots were taken from the ST version. Unfortunately when I selected the two-player option on my Mega ST only one player could fly at any given time.

You will need both a colour monitor and joystick – there are no other options available for control. Another nice shoot-'em-up with pretty graphics, good sound and the ability to keep you hooked to the ST well past bedtime.

John Butters

Sound	7
Graphics	7
Playability	7
Value for money	8
Overall	8

SECOND Sight

Bandits at six o'clock ... Nip in the sun ... yes, it all comes back. Those steamy days in my Kittyhawk trying to pin down that illusive Zero before blasting it from here to eternity.

1943 is an exciting re-creation which will have you strapped in your cockpit for hours on end – well at least until you need to refuel.

Nic Outterside

A bird's eye view of a dog fight over one of the islands

The title screen

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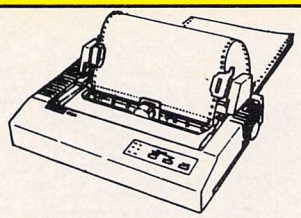

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Product: Bombuzal
Price: £19.99
Supplier: Imageworks, Headway House, 66-73 Shoe Lane, London EC4P 4AB.
Tel: 01-377 4645

Explosive action

BOMBUZAL is a superbly addictive game from Imageworks aimed squarely at puzzle fanatics. The object is simple – to explode all the bombs on each sheet of this 120-level game.

You control a cute little fat character, all head and no body. His massive peering eyes, bulbous red nose and toothy grin are quite comical, and the way he covers his eyes with his hands when a bomb explodes is hilarious.

You control this comic-book character and as the game starts you are standing on a platform constructed of tiles amid a sea of blue bricks.

The view is either bird's-eye 2D or isometric 3D, and at the start of each game you can choose the type of display. The former makes the task slightly easier as you can see more of the platform – which is usually larger than the screen.

You can move anywhere on the platform, and on some tiles you'll find large red bombs. These can be detonated by moving on to them, holding down the joystick fire button and stepping off. The bomb explodes, demolishing the tile.

If that's all you had to do this would be a very simple game, so as you might expect problems crop up early on. If two bombs are next to each other the explosion from one will detonate the other. In fact, chain reactions can occur all round the screen, simply caused by setting off a single bomb. The first difficulty lies in finding a safe tile to stand on when you detonate a bomb – you may be blown to kingdom come in a chain reaction.

The second difficulty lies in choosing the order in which to detonate the devices. Explode the wrong one and you may block your route to the next, leaving you with only one option – to jump from the platform to your death.

More complications arise as you progress through the screens. You'll encounter larger bombs which have a much bigger blast area taking out the surrounding tiles, including the one you're standing on. There is a way round the problem – but you'll have to discover that for yourself.

In addition to this, swell bombs change their size, and atom bombs set off all the other atom bombs. Some tiles are cracked and shatter when you walk over them, but others are riveted and can't be destroyed by explosions. Watch out, too, for ice – you'll slide right over the edge if you're not careful.

That's not all. Spinners shoot you off in random directions, switches build bridges, teleports transport you to different tiles and so on. To cap it all there are droids – both friends and enemies – which wander about the tiles on the upper levels introducing more mayhem and problems.

The graphics are faultless, the gameplay highly addictive, the sound adequate and it's a totally original idea to boot. I can thoroughly recommend this very entertaining game.

Roland Waddilove

SECOND Sight

New concepts in arcade games are few and far between, so Imageworks is to be complemented for producing an original idea, and it's non-sexist and non-violent too. That is, apart from detonating bombs, but no-one gets hurt in the process.

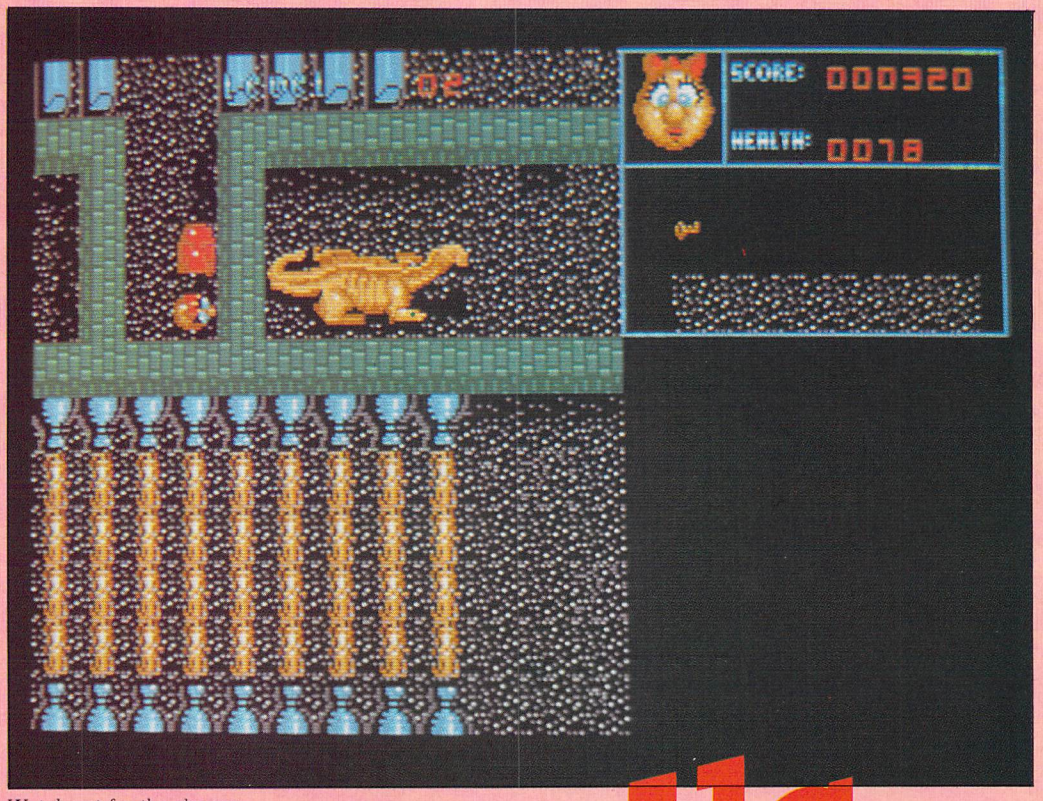
Great graphics, super sonics, addictive action and fabulous fun for all ages. Buy this, you won't be disapponted.

Janice Murray

Sound	*8*
Graphics	*10*
Playability	*10*
Value for money	*9*
Overall	*9*

Puff balls

Program: Puffy's Saga
Price: £24.99
Supplier: UBI Soft/Electronic Arts, Langley Business Centre, 11/49 Station Road, Langley, Berkshire SL3 8YN.
Tel: 0753 49442



Watch out for the dragon

ON the whole we Brits have very few nice things to say about the French – they don't speak English, they consume dismembered amphibians and they drive on the wrong side of the road. However, despite all of these handicaps, they write some incredible software for the Atari ST.

Puffy's Saga – a game by UBI Soft – is a Gauntlet/Pacman hybrid with a hefty sprinkling of arcade/adventure thrown in for good measure.

The hero of the piece is a cute bouncing ball which was unfortunate enough to become trapped in an alien maze.

Pandering to the wishes of we female gamesters, UBI Soft has included Puffyn – Puffy's feminine counterpart. Sporting long eyelashes and a pretty red bow, she too must face more than 20 levels of deranged alien beings – each bent on her destruction.

The mazes are constructed from a variety of materials, with a clever combination of perspective and shadow being used to create a believable 3D effect. Progress to the next level is achieved by collecting every brown pill from the current maze.

Puffy/Puffyn's exploration of the maze is hampered by both inanimate objects and highly animate beings.

Barriers take the form of brick walls, metal fences and mysterious invisible columns – these last structures appear from nowhere on level two just as you are about to gobble up a complete row of life-giving hams.

Aliens come in five different flavours, with each type depleting your health points by differing degrees. The red Pacman-type ghosts, often found patrolling the maze in large numbers, can be stunned with a single shot or killed with three.

Looking rather like small brown seeds, the eyes lie dormant until you are within striking distance, then they pounce. Leaping an inch at a time, they sap your energy at an alarming rate. At this moment in time I have still to find a cure for this eye trouble.

Easily the most impressive of the aliens are the dragons. Complete with bobbing heads and lashing tails, the huge beasts belch yards of flame to the accompaniment of sampled roars.

Fortunately the maze also contains various goodies that can make your life a little easier. By popping in a few pills you can endow yourself with special powers – extra speed, invisibility, transportability and – my favourite – fire power. Activating this pill will give you a case of halitosis that can make toast at 30 paces!

In addition to the excellent graphics, a superb atmosphere is created through the extensive use of sampled speech and sound effects.

Puffy's Saga is a game that can be tackled in a variety of ways – you can make a dash for the brown pills and on to the next level, or you can explore each maze fully and rack up some points.

Whichever route you choose, I can guarantee that you'll be playing for a long long time.

Carol Barrow

Searching for an entrance to the room full of ham shanks

Second Sight

What a beautiful game. This one had me entranced for hours – the gameplay is just so addictive. Never have so many balls given so much enjoyment to one so cynical.

The graphics are superb and the sound effects comical and appropriate. Buy it, I can vouch that you will not be disappointed.

Jayne West

Sound	*9*
Graphics	*9*
Playability	*9*
Value for money	*9*
Overall	*9*

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Program: Where Time Stood Still
Price: £19.95
Supplier: Ocean, 6 Central Street, Manchester M2 5NS.
Tel: 061-832 6633

THE strange thing about When Time Stood Still is it's one of those games which gives an impression which later turns out to be totally unfounded.

My initial reaction was in fact, total dismay – or put more bluntly, yeuch! Almost completely monochrome graphics on a colour system like the ST. What are they playing at?

The plot is simple and not unlike some 1950s B movie. A plane has crashed somewhere in an uncharted region of the Himalayas. The four survivors led by Captain Jarret have to find their way back to civilisation.

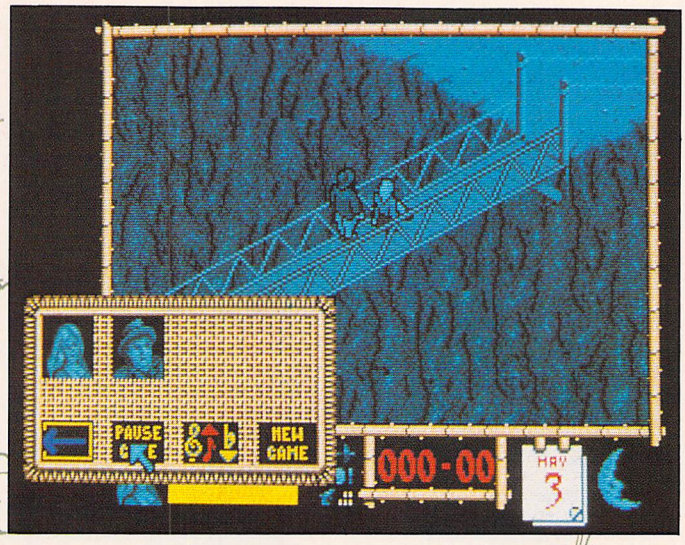
Supplies are at a premium, there's a serious clash of personalities and to top it all, the place is swarming with prehistoric perils and carnivorous cannibals.

Your job is to guide the party through a land which time has wisely given up as a bad job and lead them to safety.

Here's where the four stereotypes come in. Jarret's a hunky Indiana Jones type pilot, Clive a rich, hopelessly overweight businessman whose beautiful daughter Gloria finds Jarret strangely attractive but is engaged to the athletic Dirk.

This mini soap opera undoubtedly leads to minor scuffles later in the game.

The characters are controlled by way of a pop-up menu system. Pressing the left mouse button brings up the selection menu. From here each character can be chosen and given instructions. The system is simple – an object is moved from the On the Ground box in to the Inventory box.



The character responds by leaving the party to get the object if it knows where it is. Although this method does work well, the screen update makes cursor movement irritatingly sluggish.

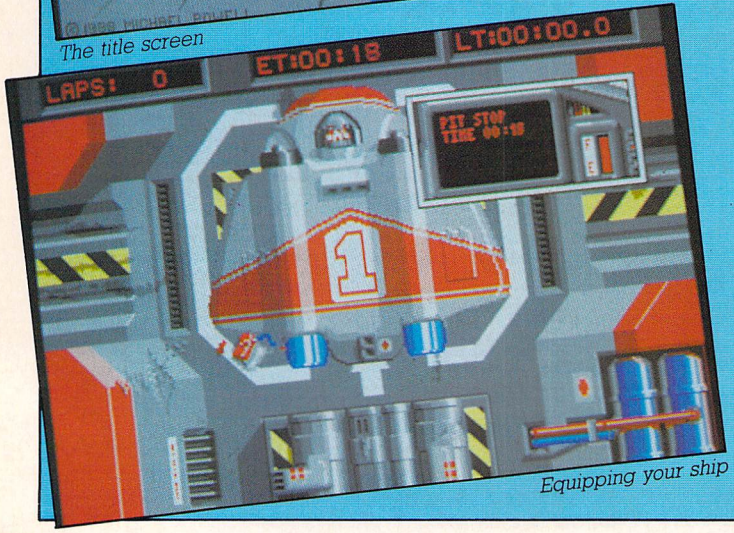
The characters and even some of the baddies communicate with you and among themselves through pop-up cartoon bubbles, like: "Oof, I've been hit" or "OK Jarret, that's it, I'm finding my own way home". While such text isn't going to win the Booker prize for originality it does add atmosphere.

Finally, one problem shared by all isometrically projected 3D games is the control system, our minds and therefore our joysticks just aren't geared up to the diagonal movements required. Just for a change.

Where Time Stood Still makes use of either mouse or joystick – and it works very well.

Using the mouse makes life a lot simpler and in no time at all I found myself

The title screen



Equipping your ship

Fly me!

Program: Powerdrome
Price: £24.95
Supplier: Electronic Arts, Langley Business Centre, 11/49 Station Road, Langley, Berks SL3 8YN.
Tel: 0753 49442

POWERDROME is the futuristic equivalent of today's Formula One racing car championships. Five of the galaxy's finest pilots compete for the Powerdrome trophy over a series of six races, each one being held on a different planet.

Once you've decided whether to use joystick or mouse I suggest you try a few practice laps before challenging the big boys.

Track zero should be your starting point – at least this circuit is constructed in a horizontal plane. Some of the later tracks employ tortuous vertical twists and loops. The demo routine shows how one such track can be negotiated by an expert – I was almost airsick.

Your quad boosted turbo-rapide Typhoon is a swift beast in its standard form. The tune-up option enables you to set it up for the prevailing atmospheric conditions and the topographical rigours of the next circuit.

Changing the size of the aerofoil affects your rate of turn, while the choice of atmosphere intake filter can greatly affect your engine's performance on an alien circuit. To cap it all there is a selection of fuels available, ranging from turbo derv to two star economy.

There is a learning curve with all good games that you must endure before you can reap the benefits of your new-found skill and thrash your friends. Powerdrome is one such game.

The Typhoon is a phenomenally responsive ship to fly. When flying at anything over 50 per cent thrust the slightest twitch of the mouse will send you scraping along the wall that borders each circuit.

A competitive race is divided into two sections – qualification and the race itself. The qualifying laps determine your grid position, once you are satisfied with your performance you can move on to the big race.

Flying around the circuit with a series of minor collisions eventually results in structural damage to the Typhoon. A visit to the robopits is an unavoidable fact of life that has been beautifully programmed. At your

SECOND Sight

Unlike Julia I loved this one from the outset – something quirky about the gameplay which had me hooked. I've not seen any arcade-adventure quite like this.

Character interaction and humour is refreshing and the game plays like film. Play it and see for yourself.

Nic Outterside

playing the game without having to think about the controls.

I have to admit I'm completely hooked. Where Time Stood Still really is a good game, despite my first impressions. There are lots of surprises and plenty of humour for any arcade-adventure freak.

Julia Forester

Sound	4
Graphics	8
Playability	9
Value for money	8
Overall	9

SECOND Sight

Enter the Powerdrome for an experience you simply will not forget. Hold on tight, for those corners are treacherous and the slightest lapse in concentration could be your last.

This wipes the floor with all other racing simulations I have seen and fits firmly into my personal Top Ten ST games of all time.

Nic Outterside

command a series of robot arms remove and replace the damaged sections of your battered craft.

Stunning graphics and sound effects are used throughout the program and the speed of the faultless animation is breathtaking. Powerdrome is the perfect blend of flight simulator and race game – buy it!

Steve Brook

Sound	8
Graphics	10
Playability	9
Value for money	8
Overall	9

Spy snatcher

SECOND Sight

Program: Espionage
Price: £19.95
Supplier: Grandslam Entertainments, 12-18 Paul Street, London EC2A 4JS.
Tel: 01-247 6434

"Control to agent RU12, come in". Just about made it with the last stash of microfilm and set to terminate agent B4ME now!

Espionage had me glued to my ST as I struggled to become Masterspy and let my inner urges of greed and cunning come to the fore. Something is surely lost in the conversion from the board game classic but a lot has been added to make this truly addictive and enjoyable.

THINGS are never what they seem and that age old cliche certainly applies to the board game of 1988, Espionage. It is presented in a pleasing but hardly flamboyant manner with a simplistic playing board and plain moulded playing pieces.

However, that is only stage one of the great deception. The game is something akin to a cross between Chess, Risk and Monopoly, but set in the world of spies and spy-catching.

It is a chilling affair which will have you tearing your hair out in frustration one minute and laughing at your playing partners' follies the next.

As a board game it is set to take the games world by storm and promises to be the biggest blockbuster since Trivial Pursuits.

What of the computer game of the same name? Grandslam must have been chuffed to the back teeth to secure the rights to market the micro version of Espionage. Hence they are well set to reap rewards as a backlash from board game sales.

For the ST Espionage is presented in a sturdy and impressive looking black box with detailed instructions and a stunning poster. It sets out to faithfully recreate the board game on your small screen with a number of enhancements and a few hiccups.

Boot the disc and you are presented with the standard option of playing against up to three opponents. Each can be either a human or a computer-generated spy. You can if you wish play a simple head to head against the computer – which is probably the ideal practice mode.

At this stage you can also opt for background sound – which I found to be an annoying irritation – and the use of sanctions, which are akin to huffing in draughts.

The left hand two-thirds of the screen is dominated by the playing board while the remaining area contains the Help icons in a generalised Status page.

Cards are cut to decide who starts the quest and your primary task is to deploy your 12 spies on any unoccupied squares on the playing surface during a period of the game known as Détente.

You have six courier agents who once deployed can move any number of squares diagonally across the board. Two surveillance agents only move vertically and horizontally and four secret agents who are able to travel in any direction.

Conflict then begins as you take turns to move one agent at a time. Your task is then to collect up to four cannisters of microfilm and return them to your base.

You click over a selected agent and the board lights up the permitted move squares in green. This simplifies a movement process which in the board game is quite tricky.

Along the way you must capture enemy agents by jumping one of your pieces across them in draughts fashion. For each cannister of microfilm collected and each enemy spy terminated you are awarded a pre-defined amount of money. One word of advice: Use the agent exchange facility widely to safely transport those prized films to base.

The winner is the player who has amounted the largest haul of cash and who still has members of his team alive. This really is a load-samoney game as the dosh comes in minimum units of £2,000,000. Sounds simple doesn't it? But just try playing Espionage and see how complicated and addictive the game becomes.

The screen graphics are bright and effective but I found the playing pieces rather difficult to distinguish despite the optional zoom. Choice of different on-screen colours may have overcome this problem.

The Status icons include a Hint facility which if selected will suggest a good move at each turn and is good news for the beginner.

A computer move generator is also available if you become truly stuck. This allows your ST to make your move for you – and is really the ultimate deception. Further icons allow pause, last move replay, and general Help sheets. These all enhance the play allowed in the original game.

However, like every board game adaptation I have seen, some magic is lost in the translation. It has something to do with the reduced size of the playing area and the lack of the communal feel that a board game provides.

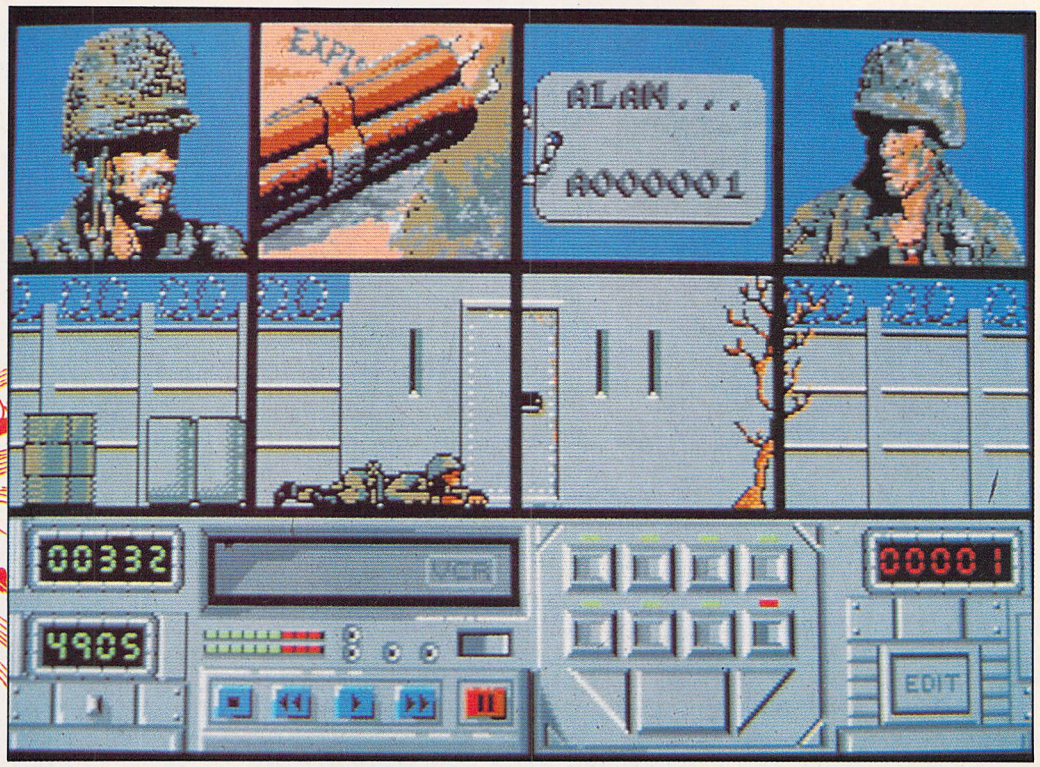
This is not the fault of Grandslam, but until we have horizontal table sized screens it is a problem which I do not foresee being overcome.

Despite my quibbles this is a game I highly recommend and one I will play on my ST for many months to come.

Nic Outterside

Sound	6
Graphics	8
Playability	10
Value for money	10
Overall	9

Product: Action Service
Price: £19.99
Supplier: Infogrames Ltd, Mitre House, Abbey Road, Enfield, Middlesex, EN1 2RQ
Tel: 01-364 0127



Negotiating the assault course

Ready for action

SECOND Sight

ACTION SERVICE from Infogrames takes the form of a series of intense military training exercises, success in which is the only way you can be selected to join the elite Cobra Force.

The training course has three routes to complete. In the first you must climb walls, crawl through drainage pipes and under barbed wire, as well as negotiate ditches and other hazards strewn throughout the course.

Points are awarded for each obstacle dealt with, but you'll lose points if you make mistakes.

Occasionally your commanding officer will bark out an order for press-ups, or to warn you of enemy aircraft and you must react immediately or lose points. As if life wasn't tough enough already, you'll have to avoid Rex, the scrawny and decidedly unsociable combat dog.

Second comes the risk route, which includes land mines, snipers and water hazards, all to be avoided. You must also handle bombs and hand grenades without getting yourself blown up – which is extremely painful, but more importantly costs points. That horrendous hound Rex is still on the prowl, too.

In the combat route opponents ambush you with machine guns, rubber bullets, hand grenades and physical assault.

You have a machine gun with which to defend yourself, as well as a small range of kicks and punches if you get involved in close combat. None of this has the slightest effect on the mangey mut, who makes his usual unwelcome appearance.

When starting the game you can select any one of these three routes or opt for a course which combines all three. The fifth course option is for one which you have designed yourself in the game's construction mode.

Here you can completely redesign the route, changing passive background scenery as well as the all important obstacles, hazards and booby traps. In fact, any element of the game is alterable – even that canine catastrophe Rex can be told when to come out of his kennel.

The new route can be saved to disc and used in place of Infogrames' own. In fact the company is offering a prize to the best designed route sent in to them and will use it in the sequel.

There is still another feature of Action Service to mention, the VCR. Having struggled through the course you can nurse your bruises during a breather and watch a video replay of your efforts.

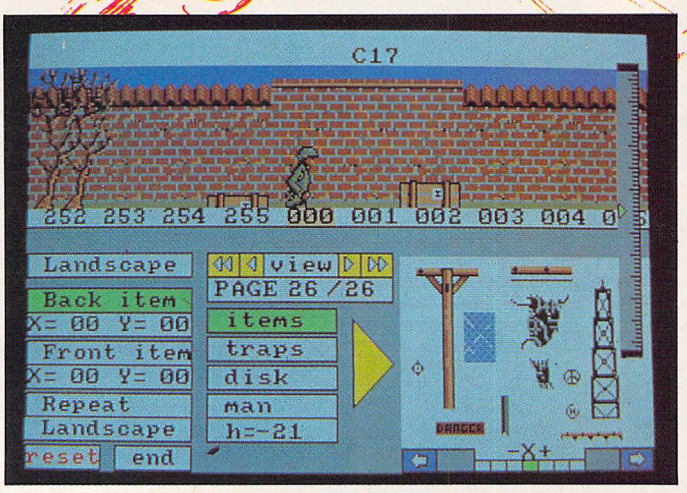
The VCR controls allow normal speed, slow motion, fast motion, fast forward and freeze frame options. You can study where and why you loused up, so you'll know better next time. A novel feature.

The graphics are pretty good, but I didn't like the screen display much. The control panel is fine, but the playing area is split into two rows of four large squares.

The top row is used only for information and warnings. For example, you'll get a close up of a slavering Alsatian when Rex is about to bound in on you. The action scrolls through only the lower four squares of the screen, and I would have much preferred a larger playing area.

The game's playability isn't unduly affected and I found Action Service great fun. The route design option should ensure that the appeal lasts.

Niels Reynolds



Creating a new route with the built-in editor

I like it and want some more. Loads of fun as you struggle to keep pace with a rigorous training programme. Some nice touches of humour and startling wobblers thrown in to catch you off your guard. This is a game I will surely go back to again and again. Down Rex, down!

Nic Outterside

Sound	*7*
Graphics	*7*
Playability	*8*
Value for money	*7*
Overall	*7*

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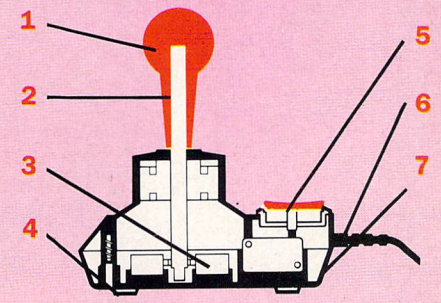

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Arturian rampage

Program: Artura
Price: £19.99
Supplier: Gremlin Graphics, Alpha House, 10 Carver Street, Sheffield S1 4FS
Tel: 0742 753423

WE are back in the fifth century, and times are hard, especially if you are the son of the King. The Saxons are on the rampage, the tribes of Albion are disunited, and your pet wizard has disappeared. Only one thing for it: Grab your axe, strap on your helmet and go out and do some chopping.

Artura is based on the myths of King Arthur, and the programmers have obviously been heavily influenced by the Celtic comic strip character Slaine, in both the plotting and design.

Under joystick or keyboard control, Artura must search the kingdom of Albion for the missing wizard Merdyn. On the way, by collecting portions of the Runestones he can be transported magically to other locations.

Mapping is pretty important if you hope to find all the sections of the runes, which are displayed at the bottom of the screen as they are completed. By pressing R you pause the gameplay and go into Rune Mode, where by using a pointer you can reassemble the pieces.

Each one completed allows you to move to another level, and once you have all seven – and have found Merdyn – you can return home.

The backgrounds are nicely coloured and detailed, and there's a good selection of enemies, including human and half-human guards, ogres, owls, rats and Death himself.

If you come into contact with any of these, your Life Serpent shows your falling strength, but you can restore this by finding food. If your strength falls to zero, you are transformed into a bird and your soul flaps off into eternity.

Things to watch out for include a rat pit, from which you cannot escape without a transport rune, and a boulder-throwing giant. Practically everything can be destroyed by your ever-hungry axes. Birds and rats take one chop, half-humans two and humans four.

By moving in or out of the screen through doorways, Artura can explore the entire realm. The screen-flipping effect between areas soon gets tiresome, but apart from that the whole game is smooth and action-packed.

Sound effects are unremarkable, but there's a good continuous musical theme which can be switched on or off.

Artura is nothing astonishing, but a good meaty arcade-adventure which will probably keep you entertained for many hours.

Chris Jenkins

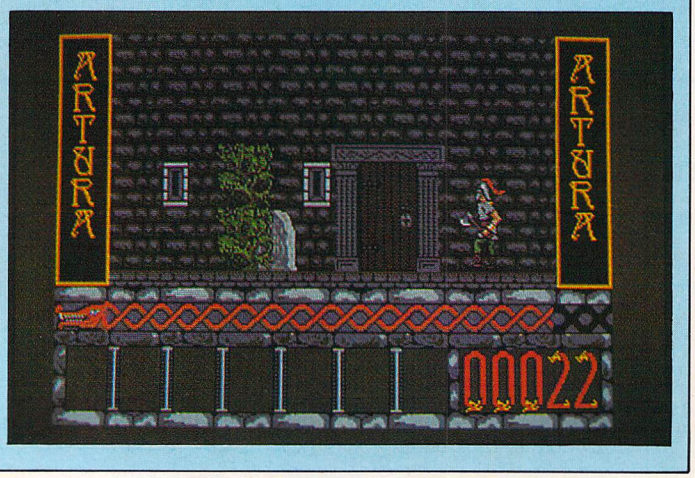
Sound	*6*
Graphics	*7*
Playability	*7*
Value for money	*7*
Overall	*7*

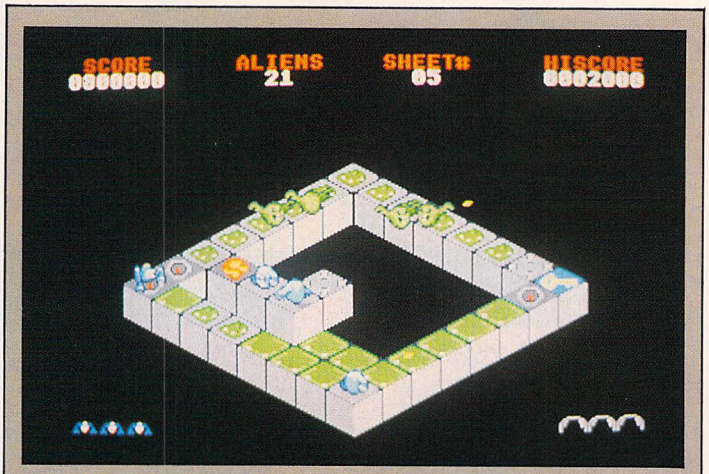
SECOND Sight

This game fits firmly into the arcade-adventure mould and though it is good clean fun is nothing much to write home about.

Plenty of nasties to chop and pits to avoid, with attractive gameplay and graphics. However, there are better examples of the same theme available elsewhere.

Nic Outterside





It's a square world

Program: No Excuses
Price: £19.95
Supplier: Arcana Software, 2 Clare Street, Bristol, Avon BS1 1XS.
Tel: 0272 297162

THE idea of No Excuses is to destroy all the flying ghosts on the screen before going to collect a key. You control a spider-like creature on a grid of squares set out in pseudo 3D fashion which you can rotate and move forwards and backwards.

You can protect yourself by using a shield which lasts for a few seconds and will destroy anything that comes into contact with it, but you only have a limited number per level.

You can fire at the ghosts with a single shot weapon which simultaneously fires up and forward, so to destroy a ghost it either has to be in front or above your spider.

The ghosts don't stand still and take this, but fly around at varying heights. When they are almost touching the ground they fly to the top of the screen ready to start their descent again.

To enable you to judge which square they are flying over, the ghosts are kind enough to cast a shadow. And to make life a bit more interesting some squares have different functions, according to the icon displayed on them.

Some help or hinder you, and some can do both like the teleport square which can either get you out of a nasty area on the grid or put you straight into the path of a low flying ghost. The rocket square is not actually a rocket, as it moves up and down; when you get on it you are thrown a few squares away.

A particularly nasty one is the atom square which simply atomises your spider if you land on it. Other squares are made out of jelly which collapse plunging you into a pit if you loiter on them too long.

Two squares which mean instant death are the electric and the death squares. If you step on the electric one you vanish in a flurry of sparks – if you step on the death square out go your lights.

Another that is instantly recognisable is the Superman square due to its use of the superman logo. When you collect this one you are given wings which increase your speed and make you invulnerable to certain deadly squares.

If you are negotiating a dangerous area of the grid on a higher level you need to be in full control of your spider so the last thing you want to run into is a patch of ice.

At the other extreme are patches of glue which can put you in a sticky situation.

There is a time limit which can be extended if you are lucky enough to find a time square.

Although the game does not boast any very revolutionary ideas it is mildly addictive and should suit most peoples' tastes thanks to the ability to redefine both controls and screens.

Stephen Cogan

Sound	*8*
Graphics	*7*
Playability	*6*
Value for money	*7*
Overall	*7*

SECOND Sight

It's all a matter of squares really. A very interesting game idea which had me foxed to begin with. Gameplay isn't easy but it soon becomes addictive.

Loads of ghosts and nasties to avoid or kill and some complex puzzles to overcome. The screen designer is a pleasant addition and adds to the game's value.

Nic Outterside

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On the ball

Program: Gary Lineker's Superskills
Price: £19.95
Supplier: Gremlin Graphics, Alpha House, 10 Carver Street, Sheffield S1 4FS.
Tel: 0742-753423

MAKING it to the top in any sport demands dedication and training, and football is no exception. Gary Lineker's Superskills gives you the opportunity to develop both fitness and ball skills.

You can practise both in the gym and on the training grounds. The gym section consists of weight training, press-ups, squat thrusts and monkey bars; outdoors offers training in dribbling, chipping, shooting and penalties.

Three skill levels are available for each event – novice, apprentice and professional – and up to four players may train.

Imaginative animation provides plenty of amusement as you struggle to master gym skills. For instance, failed press-ups return a picture of your character lying face down, punching and kicking the mat in a fine old tantrum.

On the field, ball juggling sees you keeping the ball going with knees, shoulders, head, neck and feet with a set number of each move to be completed within the time limit.

Also on the field is the task of dribbling round different coloured cones. You have an overhead view of the player and vertically scrolling course and my initial impression was of simplicity as the ball sticks like glue to the player's foot as he twists and turns.

However, gluey play is slow, and to complete the course on time you must kick the ball ahead of you then time your run to turn at the right moment – definitely not so easy.

Having successfully completed the dribbling skills the next two sections allow you the chance to score penalties and shoot through suspended tyres.

The game offers plenty of variety for sport simulation fans with its combination of power, speed and delicacy of movement, but I was unhappy with the messing about between events.

Lots of disc swapping is involved and the irritation of having to type the players' names in after every attempt at each event made for frustration.

Pat Winstanley

SECOND Sight

I enjoy sports simulations, but find these test events a little on the tedious side. This game pushed hard on the boredom button after only an hour of play, despite imaginative animation.

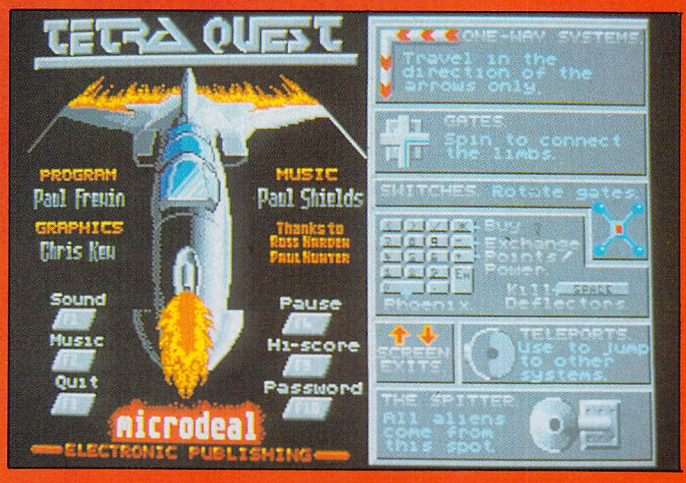
Still there are some interesting variations on the gym training theme and the outdoor ball skills are quite fun. Definitely one for the sports enthusiast.

Nic Outterside

Sound	7
Graphics	7
Playability	5
Value for money	7
Overall	7

Phoenix rising

Program: Tetra Quest
Price: £19.95
Supplier: Microdeal, PO Box 68, St Austell, Cornwall, PL25 4YB.
Tel: 0726 68020



TETRA QUEST is supplied in the usual Microdeal cardboard box which is about 10 times the size of the disc.

The game's story concerns an intergalactic Olympic Games. Just as the athletes from many different worlds have assembled in the arena and Phoebus, the Sun God, is about to ignite the Olympic flame a messenger runs in.

Disaster has struck, the Tetroids of TetraDome who were not invited to the tournament have stolen the six Phoenix tablets which are necessary for the games.

Each tablet has been split into 64 pieces, there just happen to be six sections of the planet, so in each section there are 64 pieces of a tablet.

The game is further sub-divided into levels. There are four screens to a level, and on each screen there is a numbered coin. You have to collect the four coins in order, but on different levels they will be on different screens.

When you have collected all four a part of the Phoenix medallion will appear on one of the screens. Phoebus will give his power to the being who accepts the challenge and goes to the TetraDome to search for the tablets.

With this power you will have the ability to mutate into a mighty Phoenix and fly above the normal paths laid down. But this power is limited to the amount of energy you have collected.

You control a runner which can only move along laid down tracks which crisscross at various points. There are also gates which can be turned round to connect different sections of track by moving the runner through a switch.

You can't have a game like this without creatures to zap, and there are several types which are deadly to touch. They are generated from a spitter on each screen.

Others have special functions, like Acid, a rectangular grey creature. When shot it spews acid on the tracks nearby and erodes them almost instantly so you can't travel over them.

When you shoot creatures you build up power which is shown in a test tube on the right hand side of the screen by acid bubbling away.

Every time you turn into the Phoenix you use up a life and some of the power. You can exchange points for lives, and you can also buy and sell power for points.

When you have collected all the gold coins and have moved over the medallion, your power is exchanged for points and a picture of the whole medallion is shown with the sections you have collected flashing.

The game is addictive, but a bit too hard for me. It should keep your interest for a reasonable amount of time.

Stephen Cogan

SECOND Sight

An interesting variation on a familiar theme with plenty of tension and good joystick response. Loads of hurdles to overcome if you are to prove successful, and plenty of good old-fashioned zapping.

The best of a current batch of original arcade games. One for the New Year shopping list.

Nic Outterside

Sound	8
Graphics	7
Playability	7
Value for money	8
Overall	8

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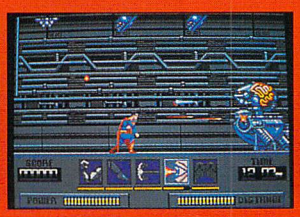

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The land of Shades

by someone who has been there and survived

I AM Whirlwind: I have been sent to tell you of Shades, a wide land wherin lies great treasure – and great danger too, if you wander around with your eyes closed and no thought of any worth in your head.

To start you must know how to enter the land. When you first play, you will have neither rank, honour nor any points. You will be a Novice and utterly useless. Therefore speak sweetly to others, and do not puff up with boasting, and maybe they will help you.

But if they will not, you had better know how to get around and get treasure. You can move in many ways by typing GO NORTH, GO UP, GO SOUTHWEST and all other directions. But you can also enter N, U and SW, which is quicker. OUT works from nearly everywhere and is good for retracing your steps if you get lost.

At first you will wish to stop and gawp at the wondrous things, and truly the descriptions of locations in Shades are lengthy and full of interesting information and clues.

But if you type BRIEF you will see only the name of your current location – you can see a full description by typing LOOK instead. This is useful, for you will move around quicker, and not have to cope with lots of words on your screen when you have to run fast from evil fighters such as Minotaur, whose name is a byword for cutting people into small bits.

When you find an object you must pick it up: So type GET (object). Not all objects are valuable: If you type GET T (for treasure) that is a quick way to tell if the object is worth anything. Then when you have it, type VALUE (object) to find its worth. Take it to the Mad King's Room, where if you drop it you will be given points for your deed, and may presently advance in rank and power.

The Mad King's Room is to the east of the courtyard in the castle, so you will not miss it. But if the drawbridge is raised you may not enter. Therefore go south from the drawbridge and you will find a way of lowering it.

That is all I can tell you for now, but I will return in the cycle of a moon and speak on matters of glory and honour: How to make a name for yourself in battle, unlike the fool Murrough, who sitteth in a safe place always and never dares risk his unlovely skin.

Until then, may the goddess protect you.

You can enter the land of Shades using your micro, a modem – and a registration to MicroLink.
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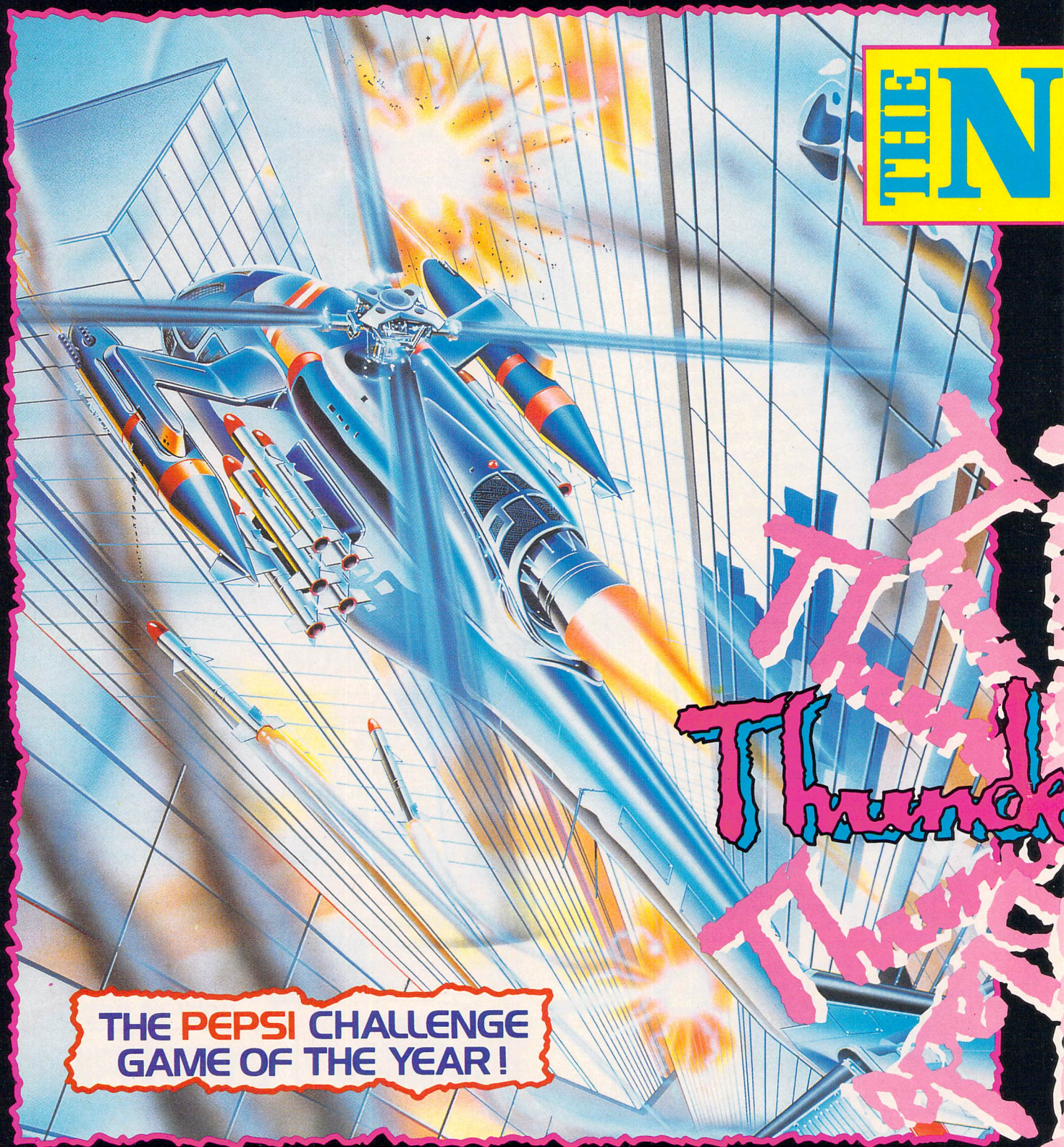

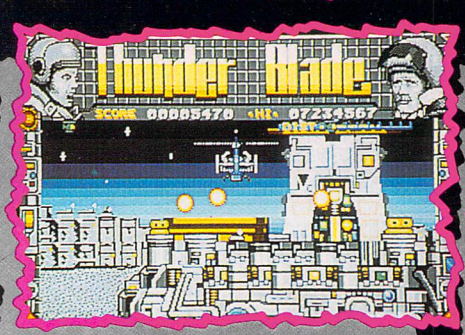

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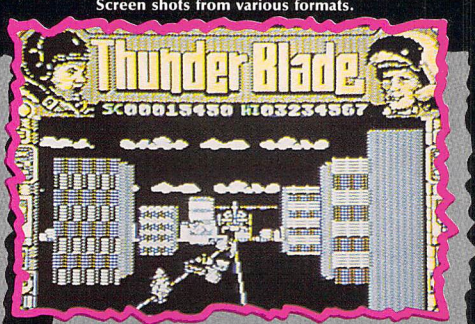

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ADVENTURES

Brillig lends a hand in solving problems for fantasy fans

Drifting through the shades of...

IT never ceases to amaze me that adventurers come from all parts of the world and from all walks of life. Take, for instance, Stephen Wilkinson, who when he's not at sea in one of Her Majesty's vessels, lives at Coalpit Heath in Bristol.

Stephen is in the Royal Navy and consequently spends several months of the year away from the UK. He has just bought Incentive's ST Adventure Creator (STAC) which we reviewed in the June 1988 issue of *Atari ST User*. He not only enjoys playing adventures but gains equal pleasure from creating his own – just the sort of person STAC was created for.

Stephen wonders whether we could run a series on writing adventure programs. We will certainly give the idea some thought, although pressure on space at present means that it is unlikely to come about for a while. What do other readers think of the idea? Do you prefer playing or creating adventures?

Many of you have written in answering the Errington family's requests for help with Shadowgate. Among those galloping to the rescue were Officer Zmiko serving at HM Prison in Featherstone, Wolverhampton, Mrs C. Maddocks from Needham Market in Ipswich, Steven Farrington (aged 11), and Iain Laskey of Southend On Sea. My thanks to you all – some of your tips are given below.

Incidentally, no-one has found out how to get past the dragon yet – in fact you can't – but most know that you should take the shield as the first item in the lair, as it will help you to buy time to obtain other objects.

Mrs Maddocks can't get past the dragon either, nor can she get down the trapdoor in the pedestal room. She also wants to know what she can do with the hair she's pulling from her head. I don't know about the last, but I can help with the trapdoor – see Hints and Tips.

Officer Zmiko tells me that at the end of the adventure a diploma is displayed which can be printed out if you have the necessary machine. He also kindly adds that he is willing to help anyone with Shadowgate if they write to him, enclosing an stamped self-addressed envelope, at HM Prison, Featherstone, New Road, Wolverhampton WV10 7PU.

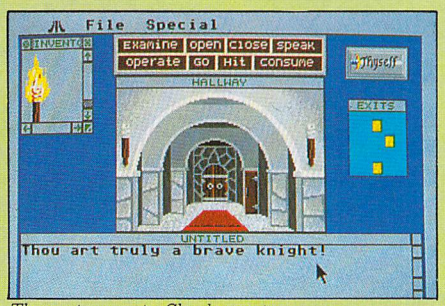
Since originally writing in, Allen and Mark Errington have made further pro-

gress with Shadowgate, but still have to locate the Staff of Ages. They also need to cross the lava in the cavern and to unlock the door in the well room. Has anyone else apart from Officer Zmiko cracked these mysteries?

Assistance is also called for with The Uninvited. Now there I can be of some use – a helping of timely tips is supplied below.

Derek Haverhamp has made little headway with Psygnosis' Chrono Quest. He has been unable to locate the time machine, so is getting nowhere fast. Since this device is the only means of travel from the castle, it is vital to further progress. Brillig to the rescue in this month's Hints and Tips!

Apparently having more than his fair share of bad luck is Graham Blake of Thornhill, Southampton. A long time subscriber to *Atari ST User* and one of our older adventurers, Graham has had a number of loading problems with games he has bought. Judging by the varied list



The entrance to Shadowgate

he sent me, I would think that he possibly needs to have his disc drive checked out – so many failures with different games looks more like a mechanical than a media problem.

Corruption has been cracked by J. Haspell of Birkenhead and I. Sykes of Coventry. Both have sent in detailed solutions, for which I thank them. Perhaps I'll give a generous sample of their advice in a future issue – the game is not the easiest to complete, so maybe a good collection of hints would be welcome among Corruption players.

Meanwhile, we have Rainbird's latest, Fish!, to tackle. I wonder who'll be the first in with a solution to that?

Finally, thanks to Jonathan Capener of Keele in Newcastle-under-Lyme for his help with Space Quests I and II, to Gordon Sands of Wolverhampton for tips on Jinxter and Mike Proctor for his comments on Rings of Zilfin – the adventure itself was reviewed in the June 1988 issue of *Atari ST User*, Mike.

Until next month, keep those letters and solutions rolling in.

Try fishing for clues

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NO doubt you've played many roles as an adventurer – bold knight, intrepid detective, fearless space traveller, and so on – but when was the last time you became a fish? And I'm not talking sharks, whales and similar assorted king-size aquatics. No, I'm talking tiddlers, here – goldfish, to be exact.

It may sound strange to play an adventure as a goldfish, but then strange is precisely how Fish!, the latest adventure from the Magnetic Scrolls/Rainbird Software team, can best be described.

There is always a great temptation when dealing with an odd and somehow comical subject to lapse into puns, and fish is the sort of topic liable to bring out the worst in all of us. But seeing as the adventure itself is packed with various word-plays on a fishy theme, I'll resist the urge to describe Fish! as a game on a grand scale.

Living as a small, scaly fish with fins and a natty little tail, swimming around a goldfish bowl with nothing more exciting to do than nibble ants eggs and pond weed may not be your idea of a bundle of fun – but wait. All is not as it seems.

In fact, you are really Agent 10, an inter-dimensional espionage operative taking a spot of rest and recuperation at the most relaxing level known to the organisation which you serve. However, you won't be doing so for much longer. Your boss, Sir Playfair Panchax, has just dropped a tacky plastic castle into the stillness of your bowl and is inviting you to swim inside where he has a message for you.

It seems that a rather nasty bunch of anarchists, the Seven Deadly Fins, are up

Turn to Page 38 ▶

HINTS AND TIPS

SHADOWGATE

Can't climb the rope?

● Say "epor" – rope backwards, of course – in the Epor room and the rope will unwind.

Keys needed?

● One is inside the book on the shelf in the room where the floor gives way if you take anything. Open the book without removing it from the shelf. Another can be found by setting fire to the carpet in the Banquet Hall.

Trapdoor in the pedestal room a problem?

● You need the white gem from the bag behind the rock in the alcove near the waterfall.

CHRONO QUEST

Where's the time machine?

● Replace the sphere on the bannisters. Enter the underground stairs by going NE from the hall and UP. Get the candle from beside the picture in the chapel. Return down the stairs to the room with a switch. Open the switch, return upstairs and remove the sphere again then return to the switch room and go up. Voilà – the time machine!

THE UNINVITED

Looking for a key?

● Try cutting a chair with a knife.

Dogs a problem?

● Use a spell that will cause thunder and lightning – try Instantum Illuminus Abraxis.

Maze a difficulty?

● Put some flowers on a grave you'll find there.

What to do with the plant?

● Perhaps someone is hungry.

Little beast won't give up a key?

● Get a cookie from the cookie jar and leave it on the floor. The beast will leave the key in exchange.

◀ *From Page 37*

to their old sabotage tricks again. This time they've moved in on Hydropolis, realm of the fish people, where they have purloined and dismantled an object essential for mankind's well-being. To whit, one Focus Wheel.

As you are one of his most experienced operatives, Sir Playfair is therefore recalling you from voluntary vacation mode and has obligingly opened up three warp holes for you to pass through. Warping is an unpleasant experience, the result of which is that you always end up in somebody else's shoes. Well, more than their shoes, in fact – you take over their entire body, having warped into host-parasite mode.

Entering any of three holes leads to a different dimension/location. One takes you to a recording studio where a beetroot-faced producer gets very uptight about your failure to make him a cup of coffee. You'll need to hunt around for some trashed cassette tapes – playing these will reward you with a veritable deluge of fish puns. Songs like "Whitespot Keeps Forming On My Head" and "Climb Every Fountain" are just two of the least painful examples!

Another warp takes you to the back of a van where you'll find a pair of jeans. No modern garments, these – unless bell-bottoms have come back into fashion.

The third warp hole deposits you in a forest clearing where a warp-junkie, one Micky Blowtorch, may soon tire of your presence and despatch you before you've had time to investigate the Smithy's workshop or explore the mine.

And by the way, there's a herring-bone overcoat in Fish! I wonder if our moaning friend, the Guardian from Jinxter, has been visiting? I couldn't find any remains of a cheese sandwich, so perhaps not.

There are several ways in which you can voluntarily or accidentally leave a warp and return to your original state as a goldfish, or whatever you were before the current warp. Sleeping is the most comfortable method of return – unless your unconsciousness has been brought about by being thumped by someone. Flashing or very bright lights, repetitive sounds and loud and heavy bangs are alternative means.

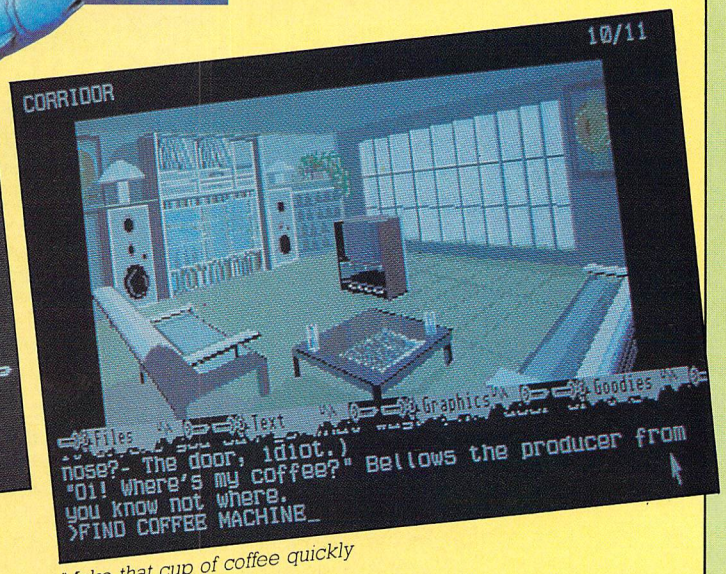
Once you've managed to solve all that's required of you in these three mini-adventures, you will then be permitted to move on to the main part of your mission. As A. Roach, fish scientist, you will take charge as leader of The Project, a secret undertaking to conserve water against the predation of that septic septet, the Seven Deadly Fins.

Fish! is highly unusual, not to say crazy, entertainment. It has many of the characteristics of Rainbird's previous adventures – excellent input analyser, a wealth of humorous text, pop-down options, plenty of colour graphics. But the best parts are the zany plot and the variety of puzzles.

Rainbird and Magnetic Scrolls have pulled it off again. Fish! is a highly amusing and entertaining adventure, well up to the standard set by their earlier products. Laughter is good for the sole so rays a smile and have a whale of a time playing Fish! Sorry, couldn't resist it.

Presentation	***9***
Atmosphere	***8***
Puzzlement	***9***
Value for money	***9***
Overall	***9***

Not a goldfish for long



Make that cup of coffee quickly

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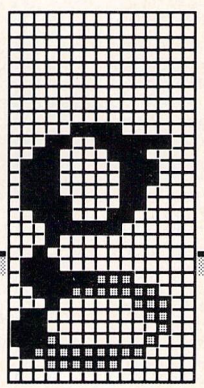

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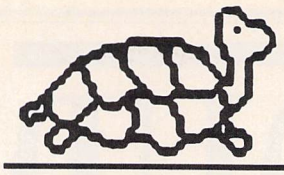

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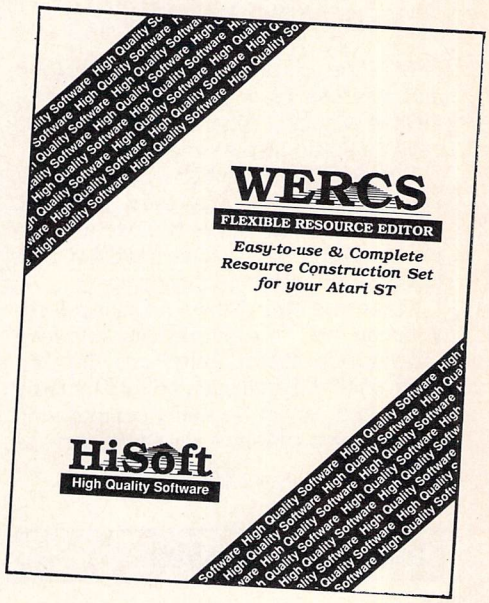
VISA

Wercs of art

A resource construction set offering a new user interface is tested by Gem expert Stephen Hill



IF you've ever tried to incorporate Gem dialogue boxes or menus into one of your programs, you will have already discovered that a resource editor of some sort is essential. Currently this market is dominated by Kuma's superb K-Resource. Now HiSoft has entered the fray with a new resource construction set (RCS) called Wercs, designed to complement its existing range of programming languages.

Two versions of the package are available. The standard Wercs system retails at £29.95 and is mainly aimed at the first time user. Wercs+ costs £20 more, and also includes four extra discs containing Gdos extensions. Gdos is an important part of the Gem operating environment concerning fonts which was sadly omitted from the ST for reasons of space.

The resource editor itself is common to both packages, and comes on one single sided disc along with a number of useful extras. Anyone familiar with one of the other RCS programs will have noticed that they all use the same basic format. The process of construction generally involves selecting a component from a parts box on the screen and then dragging it into position with the mouse.

First steps

Rather than trying to produce yet another clone of the original Digital Research RCS, HiSoft started from first principles and redesigned the entire system. The effect has been to replace all the icons by a powerful set of on-screen menus. In addition, most operations are also available directly from the keyboard.

Whenever an option is chosen the shape of the mouse pointer is changed accordingly. You can now position the component anywhere on the screen, and set it into place with a single click on the mouse.

The options

After I had used the package for some time I found that this menu-driven approach has a number of inherent advantages. You can for instance, use the whole area of the screen for your workspace while still having all the commands at your fingertips. The keyboard shortcuts are especially welcome, as they speed up the process of dialogue creation significantly.

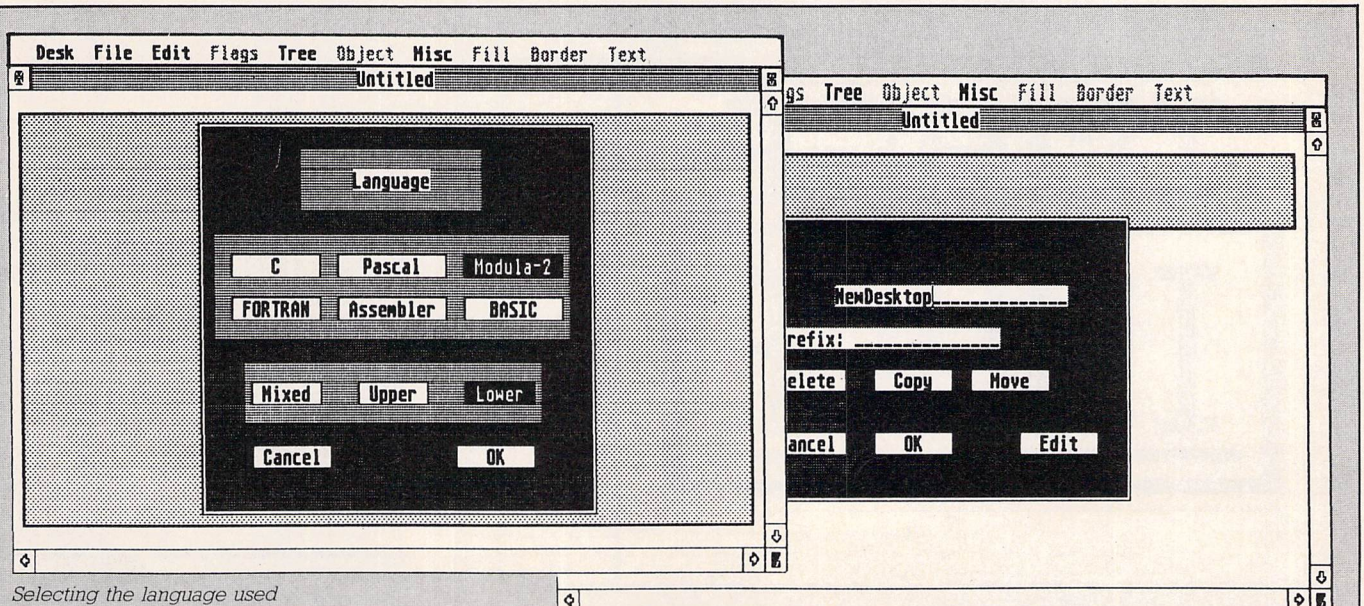
Furthermore, HiSoft has added a host of new features to the normal specification. By far the most interesting of these is the Extras option, which gives you direct access to the internal format of the resource you are constructing.

This allows you to specify the position of the various elements from the keyboard using a simple coordinate system. You can therefore produce beautifully laid out dialogue boxes without the mouse's pin point accuracy.

Another useful bonus is the provision of an impressive range of Find commands which enable you to jump to any part of your dialogue practically instantaneously. This is a lifesaver during the construction of really large resource files.

Most RCS programs only support a lim-

Turn to Page 42 ►



Selecting the language used

Creating a tree

◀ From Page 41

ited range of programming languages, and this can be a serious problem for anyone wishing to use something unusual such as Forth, Lisp or even Basic.

Wercs places all these fiddly details into an external configuration file which can be edited to allow you to tailor the package precisely to the needs of your favourite programming language.

There are two drawing options. First, you can use the simple but effective drawing tool incorporated into the program itself. Like all such editors it's fairly basic, and cannot be really compared to a full blown graphics package such as Degas.

Importing graphics

Because of this, HiSoft has cleverly included a special Grabber program on the disc which enables you to import your graphics directly from a Degas or Neochrome picture. The only significant limitation to this routine is dictated by Gem, which restricts your images to four colours and a maximum size of 128 by 128 pixels.

It's worth noting that for small jobs the built in editor is more than satisfactory. One major annoyance however, is that there isn't a fast way of changing an image's size. This can only be achieved one pixel at a time, with the screen being tediously redrawn after each operation.

I'll now examine the Gdos utilities specific to Wercs+. Gdos is a whole library of Gem routines which are included as standard with other Gem-based computers such as the Amstrad PC1512.

Gdos utilities

Among its many powerful features is the ability to generate a range of fonts which can be output to either the screen or printer. If you've looked longingly at the fonts used by Fleet Street Publisher, and wondered how you could include similar ones in your own programs, Gdos could well provide the perfect solution.

It comes on four discs containing an installation program from Atari along with the Swiss, Dutch and Typewriter fonts available in sizes of 10, 12, 18 and 24 points. In addition you can also use one of a range of Gdos fonts available from the public domain, or create your own using a font definer such as Fontz! – reviewed in the October 1988 issue of *Atari ST User*.

Note that device drivers are only included for the FX-80, NB-15 and SMM804 dot matrix printers. There is no support for the SLM804 laser printer.

Before you can call the individual Gdos functions, you first need to install the fonts on to a special boot disc using the installation program from disc one. You can now load these fonts into the ST's memory with vst–load–fonts and select one to be displayed with vst–font. Any subsequent call to the v–gtext function will then automatically output text using your new font.

During my experiments with this system, these Gdos fonts prove surprisingly effective, even when they are printed on my RX-80 printer.

The documentation supplied with Wercs consists of a 78-page bound manual plus a small leaflet describing the optional Gdos extension. The quality of the manual is easily up to the high standard I have come to expect from a HiSoft product.

One welcome departure from normal HiSoft practice is the addition of a reasonably complete index at the back. Hopefully this essential feature will also be incorporated into all its future documentation.

The Gdos leaflet is rather disappointing. Although it does provide you with much of the more important information, it is really far too short, and would benefit from a fuller examination of the more practical uses of the system. Oddly enough, the worked examples are written entirely in Modula-2 – devoted C programmers will undoubtedly find this particularly frustrating.

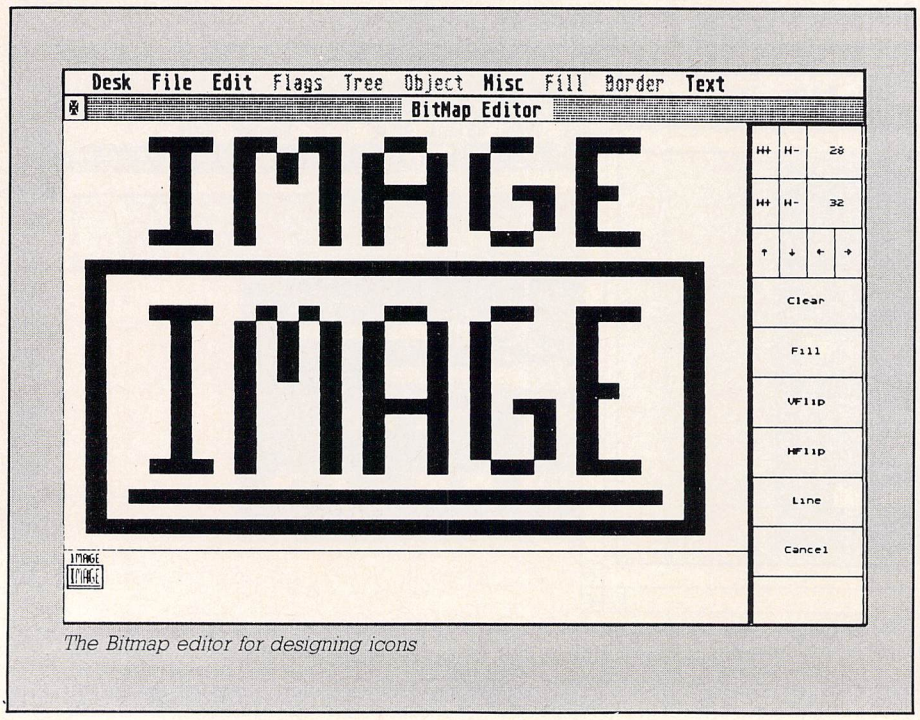
Conclusion

Wercs provides an excellent alternative to the standard Kuma RCS. Not only is it appreciably more powerful, but at £10 less it has to be regarded as outstanding value for money.

The only significant question mark over the product is raised by its unconventional user interface. Although I rather like the new approach, this is really a matter of personal taste.

On the whole, existing users of one of the other RCS programs would probably gain little by buying the standard Wercs package. For such experienced Gem programmers, the appeal of Gdos might well make Wercs+ a far more interesting proposition. After all, the only other source of these extensions is as part of the official ST developers kit costing £1000.

To my mind, the combination of Gdos and Wercs for less than £50 is a real bargain.



The Bitmap editor for designing icons

FACT FILE

Product: Wercs
Price: £29.95
Product: Wercs+
Price: £49.95
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Tel: 0525 718181

POINTS FOR:
Very powerful and flexible. Gdos supplied with Wercs+.

AGAINST:
Unconventional user interface may not suit everyone.

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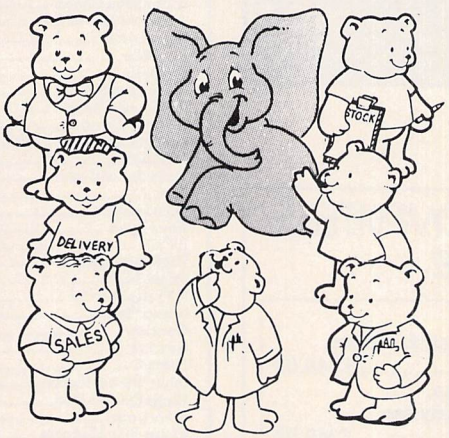

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Fun time free-for-all

There's much more to the public domain than first meets the eye, as William Hearn found out when he discovered a wealth of leisure software

MANY ST users regard public domain software as consisting only of utilities, pictures and desktop accessories. Unbeknown to most of them there's some very good PD leisure software around that deserves a far greater audience than it gets.

Quality coupled with unbeatable economy of price makes these games highly attractive additions to anyone's software collection. Take Football '88, a realistic football management simulation running in high and low resolutions.

You are faced with the unenviable task of managing a league team starting off in the fourth division. Eventually the best may reach the first division and win the FA cup, but this will take a lot of skill and effort, as well as a little luck.

Players can be bought, sold, and unfortunately injured. Each player has a set of attributes relating to his ball control, heading ability, speed, accuracy of shot, tackling skills, and quality of passing. Care must be taken to select a player with high values in the right departments: A forward with low speed and shot attributes is not going to do very well.

Choosing teams, their skill levels and managers in Football '88.

Tactics play an important role in this simulation – not many games will be won by a team fielding two defenders and no goalkeeper. One of the most innovative features is that up to six can play at once, which adds a new dimension of intense competition when players' teams tackle each other.

Football '88 is now in many libraries, but is still worth buying from its author's home town library, Budgie UK, as that will ensure you receive the latest version.

While you are saving up for the latest Magnetic Scrolls or Infocom adventure, Original Adventure, written for the Austin Atari Associates, can help stave off withdrawal symptoms. It runs in medium and high resolution and is a very close copy of the classic Crowther and Woods adventure that gave birth to the genre.

Many people still regard it as one of the finest adventures ever written, with its large number of locations, diversity of problems and unforgettable end game. This version was written in C and so gives instant responses to input.

There are one or two bugs in the program, but none make playing the game impossible. A document file detailing these faults has now been included with the adventure.

Those who enjoy rather less demanding adventuring may find the Eamon adventure system – running in medium and high resolution – one answer. The system was originally written on the Apple II and has now been ported across to the ST using GFA Basic.

It makes use of a system of attributes – strength, endurance and the like – not dissimilar to that featured in Beyond Zork. You first enter the main hall, where you can buy and sell weapons, make use of the banker to deposit or withdraw gold, and receive training in weapons skills.

From the hall you can enter any of the five adventures included on the disc. They range in difficulty from the Beginner's Cave – easy – to the Demon's Dungeon – very tough. My favourite is the Quest for the Holy Grail, which is undeniably influenced by the Monty Python film of the same name.

More than 150 Eamon adventures were written for the Apple and I hope that many more will be translated. The system certainly shows great potential.

Fans of the Boulderdash/Rockford type of game will enjoy Stone-Age Deluxe, running in low resolution. This is a rather good clone where the player has to collect cabbages and avoid being crushed by falling stones.

One feature really makes this game stand out – its built-in screen editor, which allows caves to be created and saved to disc. This adds greatly to the fun of the game, which comes with 15 screens already saved on disc.

Arcade oldies

Orion's Run is based on the low resolution arcade game of several years ago, Xevious. Your mission is to bomb enemy territory, destroying key military targets and engaging in combat various waves of enemy attackers.

There are a number of different alien forms, each requiring a separate strategy to survive. This game is of commercial quality – the backgrounds are colourful and well defined, the sprites of the player and aliens are large and smoothly animated, and the vertical scrolling is faultless. It can indeed be rated as the best arcade game in the public domain at present.

This short overview has been intended merely to give you a taste of the quality of leisure software available in the public domain. The small selection I've covered here represents what I consider to be some of the very best. I'm sure any one of them would give most games lovers many hours of challenge and enjoyment.

● *If your appetite has been whetted for more, you may find these addresses useful:*

Public Domain Libraries, Floppyshop, 50 Stewart Crescent, Northfield, Aberdeen, AB2 5SR. (Tel: 0224 691824).
Budgie UK, 5 Minster Close, Rayleigh, Essex, SS6 8SS.

```
Cave Completed . . .  Thank you for waiting.

Welcome to adventure!!  Would you like instructions?
>y
Somewhere nearby is Colossal Cave, where others have found fortunes in
treasure and gold, though it is rumored that some who enter are never
seen again.  Magic is said to work in the cave.  I will be your eyes
and hands.  Direct me with commands of 1 or 2 words.  I should warn you
that I look at all of the letters of each word (not just the first five
or six), but I do recognize abbreviations such as "NE" for "Northeast."
(Should you get stuck, type "help" for some general hints.
For information on how to end your adventure, etc., type "info".)
                                  --   --   --
This program was originally developed by Willie Crowther.
Most of the features of the current program were added by Don Woods.
This version for the Atari ST was translated by Marvin W. Rasmussen
into Megamax C from the BDS-C Users group version, which was converted
into BDS-C by Jay R. Jaeger from the "original" Crowther/Woods FORTRAN.
------------------------------------------------------------------------

You are standing at the end of a road before a small brick building.
Around you is a forest.
A small stream flows out of the building and down a gully.
>
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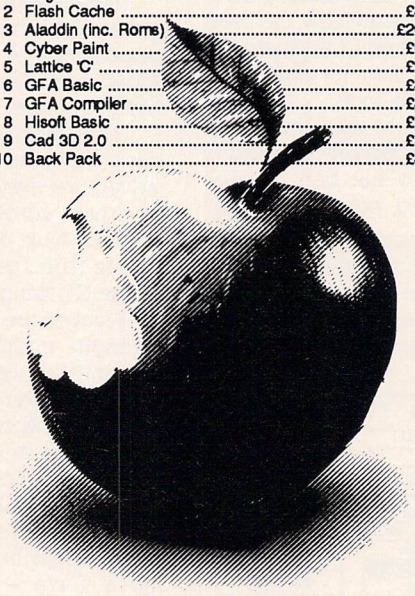

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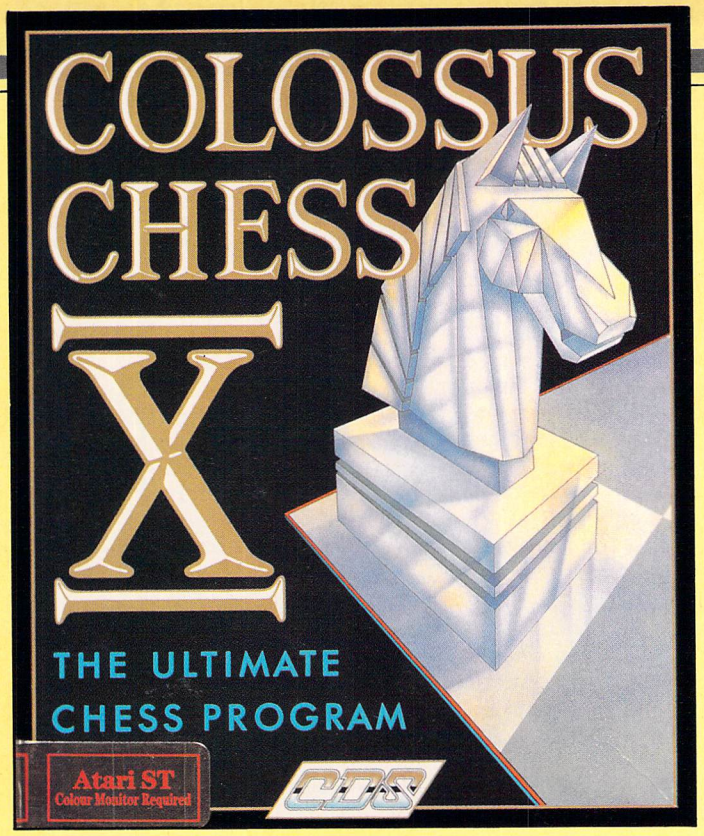


Learning from experience

Martin Bryant reveals how Colossus Chess X came to be written

THE latest version of Colossus Chess, perhaps the strongest ever 8 bit program, is now available for the Atari ST. It was developed from the incredibly popular Colossus 4 Chess, with the addition of some interesting new techniques which make it the most exciting chess program released in recent years.

The enhancements include tilt and rotate of the three dimensional board, four different chess sets, four board orientations, several different languages, speech, music, the storing of user defined settings and even adverts.

The game's playing strength has also been increased and Colossus is one of the first commercial programs that actually learns from experience. So the more games it plays, either against a human opponent or itself, the stronger a player it becomes.

I started the development of Colossus Chess X for the ST using its predecessor, Colossus 4 Chess, written in 6502 machine code on the Apple II.

Initially I worked on improving the existing playing algorithms. The major problem in this type of work is knowing whether a change you make to the program's play is actually going to make it play a better game.

Testing these changes used to be rather hit and miss, relying on intuition and a few test positions, but this was not good enough for the latest version and a better system had to be developed. The answer was to create a small program that could transfer moves generated by the program from micro to micro via the serial port.

Then by linking two Apples, one running the program with the latest modifications and the other running the old version, I could let them play automatically, sometimes for days, playing dozens of games, alternating black and white, allowing me to assess accurately the merit of any modification.

Occasionally this has shown that certain complex algorithms benefit the program only marginally, wheras a simplification of certain routines can have a very beneficial effect due to their greater efficiency and consequent faster searches.

After spending a few months improving the existing algorithms, I got stuck into the nitty-gritty coding of the learning facility, an idea I'd had in mind for some time. Chess programs rely for their speed during an opening phase upon a book of moves which can be coded for their quality, and which are then stored on disc ready to be searched as required.

I already had a few separate book-handling utility programs, developed over the years I have spent programming chess, but they were not presentable enough to be used commercially. So I set about enhancing them and bringing them together into the main Colossus program under a new Book–keeper command.

Next, I needed to develop the learning routine. Colossus can learn in two ways: By rote from a player who wants to add certain playing lines, and automatically from its playing experience.

Learning by rote was added first and is simplicity itself. You enter the required opening line from Supervisor mode and then tell Colossus to add it to the existing book. The program then searches the book to check which moves already exist and links any new variation in the correct place. I used this facility to enter the bulk of the moves in the opening book supplied.

Adding the learning from experience routines was trickier at times, with a few logical dilemmas to be overcome before the final version emerged, the working of which is fully descibed later. The addition of these two routines improve the program considerably, but I have to admit that I see them only as the first steps towards a really extensive learning facility.

I already have several ideas about how to enhance the process which I hope to be able to include in later Colossus programs, but allowing for the time that chess programming takes, this could be several years in the future.

When I'd finished these changes to the Apple 6502 version I had to convert the new Colossus to work on the 68000 processor used in the Atari ST. To do this I wrote my own translator program in Turbo Pascal. This automatically converts any 6502 source code file into any other processor's code.

I do this by creating a data file with each general format 6502 instruction followed by its equivalent in the target processor's instruction set. Even those processors with complex instructions having no direct equivalent on the other present no problems to the translator as you can simply specify a sequence of instructions which simulate the complex original. The same translator was used to create the Z80-based version of Colossus for micros like the Amstrad, MSX and Spectrum.

Unfortunately no translator can do the whole job for you. One difficulty is that processors set the carry flag differently after a compare instruction. For instance, the 6502 sets the carry flag for a greater or equal comparison, but the 68000 clears it for the same comparison.

This can't be overcome simply by reversing all branch–carry instructions, as sometimes you may have the flag set or cleared by another instruction which does correspond between the processors, like add instructions or specific set or clear carry instructions.

Also, if you try to overcome the problem by adding complement–carry instructions after each comparison this

Turn to Page 48 ▶

◀ *From Page 47*

would make the code too inefficient, and speed is a vital component of chess programs. Therefore, after all source files are translated, I still have to go through them checking for anomalies. This is, however, still far faster then re–writing the whole program by hand – Colossus Chess X is nearly 21,000 lines of 68000 source code.

The finished files were then transferred to the Atari ST via the serial link and work began on changing the code so that it would run on the ST's hardware. This process usually takes me six to eight weeks on an 8 bit micro and I had anticipated the same time for the ST. Unfortunately the complexity of the machine made this impossible and it actually took much longer than anyone anticipated – about 12 weeks.

I also knew that the extra features to be added into this version would increase the development time, but had expected to be able to save some of this due to the vast memory of the ST compared with the average 8 bit micro which often requires many days of work squashing code into every nook and cranny of memory just to make it fit.

However, the newly added features and the 68000's greedy use of memory meant that I soon ran into problems of lack of space that had not been expected. The final version, after many hours of work, just fits into a 512k 520ST.

Other problems encountered during development were due to the Gem operating system, which at times seemed to have more routines with bugs than it had fully working ones. It is very annoying having to program around system bugs, especially since you know that if the routine was working correctly you wouldn't need to spend any time at all on it.

Another problem was working with someone else's code. Colossus Chess X uses graphics and sound routines provided by a specialist programming team, and inevitably the odd bug came to light in the final version that had not been detected earlier. The correction of these, and the necessary swapping of versions, added several more weeks to the development time.

So what is special about the final game?

The finished product

Colossus is sold throughout the world and has therefore been written so that you can easily select one of the five languages initially supplied or can create a new language file from the instructions given, if required.

The ST version of Colossus Chess X makes extensive and varied use of the machine's sound facilities. As well as the normal prompting beeps, you can also select speech in any of the languages supplied or continuous music by selecting one of the four classical tunes offered.

Colossus even offers advertising space giving details of the latest and greatest programs devised to tempt your pocket. Previous versions have sold more than 200,000 copies – plus many more thousands of pirated versions – so this had to be too good an opportunity for advertising to miss.

The Games Library supplied is far more interesting than many offered by other chess programs. It is a compilation of the best and worst computer versus human struggles over the years from the very first computer game in 1957. The improvements in computer play can be easily seen as the years progress and the quality of the defeated human opposition goes from beginner to present day Grandmasters.

Variety in graphics

Four sets are available from a menu: The standard Staunton design, a futuristic robots and ray-guns, knights in shining armour and samurai and geisha of the orient.

There is little doubt that the graphics are far superior to any previously available on a serious chess program. The 3D board can be tilted and rotated within sensible limits to alter your view of the game, and you can view it from any of the four sides.

Without any doubt, however, the most important new feature is the learning facility. Its purpose is to expand Colossus' knowledge of openings, allowing it to play moves more quickly at the start of a game and save time for middle–game calculations.

Continuous learning

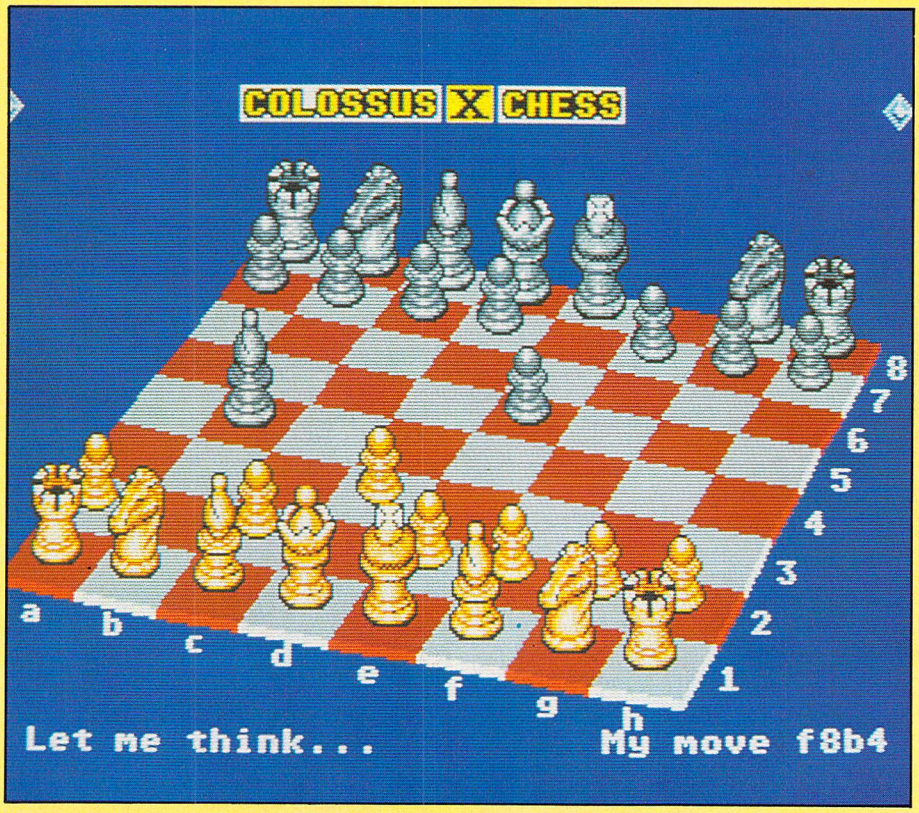
The rote learning facility, that is, that which adds user-typed moves to the book, allows serious players to enter certain required openings and then practice against them ad infinitum.

The facility causes the program to remember parts of previously played games in the opening book. This works by noting which moves in a game have been played from the existing book, and then remembering the next few moves played – that is those calculated by Colossus and those input by the player if it is a computer versus human match.

These moves are then added to the existing opening book and are available to the program on future occasions when the same opening line is played.

This has two beneficial effects: First, it saves time, as the program doesn't need to recalculate the same moves again, it simply uses them from the book. Second, this routine stores not only the moves but also the level of play that generated the move.

This is important because when Colossus has longer to think the moves



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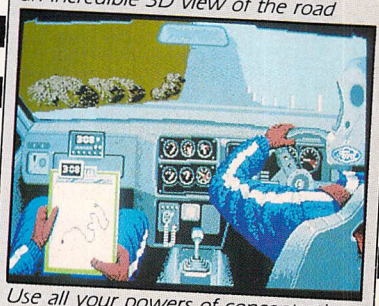

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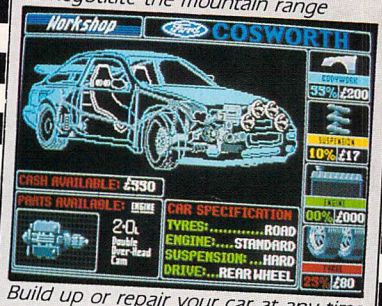

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Screenshots from Atari ST version

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Martin Bryant at work

◀ **From Page 48**

should be of better quality than when time is more restricted. So if Colossus calculated a move line when playing a serious tournament game with a time of three minutes a move and is currently playing a blitz game, it can use the moves remembered from the higher level game. This effectively increases the quality of Colossus' play for the next few moves.

The learn from experience routine is very sophisticated, and another feature of it is that when it finds remembered moves it first checks to see the playing level which calculated them. If this is higher – that is longer – than the current level the moves are played automatically without further calculation.

If however, the current level is higher than the level which calculates the move line, Colossus recalculates its moves, and if different, adds them to the book. If the recalculated move is the same as the one previously remembered, the book is simply updated with the new higher level.

The benefit derived from this learning system is not lost when Colossus has already remembered a particular move line. When the program has played a number of remembered moves, it then calculates the next moves in the current game line and remembers them too. This means that commonly played openings will be greatly extended, allowing Colossus to become an even meaner opponent than it was originally.

Having now fully completed and tested Colossus Chess X for the ST, I have started work on the Commodore Amiga program, which I expect to take about 8 to 10 weeks.

But that was what I originally thought about the Atari ST...

Martin Bryant has programmed all the previous versions of Colossus Chess and has over 12 years of experience in chess programming. The latest versions of Colossus Chess (revision 4 for the 8 bit machines and X for the Atari ST) are published by CDS Software.

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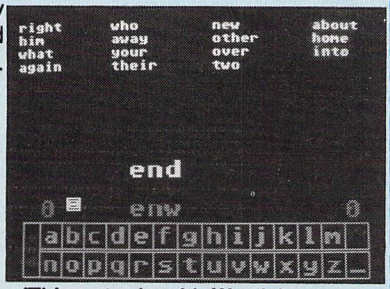

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THIS month's Gallery features a small selection of work from German artist Peer Gehrmann. Peer's pictures represent part of his fascination of space ... the final frontier.

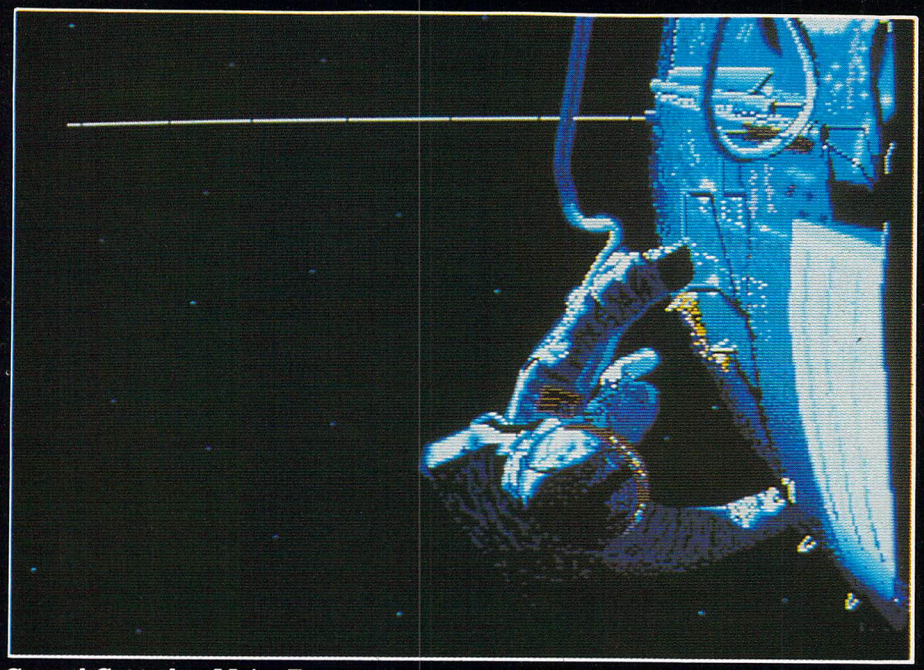
His pictures in turn succeed where modern space photography often fails. Each image captures the magic of a moment, often in startling incandescent colour. The immortal moments of Neil Armstrong's first steps on the moon are revisited in One small step and One giant leap. Equally the sense of helplessness is revealed in the space walk: Ground Control to Major Tom.

Super Nova and Into Light both reflect the infinite power of the universe, while science fiction makes a slight return in the desperate, That sinking feeling.

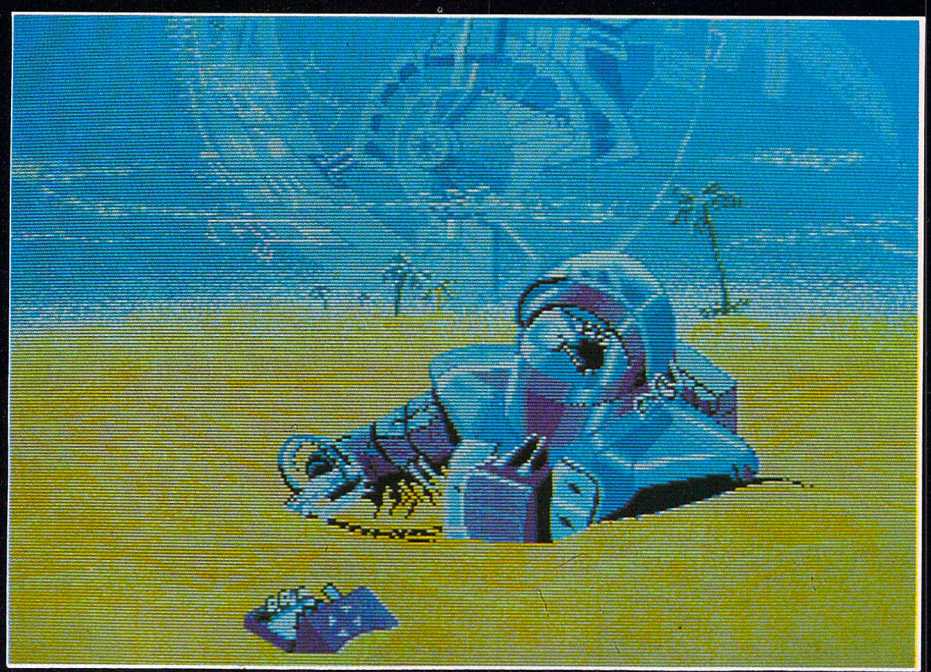
Peer sent us enough pictures of suitable quality to fill four months' Gallery, and we may yet use more of his work in the future.

If you have a work of art you would like to see exhibited on our worldwide stage send it in on disc to Gallery. Remember though, anything you submit must be all your own work. You must own the sole copyright and provide us, in writing, with confirmation of this fact, as well as your express permission to let us publish your work.

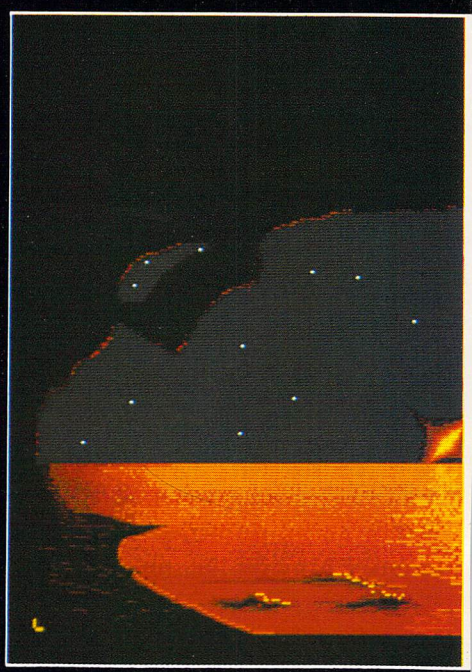
Also tell us briefly how you went about creating your masterpiece: Which art package did you use? What inspired you? How long did it take? And so on. Please note that if you want your submissions returned you must supply us with a stamped self-addressed envelope.



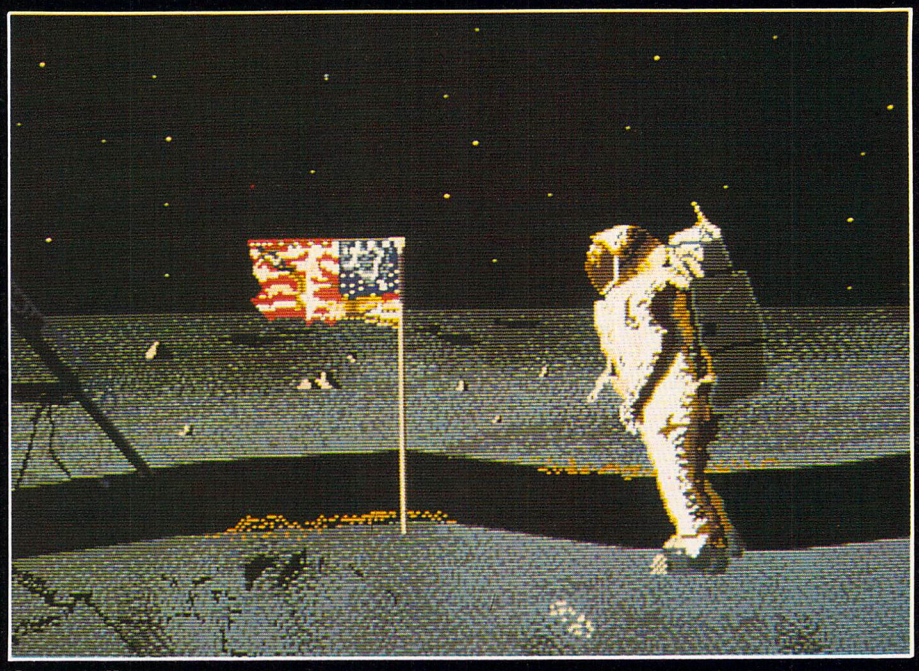
Ground Control to Major Tom...



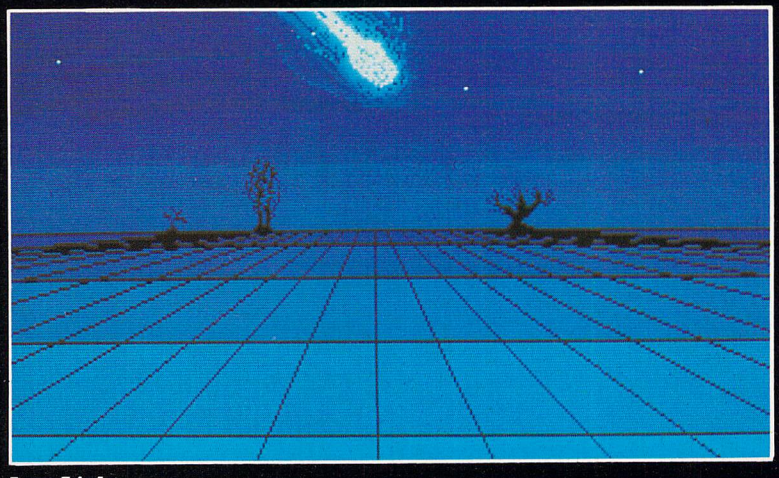
That sinking feeling



Super Nova



One small step



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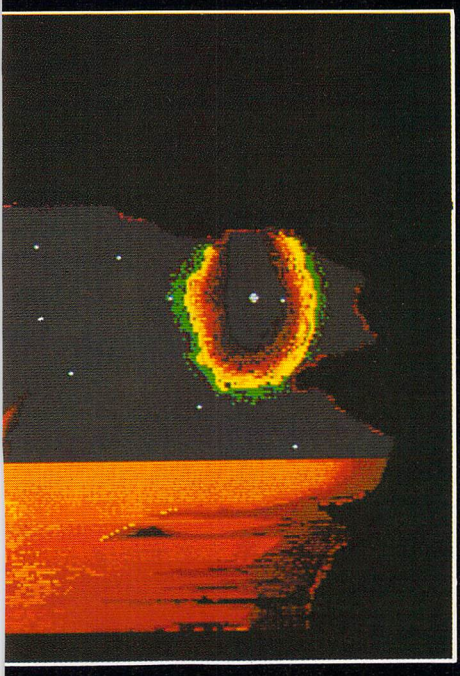
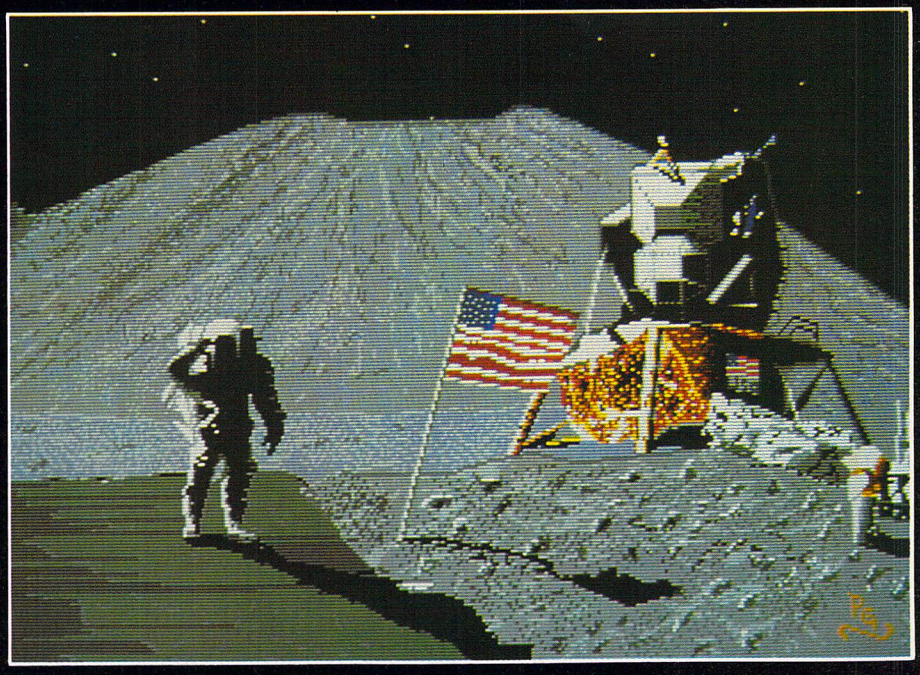
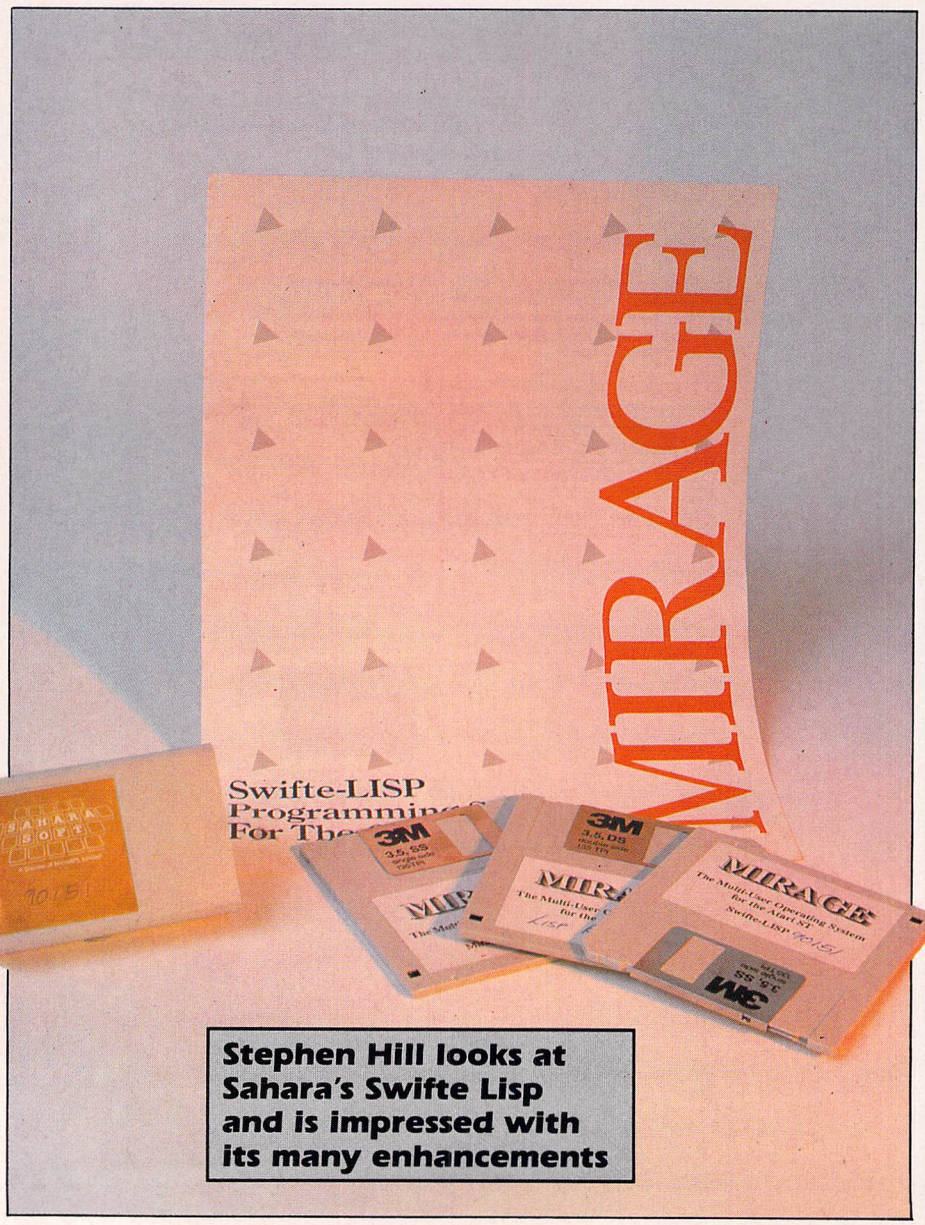




One giant leap

Superset of Lisp offers superb software



Stephen Hill looks at Sahara's Swifte Lisp and is impressed with its many enhancements

LISP has traditionally been regarded as a language which is strictly for the experts. In my opinion this is a shame, as Lisp has much to offer even the most casual programmer. Like Forth, it is certainly not the most accessible of programming languages, but once you have surmounted the initial confusion it rapidly becomes second nature.

One of the biggest problems for the budding Lisp programmer is the incredible number of mutually-incompatible dialects which have been spawned over the past few years. And Lisp is still evolving at a furious rate in several different directions.

So far the closest thing to an actual standard has been Common Lisp, the version supported by the majority of modern tutorials on the subject. This dialect is now available to ST users in the form of Sahara's powerful new Swifte Lisp interpreter.

It comes on one single-sided disc and runs under the Mirage operating system. If you don't have this already, it will have to be bought separately at a cost of £148.35. The minimum system configuration is a 520ST with a monochrome monitor and preferably at least 600k of disc space. There is no support for any form of colour monitor – a serious restriction for many potential users.

The Mirage operating system consists of a 128k rom cartridge with a single sided disc containing a large number of utility programs. Installation is split into two separate steps.

First you load the operating system by plugging the cartridge into the ST's rom port. You then create a special work disc containing the Lisp interpreter program along with some essential support routines. The final stage is to add a small configuration file which installs the package in the ST's memory immediately after the operating system has been initialised.

For the purposes of my review, Sahara supplied a single 720k disc which had already been configured in this way, which enabled me to load the package practically straight from the box.

It would be even nicer if a working disc was included with the Lisp system as standard, as it would undoubtedly remove a great deal of unnecessary tedium from the installation process.

Once you have installed the package you can load it into memory by booting up the computer using your new work disc. This automatically selects the Mirage operating system, and then asks you to input the current date. The ubquitous flashing cursor now appears on the screen, and you can enter the Lisp environment by typing:

```
lisp prog
```

where *prog* is the name of a Lisp program you want to load. Normally all Lisp

programs are created from a separate text editor, which can submit the program you are currently editing directly to the interpreter. If you encounter any problems with your program you can subsequently re-enter the editor at precisely the point you left it.

As a default, both the interpreter and the editor are loaded permanently into the ST's memory. This leaves you with about 300k for your programs and data on a standard 520ST.

The Lisp interpreter itself presents you with a fully interactive programming environment. This incorporates a powerful debugging aid which can be accessed at any time during your program's execution by pressing Control+C. You can therefore interrupt the current Lisp program and test it in a variety of different ways.

One especially useful debugging option is the backtrack facility, which automatically generates a list of the last few function calls. In addition, you can also page through your program using either single or multiple steps. If you still need help you can load a useful set of trace and profile routines from disc.

Dialect compatibility

The language supported by Swifte Lisp is a superset of Common Lisp and includes a number of clever enhancements which expand the power of the system significantly. More than 450 functions are available, and these can be supplemented by a comprehensive library of utility programs supplied on disc.

The most obvious improvement to the original specification can be found in the large range of extra data types which have been implemented. These vary from simple integers to unlimited precision rational numbers. The string handling in particular is excellent, and there are also extensive facilities for text formatting.

I am especially impressed with the unlimited precision arthmetic, which allows you to manipulate numbers over 120,000 digits in length effortlessly. As an experiment, I successfully used the standard recursive factorial function to calculate the factorial of 1000. This took under 10 seconds to generate, and produced around half a screenful of digits. Try doing that on a pocket calculator!

In order to improve the compatibility between Swifte Lisp and the various different dialects of the language, Sahara has provided the source code for three separate simulation packages. These enable you to configure the system so as to mimic the action of either Scheme, Stanford or Standard Lisp.

While none of these routines can be guaranteed to work in all circumstances, they do give you a painless way of running many of your favourite Lisp programs directly from this package. One minor problem with these simulators is that Swifte Lisp uses dynamic binding rather than the lexical binding utilised by several other implementations. This means that some programs may need to be changed slightly before they can be run.

Oddly enough, the one dialect of Lisp which isn't supported is Cambridge Lisp. This would have been a real bonus for any users wishing to upgrade from Metacomco's popular Lisp system.

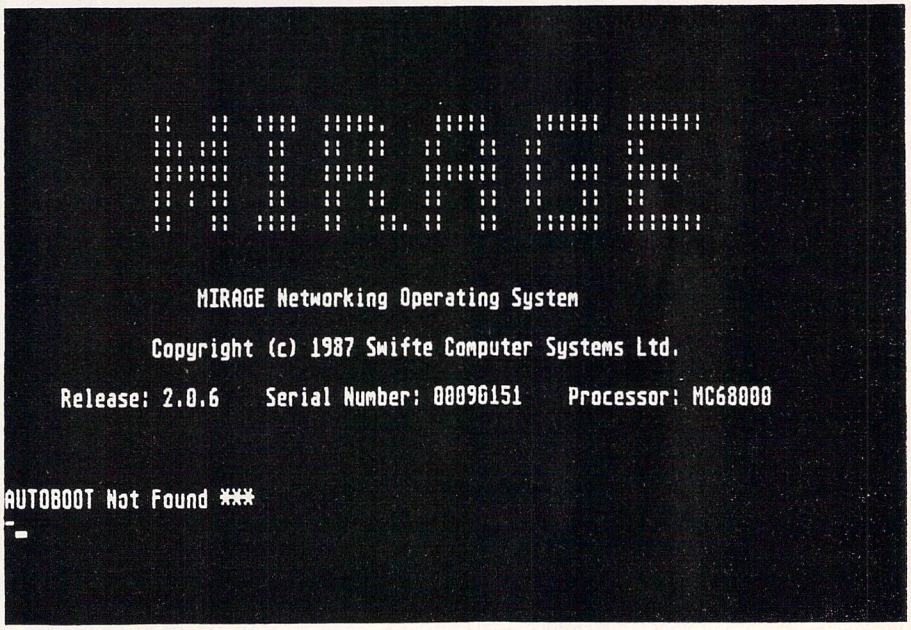
Another useful extra is the inclusion of a small but useful Prolog interpreter as an example program. This is written entirely in Swifte Lisp and gives an effective demonstration of the package in action.

If that isn't enough, Sahara has even added a basic Flavours program which allows you to experiment with object-oriented programming. This is, admittedly, rather crude, but I'm sure many people will still find it extremely interesting.

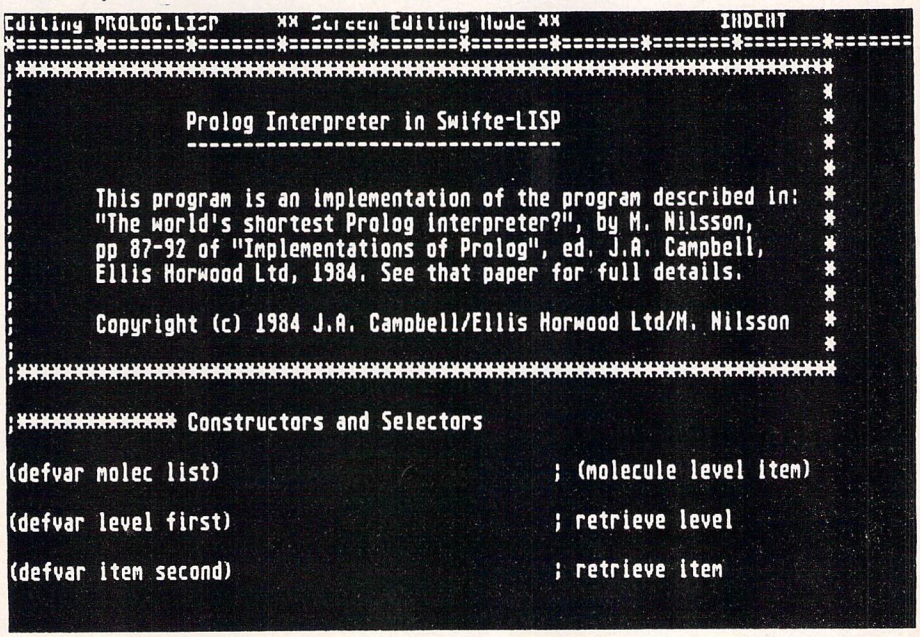
Lisp programs are usually entered using the standard Mirage text editor. This has been designed specifically for the purposes of program development and incorporates several unique facilities to simplify this process. These include automatic generation of comments, and the ability to jump between any matching sets of brackets in a Lisp program.

Although the editor is extremely powerful, in practise I found it rather cum-

Turn to Page 57 ▶



The boot-up screen



A Prolog interpreter written in Swifte Lisp

NEW FROM ROMANTIC ROBOT

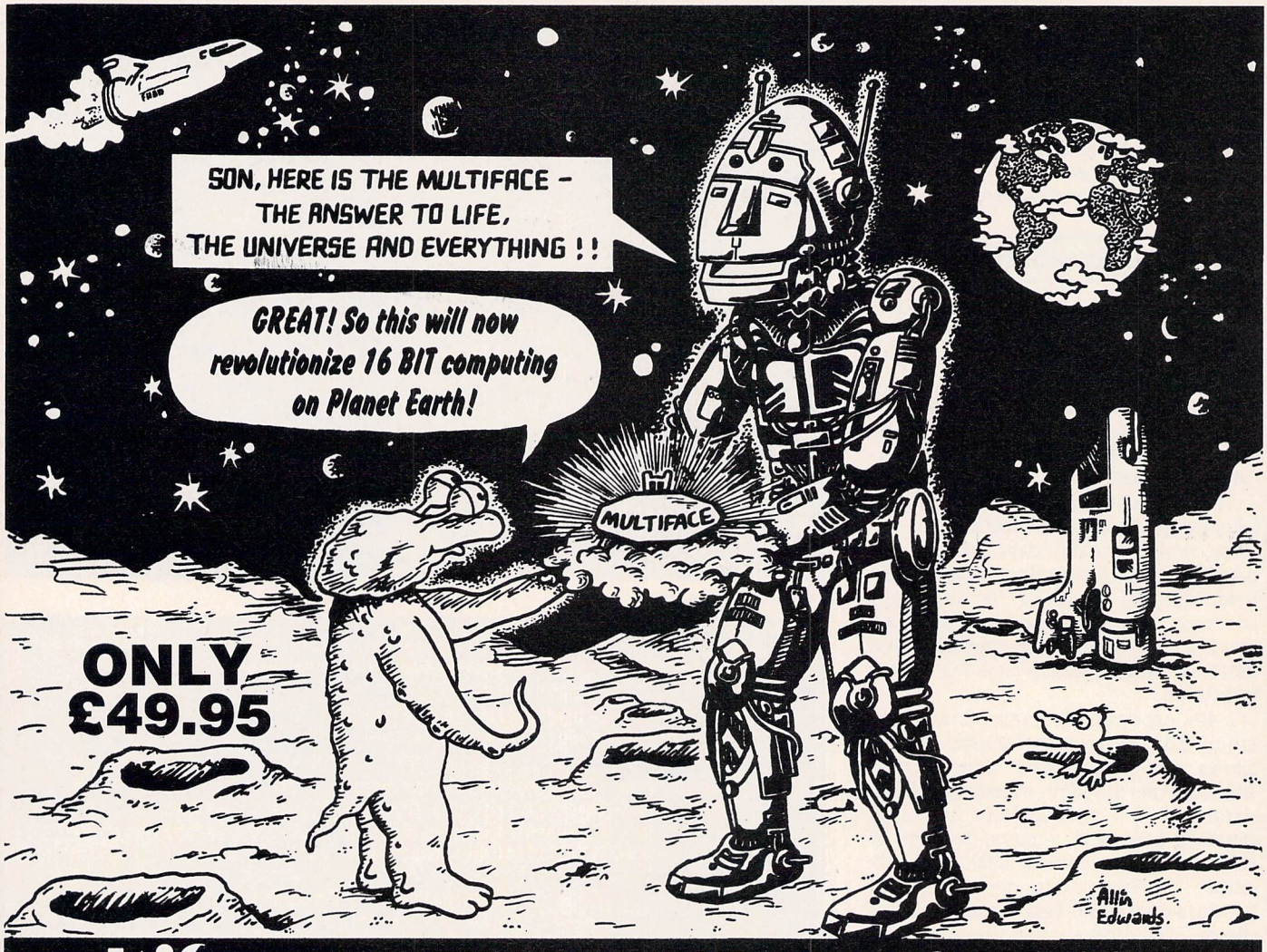
MULTIFACE ONE, the MULTIpurpose interFACE, was a sensation when originally released for the ZX Spectrum four years ago. MULTIFACE TWO, for the Amstrad CPC range, followed 2 years later — same pattern, same success. Now the time has come for the MULTIFACE ST — the BIG brother to the MULTIFACE family. Same pattern? Yes, and with even more facilities! So, what can MULTIFACE ST do to make an ATARI ST owner's life so much easier?

MULTIFACE ST is the ultimate PERSONAL COPIER. It copies programs, screens, disks — all at a touch of a button. Its most powerful MULTI TOOLKIT lets you study & modify any program any time — just touch the same magic button. How is it done?

MULTIFACE is a small box that plugs into the cartridge port. It has all its tricks in a massive 64Kbyte ROM so you do NOT need to load any other software: MULTIFACE is always there and ready. It is menu-driven with one-touch commands and on-screen instructions, so easy to use. Pressing its magic button will interrupt any program and give you an overall control over it. You can save the entire program or just the screen. MULTIFACE compresses before saving and it formats disks with up to 25% gain, to make the contents of the computer fit onto a disk. The saved program will continue from where it was saved — save half-way through a game and avoid playing from the start again!

The MULTI TOOLKIT lets you inspect and change (in hex, decimal and ASCII) absolutely everything — including the protected RAM and 68000 registers! You can POKE infinite lives, customize programs, fill RAM, find/replace strings, even m/c instructions, etc.

Being a hardware device, 'a magic box' MULTIFACE can back-up whatever you wish, as many times as you wish. HOWEVER, to prevent any piracy, which is illegal, the MULTIFACE MUST be attached to run programs it saved! MULTIFACE will be available from November 1988, making it an ideal Christmas present for any Atari ST owner!



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◀ *From Page 55*

bersome to use. Some of the functions require you to press up to four separate keys in quick succession before they can be executed. Furthermore, the editor seems to take no real account of the fact that it is actually running on a ST. Fortunately, Sahara has included a simple online Help feature which provides a partial solution to this problem.

The documentation consists of a massive A3 ring bound manual along with a small paperback explaining various features of the Mirage operating system. The Lisp manual, in particular, is superb. Not only does it cover the numerous Lisp functions in copious detail, but it also includes a wealth of background material which will prove invaluable to beginners.

In conclusion

One feature I particularly like is the Lisp tutorial at the front. Anyone unfamiliar with the basic principles of the language will find this especially welcome. I am also impressed by the large number of interesting example programs which are supplied on the disc. These range from the commonplace Towers of Hanoi to a powerful example of RSA cryptography.

In fact, the worst thing about the manual is its physical size. Unless you have an extremely large desk, you will probably encounter severe difficulty in using this documentation. It is also much too heavy to fit comfortably on your lap.

As the typeface used is fairly large, it would probably have been possible to cram the whole thing into something much smaller, which would have improved its readibility beyond recognition.

I have no hesitation in recommending this package wholeheartedly to both novices and experts alike. The only significant drawback lies in its restriction to the Mirage operating system, which effectively divorces any potential user from the rest of the ST community.

Another serious flaw lies in the package's total lack of support for colour systems, which regrettably reduces its appeal to just a fraction of the possible market.

As to the merits of the Mirage operating system itself, I have yet to be fully convinced that it provides the average ST user with any significant advantage over the more normal Gem environment.

If Gem is important to you, you would probably be far better off with a cheaper alternative such as Metacomco's Cambridge Lisp. But if you've already committed yourself to the Mirage operating system, you will be able to buy this package for £136.85. For this price, it could easily prove totally irresistable. Other, less fortunate, users will need to pay around £285.20 for exactly the same system.

Compared to the prices of equivalent packages on a Mac or IBM PC, this is still remarkably good value for money. So if you want a top of the range Lisp interpreter which is literally oozing with power, make sure you take a hard look at Sahara Soft's amazing Swifte Lisp.

FACT FILE

Product: Swifte Lisp
Price: £136.85
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POINTS FOR:
Good implementation with many enhancements. Excellent debugger. Unlimited precision maths.

AGAINST:
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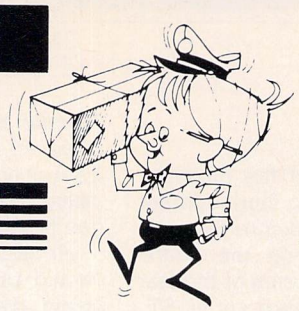

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Create your own fonts

Fontkit Plus is put through its paces by Edgar Howard, who is impressed by its style

FONTKIT Plus is the first of what is to be a series of commercial programs released by the ST Club – well known for its excellent public domain library. It consists of either one double-sided or two single-sided discs together with a well produced and clearly written manual.

The package is an upgraded version of the public domain program Fontkit, but its commercial version has many more features and the considerable benefit of a comprehensive manual.

The disc is not copy protected and there is no problem in installing it on a hard disc system. I used a 1040ST with colour monitor and a 20Mb hard disc.

Fontkit Plus allows either an entirely new font to be created or an existing one to be modified. Creating a new font entirely from scratch is not a task to be undertaken lightly as it involves much work and considerable skill.

To lighten the task the software is supplied with several predefined fonts which can be used as patterns or templates.

As well as designing system fonts for both high and medium resolution, the package can modify Gem fonts and downloadable printer fonts for a wide range of dot matrix printers. The necessary data files for this purpose are present on the disc.

When Fontkit Plus is booted up you are presented with the screen shown in Figure I. Characters are defined within the grid by filling or erasing a square. A number of thicker horizontal lines indicate the baseline (an imaginary line on which the character sits), the descent line (the bottom of characters such as lower case p and g), the half-height line (the height of lower case characters) and finally the ascent line (the height of upper case characters and the ascender of letters such as h and b).

A wide range of tools is provided to make the editing task simpler and more efficient. You can horizontally flip a character so that a b becomes a d, and vertically flip or produce a mirror image of it. You can also outline characters or shadow them.

Both proportional and non-proportional fonts can be produced. The manual, which is beautifully produced, is set in a proportional Souvenir font downloaded to a Juki nine pin dot matrix printer. The result is excellent. It would be possible to edit that font to produce a non-proportional version.

One of the more important uses of a font editor is to scale fonts. A 10 point Souvenir font could be edited to produce a 12 point version. Individual characters

Turn to Page 61 ▶

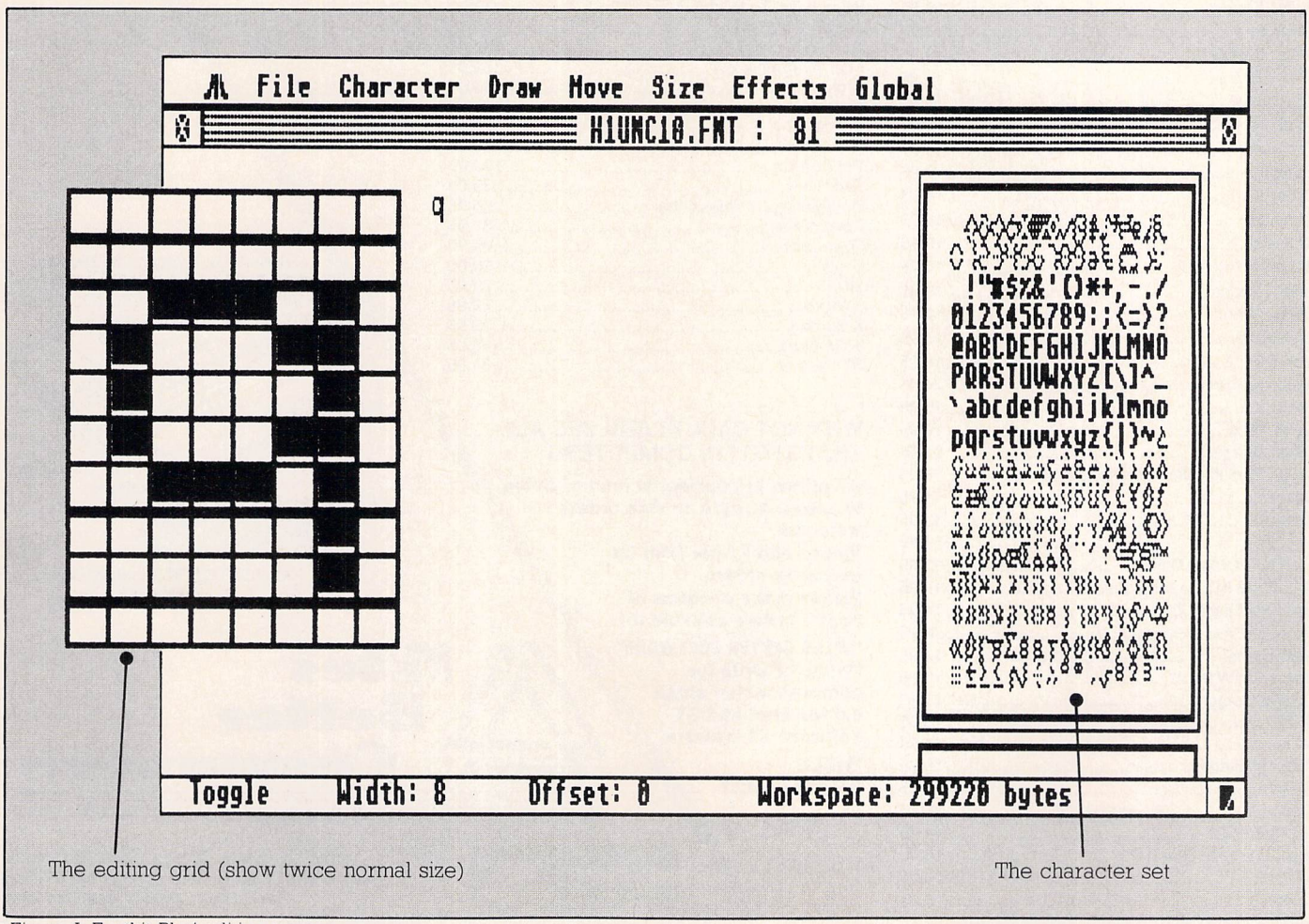

Figure I: Fontkit Plus' editing screen

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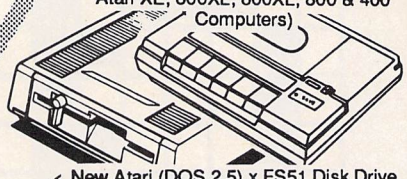

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◀ From Page 59

or the entire font can be re-scaled.

Before a printer font can be used it must be downloaded to the printer. A complete font consists of 128 characters – Ascii 0 to 127. Not all printers will allow this, and the font may have to be restricted to the 95 printing characters – Ascii 32 to 126. Fontkit Plus has a Parameters option to provide help here.

The font must be compatible with the printer you intend to use, and it is essential to consult your printer manual before spending a lot of time editing a font which you may be unable to use. For instance, I was not able to download NLQ fonts to my Epson FX800.

Another restriction is that some desktop publishing programs cannot use fonts created with Fontkit Plus – Publishing Partner for instance.

The other main program supplied with the package is Fontswitch, a desk accessory called FSWITCH.ACC. Once installed, it allows any printer fonts created with Fontkit Plus to be downloaded to the printer, or any screen fonts to be accessed.

There are three main sections. The first selects any screen font which has been loaded into memory. It can also load additional ones from disc. The second utility – Metashift – allows access to the so-called metacharacters (Ascii codes 128 to 255), directly from the keyboard. The third section is used to download the printer fonts and can also set a range of printer parameters such as style and pitch.

Some desktop publishing programs are capable of working with several different screen fonts in the same document. This is not true of most word processors. When using 1st Word Plus, if you change the system font with FSWITCH.ACC the entire text in the document is changed.

This is not as serious a limitation as it may seem, for usually there are only 95 printable characters. Some others are used as controls, but the ones from Ascii 128 onwards are not normally used. These metacharacters can therefore be redesigned as special symbols, and a variety of foreign or technical fonts could be produced.

As an example, the package includes a file with the standard Ascii characters and, in addition, a set of Greek, Hebrew and Syriac ones. Characters defined in this way are not found in standard printing sets, but it may be possible to download the extra characters to the printer. If you are typing in Hebrew or Arabic, the FSWITCH.ACC has a control which allows you to type from right to left.

Conclusion

I have already commented favourably on the manual. It is logically laid out and although there is no index, the table of contents is very detailed. It is very well written, stylish as well as clear.

Fontkit Plus is excellent value for money, and is powerful and versatile. There are some restrictions, as indicated, but these concern printers and other software. A commendable venture by the ST Club.

FACT FILE

Product: Fontkit Plus
Price: £8.49 (One double sided disc)
Price: £9.99 (Two single sided discs)
Supplier: ST Club, 9 Sutton Place 49 Stoney Street Nottingham NG1 1LX
Tel: 0602 410241

POINTS FOR:
Powerful. Versatile. Excellent manual. Good value for money.

AGAINST:
Printer or word processor may impose restrictions on usefulness.

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Access

Welcome a board

A graphics tablet can be a valuable aid to any computer artist. David McLachlan looks at one that has just been made available for the Atari ST

TODAY's 16 bit technology allows micros such as the Atari ST to benefit from a multitude of colours. As a result, very professional drawings can be produced with a variety of art and painting software packages available such as Neochrome, Degas, Delux Paint and the like.

However, graphic artists who regularly use these facilities may feel hindered when using the mouse, which lacks the accurate and subtle movements of an artist's pen. A solution to this lack of accuracy lies in a graphics tablet.

They have been around for some time now, particularly with mainframes, minis and micros such as the IBM PC for professional applications requiring computer aided design and high quality computer graphics. The sophisticated Quantel Paintbox uses such a tablet for its own drawing medium to produce the stunning displays that can be seen regularly on TV. However, these systems cost many thousands of pounds.

The Cherry tablet is one of a few around that can be used with the ST. It can also be configured, using DIP switches, for use with other machines.

It connects to the ST's RS232 port and is powered by a 9V mains adapter supplied with the package. It is quite sturdy when placed on a flat surface, although at first it feels a little flimsy and hollow. Of A3 in size, only an area of 384 x 260 mm is available for drawing.

When using a mouse you control an on-screen pointer to input information into the computer. With the tablet, instead of manoeuvring the mouse you use a stylus or cross-hair puck. Using a telephone type plug and socket both can be connected at the same time. A small fiddly switch at the rear of the tablet allows you to toggle between them.

Whereas signals from the mouse are relative, those from the tablet are absolute. In other words, the mouse coordinates are calculated relative to its last position. With a tablet, absolute coordinates are calculated from the stylus or puck's current position, resulting in far greater accuracy.

The tablet's biggest advantage for the artist is that the stylus feels much like a pen. This allows hand movements to be more natural, where the mouse – although versatile – tends to be rather clumsy.

The cross-haired puck also allows you to trace over drawings or sketches with pin point accuracy. Altering the scaling can effectively enlarge or reduce the resultant image on the screen.

The puck has four buttons – green, red, yellow and blue – arranged on its top in a square. The red acts as the left hand mouse button and the blue as the right. The yellow and green buttons have no pre-defined functions, but can be used by anyone wishing to interface the device to their own software.

When not in use the puck can be stored away in its own little parking space on the right side of the board.

The stylus looks like a pen with a wire coming out of the top. Just as with a mouse, this tends to get in the way, but you soon get used to it. It has what is in fact a small button as a nib. Pushing down on to the surface with the pen is like pressing the left mouse button.

There is no other switch on the pen, so to simulate the mouse's right button you have to resort to the blue button on the puck. This is a bit of a bind, but soon becomes second nature. The stylus can also be stored conveniently on the board when not required.

On the left hand side is a small slot where you can insert strips of plastic overlays (provided) across the top of the board.

These can be used to allow the stylus or puck to guide the pointer to select menu options displayed on the screen provided the software has laid out the menus in this way.

The initialisation software provided uses a Gem desktop accessory which allows you to enable or disable the graphics tablet. The accessory also allows you to set the scaling which effects the size of area that you use and the speed with which the pointer moves across the screen.

No drawing software is provided, but programs that run under Gem, such as Degas Elite, will work perfectly. Unfortunately Neochrome is not compatible.

After using a mouse for so long, the tablet felt strange at first, but I soon re-adapted to the feel of a pen in my hand. This tablet is an ideal medium for the enthusiastic amateur or professional who requires that little more freedom to express himself.

It is not a magic board which will make an artist out of anyone and at £632 it certainly isn't cheap. But if you need a facility of this quality you would be hard pressed to find anything better at the price.

FACT FILE

Product: Cherry Graphics Tablet
Price: £632.50
Supplier: HB Marketing, Brooklyn House, 22 The Green, West Drayton, Middlesex UB7 7PQ.
Tel: 0895 444433

POINTS FOR:
More natural drawing aid than a mouse. Uses absolute coordinates.

AGAINST:
Wire plugged into the top of the pen can be annoying. Expensive.

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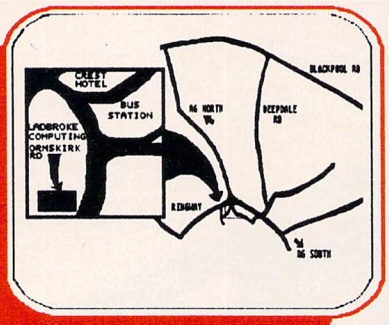

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NEW SOFTWARE

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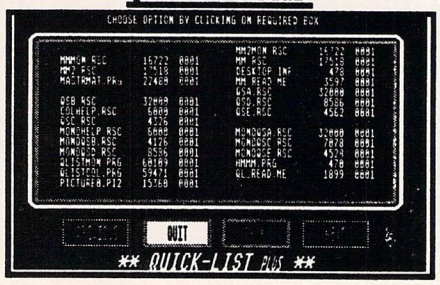
The Image Scanner is a peripheral for the ST which can provide high quality graphics digitizing for a tenth of the cost of other digitizers. This simple unit plugs into the cartridge port of the ST and accepts scanned information via optical cables which fix to the head of a range of printers. The software has recently been updated to allow increased scanning resolution. The software now supports scanning resolutions of 75,150,216,300,360,1000 dots per inch horizontal.

£89

Screen shot from scanned img.

Trilogy £12.99

Quick List Plus



Quick List Plus is a useful utility for compiling a database of disk directories for easy access to programs on a number of disks. Search for disk, sort disk or name. Quick list reads disks from any drive, including hard drive. Printer output is provided for hard copy of databases.

Mastermat

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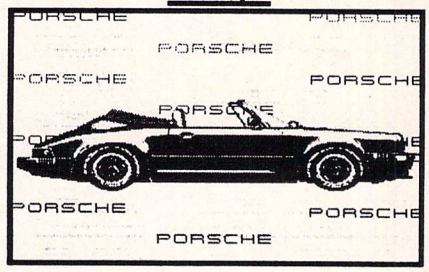

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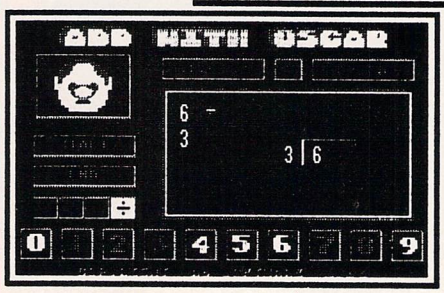
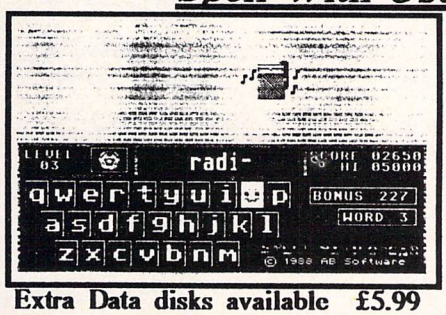
Degas, Neochrome and AB Animator compatible.

Add With Oscar £12.99



Add with Oscar is a fully mouse controlled educational game with full colour screens and sound for teaching addition, subtraction, multiplication, and division to children. This program has selectable dificulty levels and Hi score table.

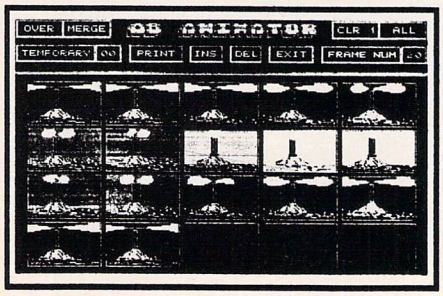
Spell With Oscar £12.99



Extra Data disks available £5.99

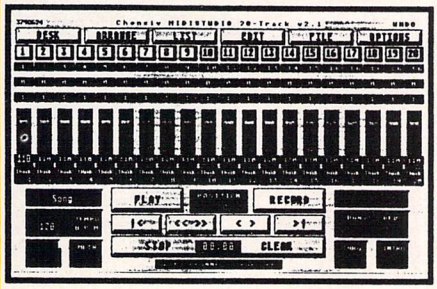
Spell with Oscar is a game which teaches spelling, keyboard skills and motor coordination. Pictures of objects move smoothly across the screen and the pupil should spell the name of the object while Oscar checks for mistakes.

AB Animator £14.95



AB Animator is a utility for creating and animating sprites. It supports GFA and FAST basics and is compatible with degas and neochrome picture files. Use the full icon control to animate up to 20 big frames of 56 pixels wide by 33 pixels high

Midistudio £99.99



This is a 20 track Midi Music Studio with real time recording and step time editing. Comprehensive phrase arrangement and mixing facilities combine to make it a strong competitor for Pro 24. The screen shot shows Midistudio which works in med. and hi resolutions.

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Get right to the heart of your ST

Month by month, The Complete Atari ST has been building up into the most comprehensive reference work for the top-selling Atari ST range.

By bringing together some of the most talented ST enthusiasts in Britain, our aim has been to produce a clear, precise and colourful guide covering every major aspect of this exciting 16-bit computer.

Bring yourself up to date

If you have missed out on any of the previous issues, now's your chance to fill the gaps in your collection. Send for the August issue of *Atari ST User* and you will also receive the specially designed sturdy, colourful binder illustrated here.

All the colour-coded sections come with punched holes for easy assembly into your binder.

Here's what you may have missed:

August

Exploring the 520 STFM's hardware
First steps in ST Basic programming
Learning to draw what you see
An introduction to adventure games
Gem: Its history and how to get started

September

Exploring the Mega ST's hardware
Your first Basic program listing
Freehand drawing and painting
Creating the right adventure atmosphere
Exploring Gem's graphics functions
An introduction to C programming

October

The ST's internal structure revealed
Using variables efficiently in Basic
Creating an exciting colour palette
Deciphering complex adventure riddles
Setting Gem's VDI fill style attributes
The structure of a C program explored

November

Mixing primary and secondary colours
Using repeat structures in Basic
How to trace common hardware faults
The variety of plots in text adventures

December

Routines for defining C functions
Collecting treasures in text adventures
Conditional programming in Basic
Creating user-defined fill patterns

This month

More pages to add to your collection on:

ST Hardware

Exploring your ST disc drives mechanics

ST Business

How to set up a small business on your ST

ST Graphics

Creating interesting paintings and drawings

ST Languages

Looking at ST Basic's logical operators

COMING NEXT MONTH

* Using shapes to improve artistic composition
* Coping with parsers in text adventures
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* Developing routines for accessing Gem

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"To sum up, Protext is probably the most powerful word processor on the Atari ST and is quite likely to become the best selling too"... ST USER 4/88

..."At last one that seems to fit most of what I call essential in a word processor" PAGE 6 #34

..."Extremely good for manipulating and merging large text files".
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A brief summary of some of Protext's features ...

Box manipulation	move, copy, or delete any box as well as blocks
Configuration	configure most features to your own preferences
Dictionaries	add/delete words to/from supplied dictionary. Create additional specialised dictionaries.
Disc utilities	copy files, erase, rename, type, create directory, change directory, remove directory, catalogue files
Exec files	store sequences of commands in files for easy use
File conversion	flexible file conversion utility for other WP files
Find & replace	very powerful and fast with many options.
Foreign languages	10 built in keyboard languages. Easy to use accented letters: ä æ ç ö ü è é ß à ù ô ê ñ etc.
Headers & footers	up to 9 lines of text, different even/odd headers and footers possible, automatic page numbering
Help	edit and command help available on-screen
Keyboard macros	string any sequence of letters together on a single key e.g. "Yours sincerely". Load and save macros.
Line spacing	variable in half lines, including 0, ½, 1, 1½, 2, 2½, 3
Printer support	works with any parallel or serial printer. Wide range of printer drivers supplied, incl. lasers and 24-pin printers; or create your own drivers or edit ours.
Printing styles	bold, condensed, double strike, elite, italics, enlarged, pica, NLQ, subscript, superscript, microspacing, proportional spacing, any other printer fonts
Program mode	suppresses formatting; auto-indent; set tab stops
Proportional text	will print proportionally spaced, right justified text
Quick dictionary	dictionary held in memory is very fast
Ruler lines	any number of ruler lines to define document layout, left/right margins and normal/decimal tab stops
Spelling checker	check from disc or current text. Suggests alternative spellings. Works with foreign languages
Symbol	Screen character symbols may be redefined
Time and date	set time and date, use within document
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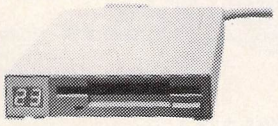

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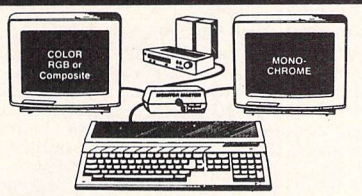

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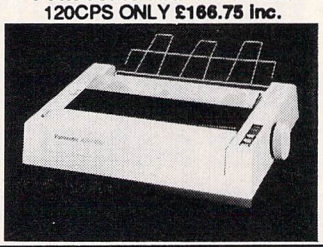

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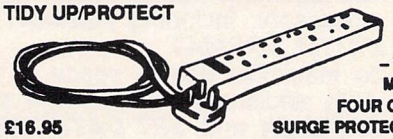

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André Willey looks at two clock card utilities for your 520 or 1040 ST

Got a minute?

IF you don't number among those fortunate ST owners who have been able to afford one of Atari's latest Mega ST machines you will no doubt have discovered by now that your 520 or 1040's internal clock is somewhat inconvenient to use.

You must either enter the correct time and date at the start of each session, or else put up with all of your files being stamped with November 20 1985 – hardly the best option, especially if you happen to be using a hard disc.

Thankfully, there is a solution. A number of companies have developed products which allow your ST's internal clock to be kept running via a small battery, so the correct time and date are always available when you need them. These simple devices come in two forms – internally fitted and plug-in boxes – and both perform in a very similar manner.

The plug-in variety, such as the Micro-Time marketed by Microdeal, usually fits into the cartridge port and once set will continue to run from an internal battery for some time. The Micro-Time box contains a small, but very powerful 3 volt lithium cell which should keep the unit functioning for a good few years.

When it finally runs down you will need to get a replacement from an electronics store and solder it into place. Alternatively, if this prospect daunts you, you may return the whole cartridge to Microdeal and they will fit a new lithium cell for £9.95.

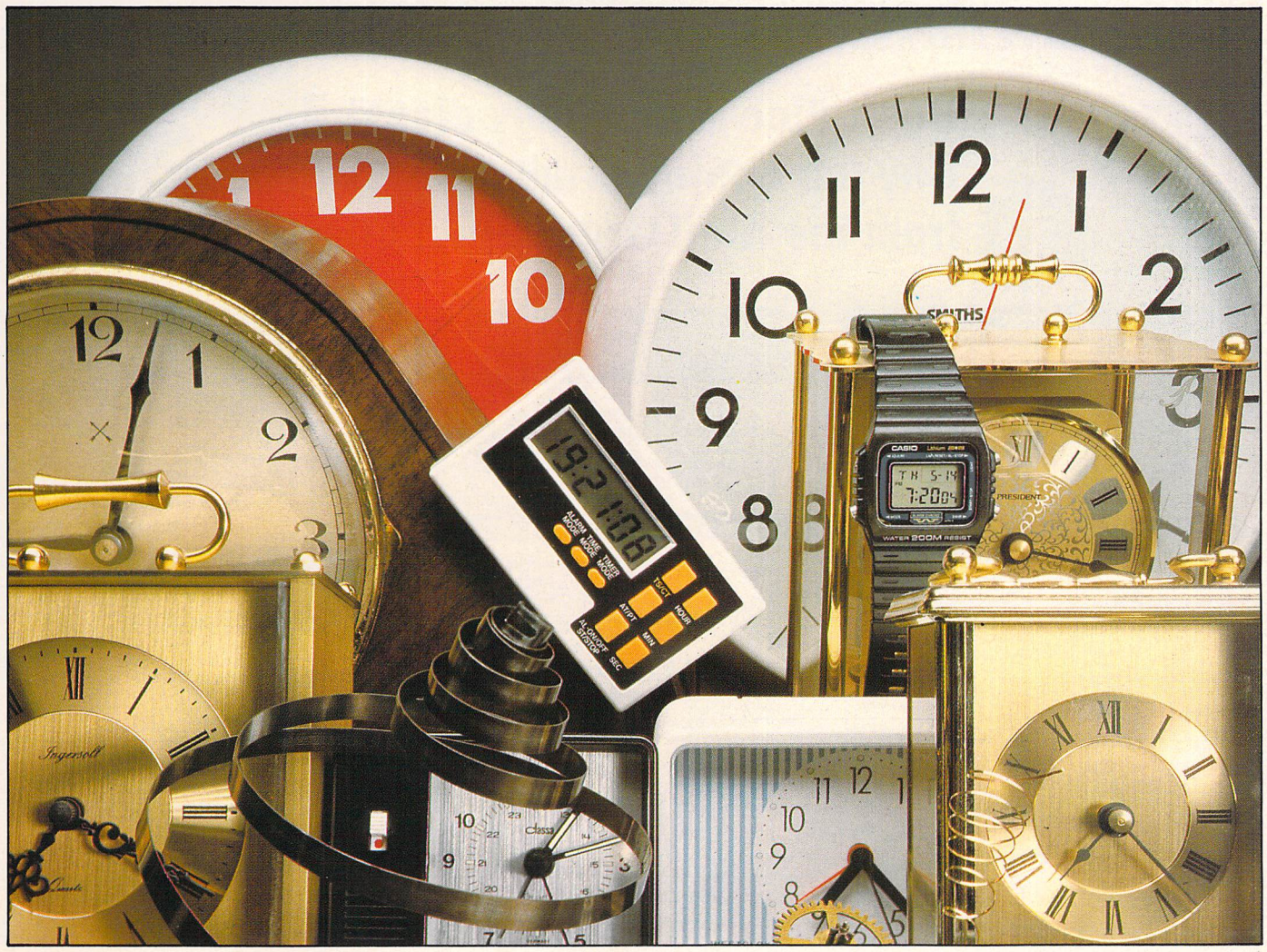
The one main disadvantage experienced with this system is that it ties up the cartridge port, which will mean problems if you regularly use other products or languages which come in the form of rom cartridges. Perhaps a future revision could include a through-connector which would allow a second cartridge to be plugged in at the same time?

The alternative, an internally fitted board, is obviously less straightforward to install, but once fitted will function in exactly the same manner and leave that all-important cartridge port free for other uses. Frontier Software supplies such a device, called somewhat imaginatively a Forget-Me-Clock, which comes complete with three 1.5 volt nickel cadmium (ni-cad) batteries connected to a small circuit board.

Although you need to take your ST apart to fit this type of clock, the procedure is very simple and can be completed in just a few minutes – as shown in the accompanying photographs. Once you have removed the top cover of your ST you will find a single large chip located on the underside of the keyboard itself.

This chip should be carefully removed and the Forget-Me-Clock board inserted into the now empty socket. Once this is done the original chip can be placed into a special socket on the top of the clock

Turn to Page 83 ▶



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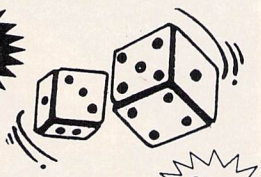

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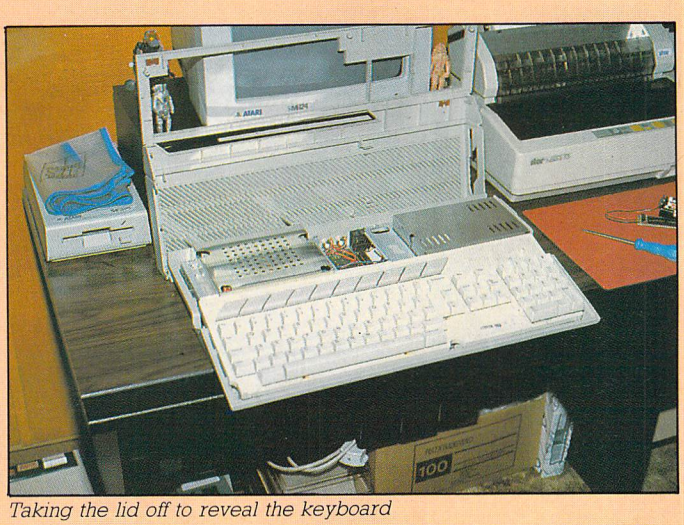
Unscrewing the lid of the ST



Taking the lid off to reveal the keyboard

◀ **From Page 81**

board. The battery compartment has a small sticky pad on its underside and this can be fixed to the metal shielding somewhere behind the keyboard before re-assembly of the outer casing.

The only part of the operation which might cause problems is the removal of the keyboard chip from its socket, but if handled gently it should be simple enough.

Since the clock card is now inside the casing it can draw power directly from the ST and recharge its batteries whenever the micro is switched on. Unless you plan to leave the computer idle for a long period this method should keep the batteries well charged and thus keep the clock running.

Even if the three cells do finally give up the ghost, you can always replace them with new ni-cads which should be available from most shops which stock a good range of batteries.

Both of these clock cards are supplied with discs containing the driver software, though Frontier thoughtfully also provides you with some useful public domain desk accessories. In each case the vital software consists of two programs – an initial set-up routine, which lets you enter the current time and date, and a boot program which you should place in the AUTO folder on your system disc or hard disc.

The Frontier manual gives very clear and concise instructions for fitting the board and running the software, but the Microdeal leaflet leaves a little to be desired. Also, neither give any real indication as to how long their respective clocks will run without recharging or replacing.

It's hard to say which system is the best, but I think I prefer the Forget-Me-Clock as it doesn't tie up the cartridge port. However, if you regularly leave your ST unused for long periods you would be better off using Micro-Time with its lithium battery which does not require periodical recharging.

Of course the ideal solution would be to have an internally fitted lithium cell device, such as the real-time clocks supplied inside the latest generation of Supra hard disc drives. Perhaps one of these two companies would like to develop one and then we'd have the best of both worlds.

FACT FILE

Product: Forget-Me-Clock
Price: £22.95
Supplier: Frontier Software, PO Box 113, Harrogate, North Yorkshire, HG2 OBE. Telephone: 0423 67140

POINTS FOR:
Internal therefore frees cartridge port. Useful PD desk accessories included.

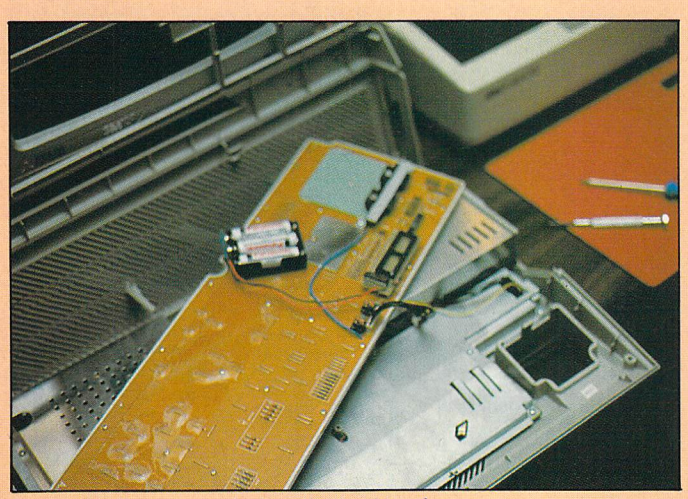
AGAINST:
Need to open your ST to install it. Recharging necessary.

FACT FILE

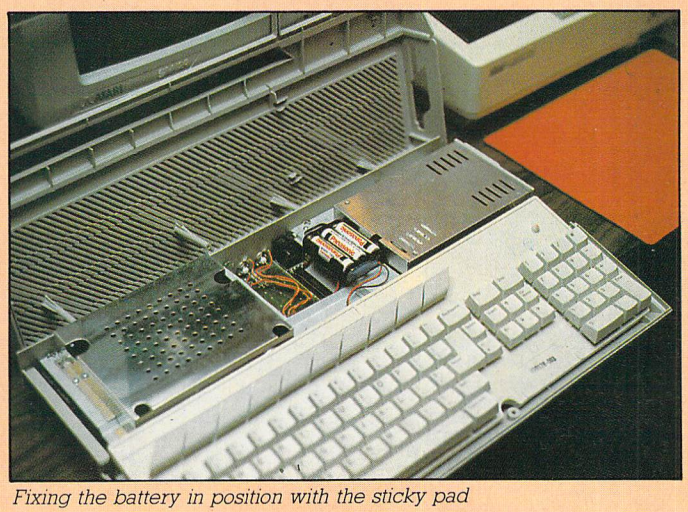
Product: Micro-Time rom port clock card
Price: £27.50
Supplier: Microdeal, PO Box 68, St.Austell, Cornwall, PL25 4YB.
Telephone: 0726 68020

POINTS FOR:
Small and powerful. Long life.

AGAINST:
Have to solder replacement battery into place. Ties up cartridge port.



Fitting the Forget-me-clock to the keyboard



Fixing the battery in position with the sticky pad

MUSIC ON THE ST

By IAN WAUGH

New Age music on the ST

We place electronic music wizard Ian Boddy under the spotlight

IAN Boddy will be the first to admit that as household names go he's not quite in the same league as Tangerine Dream or Kraftwerk. But if you are interested in electronic or New Age music the chances are you'll have at least one of his recordings. His last album, Jade, was recorded entirely on an Atari 1040ST and he has probably given more live electronic music concerts in the UK than anyone else.

I caught up with Ian at his home studio, nestling in the hills above the Tyne valley, the week before he was due to appear at the sixth annual UK Electronica. He's headlined there twice although this time he's supporting Spanish synth whiz Michel Huygen, otherwise known as Neuronium.

The hardware

He was busy setting up his gear ready for a rehearsal with his assistant and sometime partner, Dave Berkeley.

"Dave puts a lot work and effort into the music but gets very little credit. He began working as my assistant about three years ago but recently he's helped co-write a couple of pieces".

Ian began by explaining some of the equipment in two impressive-looking racks which will be used at the concert.

"The amazing thing is that all this gear works perfectly. Some people say we must be mad using a computer live, but I've used my ST live about four times now and I've never had any bother. On top is an Akai S900 Sampler and under that two Simmons SPM8:2 Midi-programmable mixers – all the mixing is under control of the computer. I use an Akai MB76 Mixer to effectively make the two SPMs behave as if they were one 16:2 mixer.

"The ME30P is a Midi Patch Bay. All the Midi Ins and Outs go through it although it won't actually be doing any switching during the concert. I use it in the studio for swapping voices. The Yamaha TX416 is four rack-mounted DX7s. Then there's the MKS30. It's really old and the equivalent of the Roland JXP-3 but it's touch-sensitive. All it ever does is produce lovely Roland string pads. With all our FM stuff we need a contrast, and I've never heard as warm a string sound as this.

"Then there's my DX7 and the Atari 1040ST with high resolution monitor running Steinberg's Pro-24. I've got the latest update, version III, but it has a lot of features I don't use, like the drum editor. I play all the drums by hand from the keyboard".

That's interesting, because Vince Clarke and Ashley Ingram do the same thing.

"Yes, drum machines are a very unnatural way of working, and I made a conscious decision about 18 months ago

not to use them any more. I use a lot of ethnic percussion and all my drum sounds are produced on the S900. It's a bit of a drag at times because you've got a £1,500 sampler just playing drums. When recorded Jade I had to use four S900s.

"In concert we also use Dave's Roland S550 sampler, which has five individual outputs. We use it with a Midi Merge Box and the computer plays it at the same time as Dave.

"The S550 does most of the sampling work now because it has individual outputs and more memory – one and a half megabytes compared with 750k on the S900. On one piece it's producing the sound of the sea, the sound of the wind, the sound of curlews, a bass drum, a mega snare drum, a tambourine, a screaming guitar sound, some strings, pianos and a multi-sampled fuzz guitar, all at the same time. We've had to store the samples on two discs, though".

Using the ST

What do you actually use the computer for?

"The ST performs several functions. First, it does all the backing. It plays the drums, the bass lines, sound effects and all the boring bits. We play the lead lines and all the interesting bits.

"It also does all the patch changes. For example, it changes the Midiverb patches at the correct points and the patches on the SPMs. We can also do a crossfade mix. On one particular piece, everything fades out as we play and as we fade out some jungle sounds fade in. The mixers can also do autopanning and some sequences of three or four lines get autopanned at different speeds – it's a wonderful stereo effect".

Do you play all your pieces exactly the same way each time?

"No, some of the solos are improvised although the encore – if we get one – is a very rigid rock piece. It's completely over the top. A performance with a computer can never be as flexible as playing with humans but then a computer has its advantages. I'm not trying to pretend that the computer can take over from a rock band. It can't, but we're doing something completely different".

So how close is your live performance to your studio recording?

"It's pretty close. There are things which come across live which don't come across on the albums. For example, we do play quite loud a times. My music's starting to get called New Age music. I like the contrast between violent, loud events and total calm. In the home you can't really get that effect".

"The ST is the best investment I've ever made. It only took me 20 hours of studio time to record a whole LP because all the programming had been done at home. Without the ST it would have taken two to three weeks, I don't think I would have got as good a performance and it would have cost a hell of a lot more."

The latest release

Tell me about Jade.

"It was programmed and recorded entirely on the ST. We mixed it in the studio direct to Sony F1, we didn't use any analogue tape at all. The sound quality is so clear it's frightening. It's been released on chrome cassette. It was supposed to be released on CD but there have been contractual problems. Another company may take up distribution".

Ian summed up his attitude towards computers and music.

"The ST is the best investment I've ever made. It only took me 20 hours of studio time to record a whole LP because all the programming had been done at home. Without the ST it would have taken two to three weeks, I don't think I would have got as good a performance and it would have cost a hell of a lot more".

How do you remember all your music? Do you write it down?

" ... in conjunction with Martin Russ. keep it all in my head. Sometimes I'll forget a piece and I'll have to go through the Grid Edit page to work it out. There's no score for any of the live concerts. I've now got over an LP's worth of new material, but I like to play the pieces live to get a feel for them".

Why did you buy an ST as opposed to an IBM or Amiga, for example?

"I've had my ST since June 1987 and I bought it because almost everyone in Europe is writing music software for it. People ask how good the ST and the Pro-24 are. I say it depends on how far you want to take what you're doing. I've recorded a complete LP with every single note and every single Midi event stored on computer all saved on to one disc and I've mastered direct to Sony F1. What more could you do than that?"

Did you look at any other software before you plumped for the Pro-24?

"Yes, but at the time I bought the Pro-24 2.0 there wasn't much choice. Nowadays, there's a lot more choice. I couldn't say that the Pro-24 is necessarily the best any longer but I'm very happy with it and it lets me do what I want to do."

Do you use any voice editors?

"Yes, my head! I tried Steinberg's S900 Soundworks editor and it's very pretty. I think that the main reason for using editing software with a sampler is to get good loop points.

"Soundworks has crossfade looping. That means, to put it simply, it hyridises or redraws the waveform around the loop point. It sort of evens it out so you get a much better loop. I had a sound of a wine glass being rubbed – very pure, it was virtually a sine wave. I reckoned if it could get a loop on that it could loop anything and the Soundworks editor did it like that.

"I also tried Steinberg's DX Synthworks program. My DX7 was the first one ever sold in the North East and, as you know, I program my own sounds..."

Yes, you wrote the Skyslip roms...

" ... In conjunction with Martin Russ. Over the years I've probably programmed 500 of my own DX7 sounds. I wouldn't say they're all good but I've got FM synthesis pretty well sussed. I found that although I didn't really need Synthworks I did use the randomise feature to produce something vaguely interesting then I'd start messing about with the sound on the DX7".

Do you think voice editors are useful if you're not familiar with an instrument?

"Absolutely. I think they're virtually essential if you want to produce your own sounds. I have 1,800 DX sounds on one disc which cost £1.50. If they were stored in ram packs they would cost more than a DX7! That's another great feature of the ST and Pro-24".

Boddy's best

If you want to hear an example of Ian Boddy at his best I can recommend his latest album, Jade, a direct to digital recording which is currently only available on chrome cassette in a limited edition signed by the artist. His other recordings are available on both record and cassette: The Climb, Spirits and Phoenix. All cost £5 each plus 50p p&p per cassette or 75p p&p per album.

● More details from Something Else Records, P.O. Box 3, Rowlands Gill, Tyne & Wear NE39 1PN.

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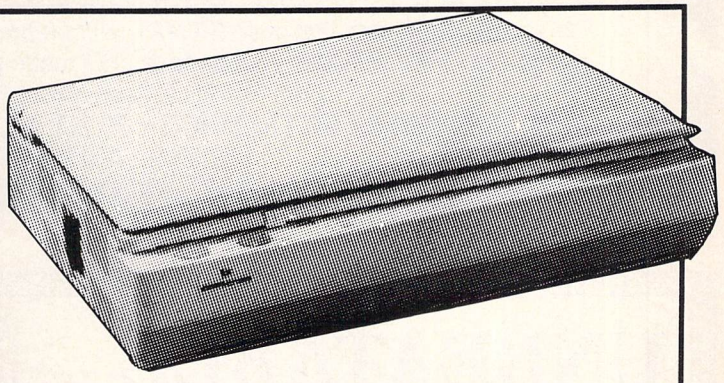

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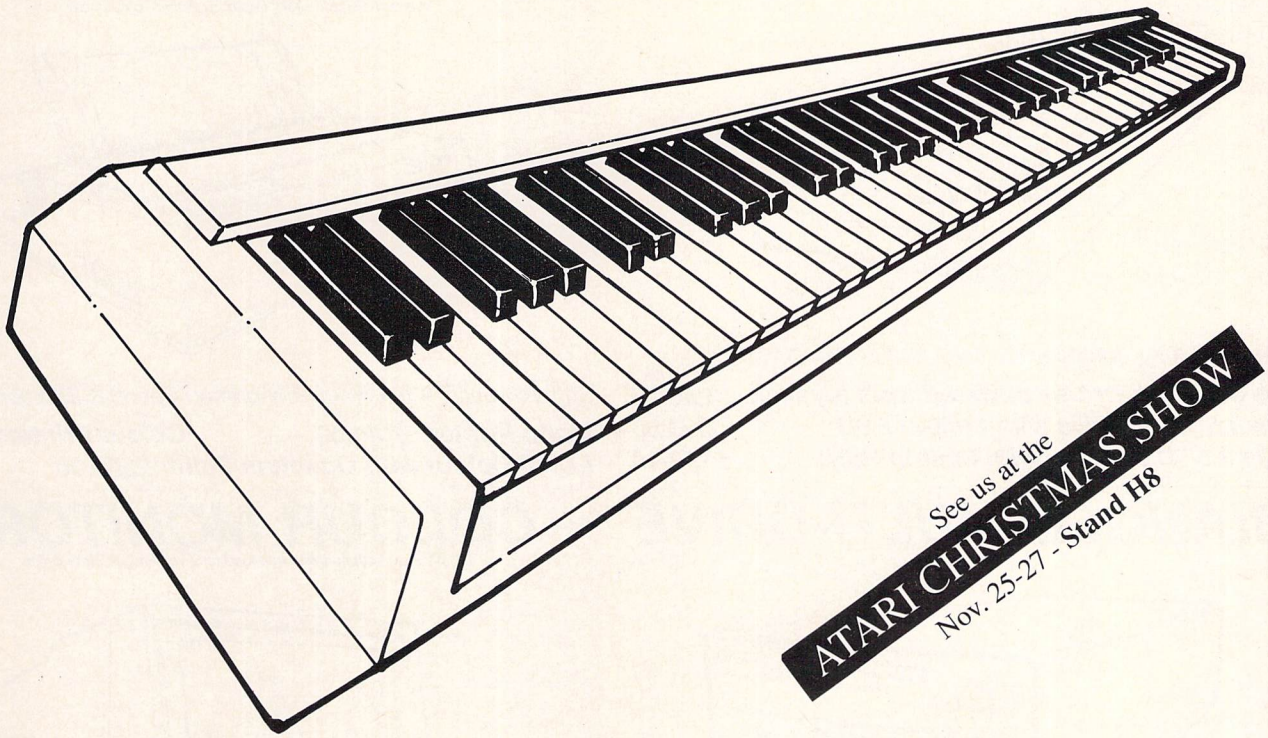

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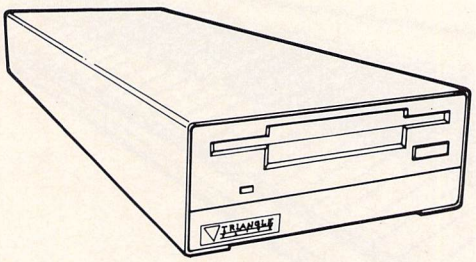

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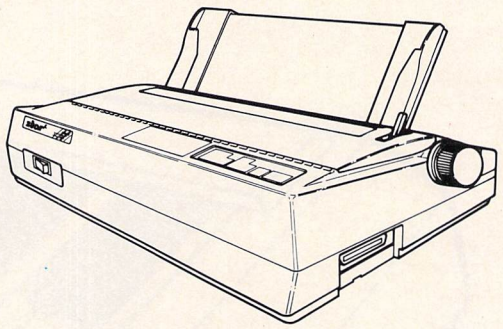

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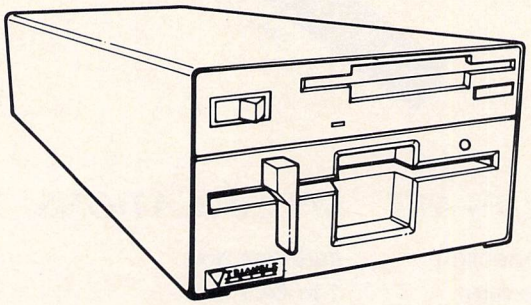

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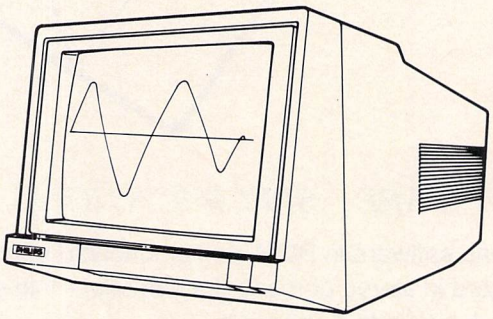

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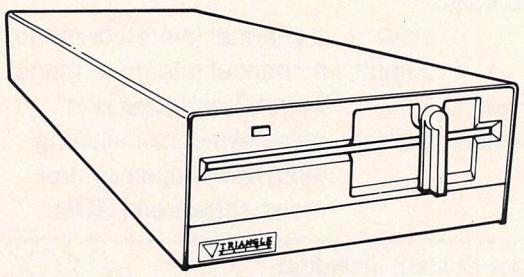

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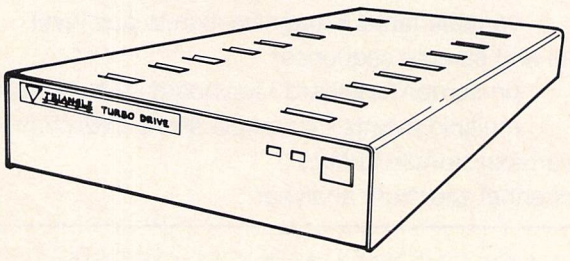

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Word work out

Nic Outterside looks at a suite of three new programs for primary school children

THINGS to do with Words is the second educational package from Softstuff that I have had the pleasure of reviewing during the past three months. This latest venture provides a collection of three programs aimed at supporting the teaching of spelling, reading and sentence structure to five to ten year old children. It could equally be used with success in the consolidation of these skills to older children who experience learning difficulties.

As with all Softstuff educational programs, all letter and word manipulation is performed via the mouse and on-screen letter grid. The keyboard, with its confusing upper-case letters, can be left aside allowing your child to concentrate on the screen and its contents. Such operation is simple and should not provide difficulty to even the very young.

Softstuff also recommends that wherever possible your youngster is allowed to use the computer and software alone. Some initial explanation will of course be necessary for the younger child but a seven year old and over should be able to operate Things to do with Words completely unaided.

Double click on the THINGS_W.PRG icon and after a few seconds you are asked if you require instructions. Click on the appropriate answer and the loading process will continue. However, do note that if you opt for "No" at this stage it will suppress all instructions throughout the suite of programs.

Next you are asked to select a skill level. The answer given here will set the percentage level required to see and hear Buddy Book-bug congratulate the child. This delightful little character appears to have eaten his way through a number of books to say "Well done" if you reach the chosen success rate. It would be unwise to encourage a child to be too optimistic until he/she is more familiar with the programs.

The initial choice screen is presented in the form of four colourful books with a title on each cover. They are: Anagrams, Word Hunt, Sentences and The End. Clicking on each of the first three books will enter that program and selecting The End will return you to the desktop.

The aim in Anagrams is to rearrange the mixed-up words and spell them on the dotted line provided.

To do this you must first select a suitable level of difficulty – these range in gradations from beginner to expert.

The words are displayed at the top of the screen in three or four columns. In turn your ST randomly chooses a word and scrambles it in mid-screen for the child to solve using the mouse and the lower-case letter grid. At completion of each word the answer is checked by the computer and if correct will flash in several colours while making some appropriate noises.

Should the answer be incorrect the solution is shown to help with future attempts. You can exit from the game at any point by clicking on the end box and provided you have reached the required success rate will be congratulated by Buddy Book-bug.

This implementation of anagrams is colourful and fun to play with a sensible selection of appropriate words. It will encourage children to evaluate which word is required by several processes of elimination which in turn will reinforce visual shape recognition – an important building block in the learning curve.

Word Hunt enables children to develop skills such as concentration and evaluation as well as experiencing the process of discovery. From a main screen of three columns of words they select a word by clicking on it with the left mouse button. Word Hunt will load all the words that it knows from the selection and display a grid with the letters in that word. From this you click on the letters required until a word is spelled in full.

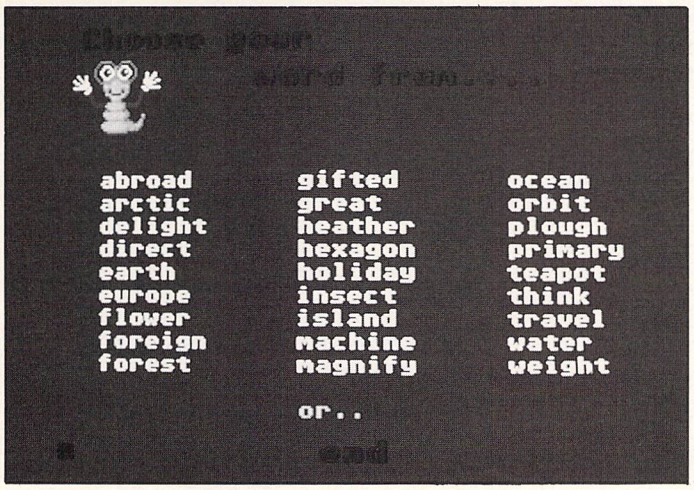
If the word is present, the message "That word is OK" appears below the letter grid, otherwise the message "That word is not allowed" will be seen. As before, you can exit the game at any point and the score will be displayed, together with all the words available from the child's selection. Once again, if the success rate is achieved, congratulations are the order of the day.

The object of Jumbled Sentences is to rearrange each mixed-up sentence into a sensible and grammatically correct order.

If you click on a word from the mixed-up sentence at the foot of the screen it will appear in mid screen. As each word is selected, it changes colour to inform you that it has now been used. If the sentence is correctly rearranged a point will be awarded on screen with a small visual and audible congratulation. If the sentence is incorrect, the answer is blanked out and the original mixed-up sentence reappears at the foot of the screen.

You are allowed three attempts at each potpouri of words before the computer prints out the correctly rearranged sentence. Exit, score and congratulatory procedures are the same as before.

Author Robin Kimberley has borrowed some ideas from standard educational programs. However, he has presented them in an exciting, colourful and educationally sound manner. My only criticism is that more attention could have been paid to the musical and graphical content. However, this is an excellent package which I unreservedly recommend.



Buggy Book-bug presents Word Hunt

FACT FILE

Product: Things to do with Words
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Supplier: Softstuff, 193 Sketchley Road, Burbage, Leicestershire LE10 2DY.
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AGAINST:
Could be greater graphical and musical content.

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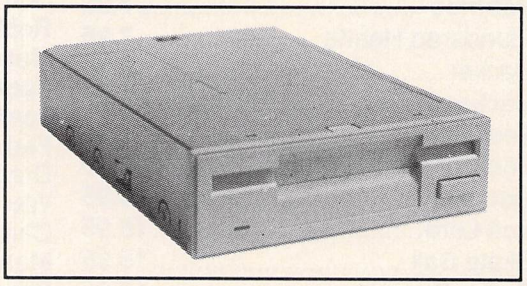

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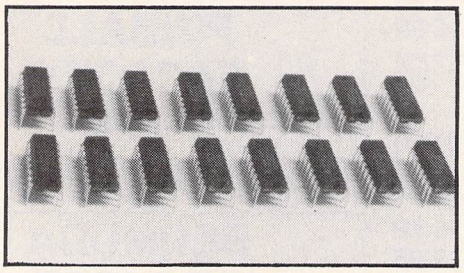

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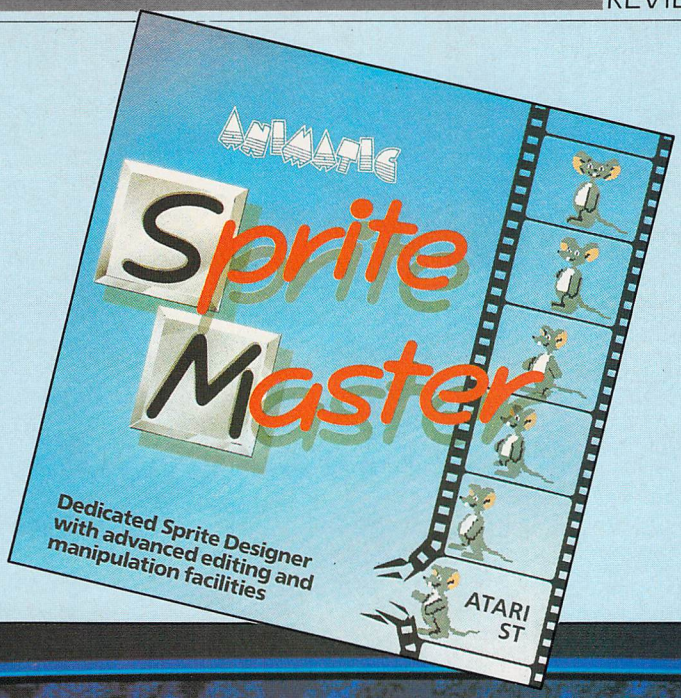


Roland Waddilove tests a new sprite designer and finds it a useful addition to his toolkit

THERE are already quite a few sprite designers on the market, so any newcomer is entering a quite competitive area and must offer some special attraction in order to succeed. In this review I put Soft Bits' Sprite Master to test to see how it measures up to the competition.

The software, which runs only in low resolution colour, is supplied on a single sided disc and boots up to reveal an attractive title screen with a row of buttons along the bottom. The first one enables you to load a previously saved Degas, Neochrome or Paintworks screen, and this facility is used in conjunction with the fourth button which allows you to grab sprites from it.

The second button allows you to save the sprites stored in memory, along with the colour palette and sprite mask. A bug cropped up here, as occasionally the program reported that the disc was full when in fact it wasn't. However, the version I tested was pre-production and the few idiosync rasies will doubtless be ironed out.

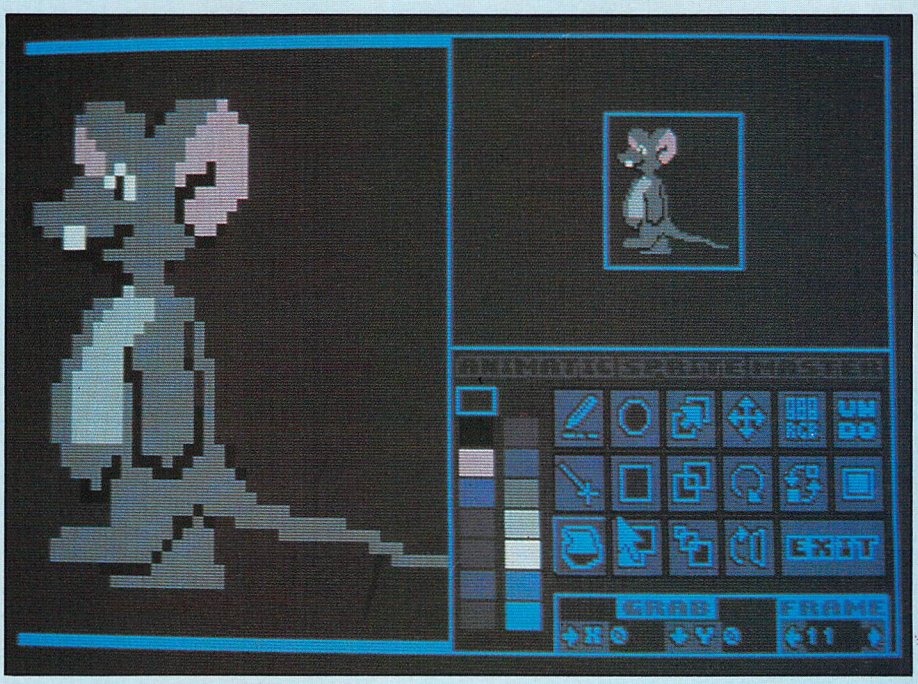
The third button on the boot up screen brings up a toolkit with four options. Here you can set the monitor's sync rate to 60Hz providing it is designed to run at this speed.

This effectively enlarges the screen slightly and reduces the border round the edge of the picture, among other other things.

The toolkit also lets you set the time and date – useful on 520 and 1040STs – delete files on disc, and set the size of the sprites – ranging from a small 16 x 16 up to a whopping 144 x 84 pixels. Setting the size destroys any sprites in memory, so this process should be carried out before creating or loading any.

Button five on the title screen takes you to the sprite designer itself. Here you can

Turn to Page 98 ▶



◀ From Page 97

create and edit large magnified copies of your sprites using a whole range of useful mouse-controlled tools. You can draw freehand, rubberband lines, circles and rectangles, fill shapes, flip them vertically or horizontally and rotate them.

All the functions are quite speedy, in fact one or two are too fast on my Mega ST with blitter, and I experienced difficulty scrolling and selecting sprite frames accurately.

Sprites can be scrolled in any direction, and copied either destructively or transparently to another sprite frame. The former option copies the whole sprite, and the latter writes the foreground colours on top of the destination frame, allowing the background to show through. You can also set the RGB value for any of the 16 colours.

Button six on the title screen takes you to the animation screen. Here you can test your sprites by animating them as they glide across the screen. You can set the direction, speed of movement, speed of animation and the frames used.

You can quickly go back to the editor to touch up the sprites or create new ones, re-enter the animator and test them again. There were two annoying features, one being that the animator's settings were not remembered after leaving it, editing a sprite and returning – you have to set up all the parameters again.

The other debit feature is that the animator expects two or more frames. It's not an unreasonable restriction, but I would like to see my single frame sprites move too. The solution is to create a clone and animate the two identical frames.

The final two buttons on the title screen quit and print the software company's copyright respectively.

Sprite Master comes with another utility on the disc which which takes a sprite file and turns it into an Ascii file which can be included in Basic, C or assembly language programs. This facility enables you to create data statements for ST, GFA, HiSoft and Fast Basics, and C and assembler source code.

A third utility enables you to load Degas and Neochrome files then cut and paste between them. You can also squash them to one quarter of their current size. The object is to load all your Degas screens and cut the sections you want to grab as sprites and paste them all on to one screen which can then be saved and loaded into Sprite Master.

This is a powerful and flexible utility, easy to use and packed with features. However, when I remarked to one person: "Look at this new sprite designer for only £24.95, it's excellent", he replied "But for £5 more you can buy the Stos sprite designer, and you'll get a Basic sprite animation language, accessories, a music editor, a 280-page manual and three arcade games free". Perhaps, on reflection, Sprite Master is a little over priced?

FACT FILE

Product: Sprite Master
Price: £24.95
Supplier: Soft Bits, 5 Langley Street, London WC2H 9JA.
Tel: 01-836 2533

POINTS FOR:
Capable of creating very large sprites. Good range of editing functions.

AGAINST:
Expensive for a sprite designer. One or two bugs in the pre-production version which should be ironed out shortly.

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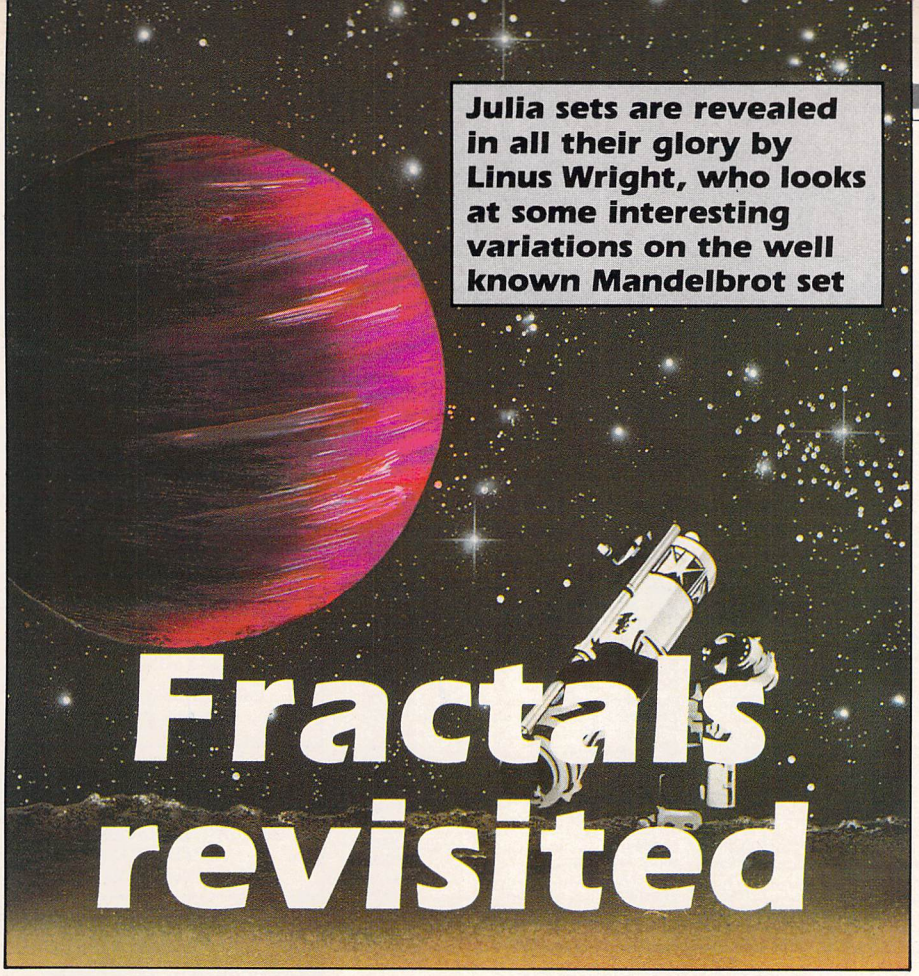

Julia sets are revealed in all their glory by Linus Wright, who looks at some interesting variations on the well known Mandelbrot set

Fractals revisited

IMAGINE sitting on the Moon and looking through a powerful telescope at the Earth. You move the telescope to view a straight section of the Great Wall of China, it appears as a short line far away. To reveal more detail you zoom in by doubling the magnification, and the line appears to double in length. As its length is directly proportional to the magnification we say that a line is one dimensional.

Now imagine waiting a few hours and viewing the squarish state of Illinois. Doubling the magnification this time produces an apparent fourfold increase in the area of the state. And hence we would conclude that a square is two dimensional.

Feeling homesick, you turn your attention to the British Isles and measure the length of the coastline. You naturally zoom in to get a better view and measure the length again, noting the appearance of river inlets invisible at higher magnification. Finding that the new length is somewhere between two and four times the old apparent length, you reckon that the coastine must have a dimensionality somewhere between one and two – a fraction.

Fractals is the name given to shapes with fractional dimensionality, and the coastline of the British Isles is a good example of one in nature – zoom in and more detail becomes apparent.

But nature isn't the only place fractals occur, they appear in mathematics when we look at complex numbers. Such a number has two parts – real and imaginary. The former is what would be considered an ordinary number such as –11 and 14.2, and the imaginary part is a real number times *i*, where *i* is the square root of –1 (not really worth trying to imagine!).

Just as a point on a graph has an *x* and *y* coordinate, any complex number has a real and imaginary part. So a set of complex numbers forms a plane. Mathmatical fractals are formed by a simple arithmetical process repeated many times using recursion, the sort of thing computers are very good at.

To create a fractal pattern the screen is set up to cover a part of the complex plane, and each pixel on the screen has a complex value – the *x* and *y* coordinates of the pixel directly relating to this value. I will refer to this value as *z*, but really it should be thought of as $x+iy$.

In broad terms, this value is passed through a recursive loop which determines the colour of that pixel, and this is repeated for the whole screen. When a complex number *z* is passed into the loop it does one of three things: It grows very quickly, it shrinks very quickly, or it remains about the same size for a while and then grows.

The size of a complex number is given by:

```
|z| = SQR(x*x + y*y)
```

If the size of *z* exceeds 2 then it will very quickly grow to infinity, so this is used as a check-point in the loop.

When people talk about fractals they usually mention the Mandelbrot set in the same breath. This is formed by a recursive loop being applied to every pixel on the screen, which ranges from –1.7 to 0.5 horizontally and $-1.1i$ to $1.1i$ vertically.

Unfortunately computers cannot handle complex numbers, but this can easily be overcome with a little extra programming. A Basic program to plot the Mandelbrot set is very slow, taking up to an hour or more as Basic is an interpreted language.

Even compiled ones such as C suffer limitations due to the calculations being mainly floating point. Floating point arithmetic is very versatile, but tediously slow compared to specialised assembly routines which I use to produce fractals more rapidly.

Program I plots the Mandelbrot set in monochrome, but takes only about 140 seconds. It can be used as a stand-alone program, but is intended, together with the rest of the listings, to describe the techniques and give the neccessary code to be used in your own routines, perhaps being called from a higher level language. I've tried to incorporate as much variety as possible within the programs while keeping the format reasonably consistent.

A word needs saying at this stage

Turn to Page 101 ▶

```
* (c) Atari ST User        q3      clr d5                  move.l d0,a5
ystart  equ -$1199                 clr d6                  add.l d0,d7
xstart  equ -$1b33                 lea.l $0,a5             cmpi.l #$4000000,d7
yinc    equ $16                    lea.l $0,a6             bhi q5
xinc    equ $e                     move #30,d3             dbf d3,q4
        move #2,-(sp)      q4      sub.l a5,a6       q5    andi #1,d3
        trap #14                   move.l a6,d7            asl (a0)
        addq #2,sp                 asl.l #4,d7             add d3,(a0)
        movea.l d0,a4              swap d7                 adda #xinc,a2
        lea (a4),a0                add a2,d7               dbf d4,q3
        move #$2000,d0             muls d5,d6              addq #2,a0
q0      clr.l (a0)+                asl.l #5,d6             dbf d1,q2
        dbf d0,q0                  swap d6                 adda #yinc,a3
        lea (a4),a0                add a3,d6               dbf d2,q1
        move #400,d2               move d7,d5              move #7,-(sp)
        movea #ystart,a3           muls d7,d7              trap #1
q1      movea #xstart,a2           move.l d7,a6            addq #2,sp
        move #39,d1                move d6,d0              rts
q2      move #15,d4                muls d0,d0
```

Program I

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Address _____

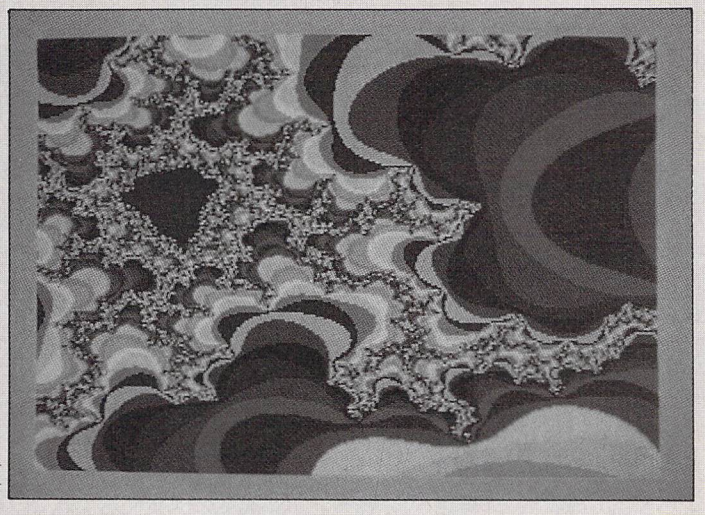
about the 16 bit arithmetic used in Program I. In the decimal system a number consists of two parts, one either side of the decimal point, and meaning can be brought to the number by its position. For instance 23.45 means 2x10 + 3x1 + 4/10 + 5/100.

Similarly, in binary 10.11 means 1x2 + 1/2 + 1/4. With floating point arithmetic this is of no consequence, but the 68000 cannot process numbers containing decimal points, only whole numbers, so it is up to the program to handle the decimal point. In Program I every number used is 16 bits long, so the 68000 thinks it is juggling numbers between zero and 65535, but really the numbers are only between –8 and 8, with 12 of the bits being used for the fractional part of the number as follows:

15	*14 13 12*	*11 10 9.....2 1 0*
sign	*integer*	*fraction*

With addition and subtraction the decimal point is kept in the right place by the 68000, but with multiplication the product has to be shifted by four bits to return the decimal point to its original position. Hexadecimal, which is a direct descendant of binary, is used to represent the constants, the decimal point being located after the first digit.

So, for example, *ystart* in the listing is –1.199 in hex or –1.1 in decimal, and the distance between each line vertically, *yinc*, is 0.016 in hex or 0.00537 in decimal. Hence the imaginary value of the last line is –1.1i + 0.00537x400i or 1.05i. By using the reverse process, the program can be modified to produce a pattern over any range required.



The output from Program II

Zooming in

As with a coastline, the Mandelbrot set reveals more detail when you zoom in on a small section. In Basic this is not much of a problem – simply reduce the *x* and *y* ranges, but 16 bit arithmetic loses its accuracy after zooming in about 1,000 times so 32 bits have to be used.

Program II produces a low resolution colour close up of a small region of the Mandelbrot set, zooming in about 10,000 times and taking about 10 minutes to draw. It takes much longer as 32 bit multiplication is not supported by the 68000, so four 16 bit multiplications have to be performed. Also the maximum number of iterations has to be increased from 20 to 100 to capture the extra detail.

The 32 bit number is handled in exactly the same way as its 16 bit counterpart, having an extra 16 bits of fraction tagged on the end. So *ystart* is –0.2BA4600 in hex or –0.17 in decimal, and the distance between each pixel vertically is 0.0000070 in hex or 0.000000417 in decimal.

If you have access to both monochrome and colour systems the differences between the two programs will be apparent. Monochrome produces more detail and better screen dumps, but colour can increase the visual appeal. Program II uses the ST's default colours, but experimenting with your own psychedelic palette can increase the appeal

Turn to Page 103 ▶

```
* (c) Atari ST User
xinc    equ $e0
yinc    equ $160
xstart  equ -$85f3c00
ystart  equ -$2ba4600
        move #2,-(sp)
        trap #14
        addq #2,sp
        movea.l d0,a0
        lea (a0),a1
        move #$2000,d0
q0      clr.l (a1)+
        dbf d0,q0
        movea #200,a1
        movea.l #ystart,a3
q1      movea.l #xstart,a2
        movea #20,a4
q2      move #15,d4
q3      clr.l d5
        clr.l d6
        lea.l $0,a5
        lea.l $0,a6
        move #100,d3
q4      sub.l a5,a6
        move.l a6,d7
        add.l a2,d7
        move.l d5,d1
        move.l d6,d2
        bsr mlts
        move.l d2,d6
        asl.l #1,d6
        add.l a3,d6
        move.l d7,d5
        move.l d7,d1
        move.l d7,d2
        bsr mlts
        move.l d2,d7
        move.l d7,a6
        move.l d6,d0
        move.l d0,d1
        move.l d0,d2
        bsr mlts
        move.l d2,d0
        move.l d0,a5
        add.l d0,d7
        cmpi.l #$20000000,d7
        bhi q5
        dbf d3,q4
q5      move #3,d7
q52     move d3,d0
        andi #1,d0
        asl #1,d7
        asl 0(a0,d7)
        add d0,0(a0,d7)
        lsr #1,d7
        lsr #1,d3
        dbf d7,q52
        adda.l #xinc,a2
        dbf d4,q3
        adda #8,a0
        subq #1,a4
        move a4,d0
        dbf d0,q2
        adda.l #yinc,a3
        subq #1,a1
        move a1,d0
        dbf d0,q1
        move #7,-(sp)
        trap #1
        addq #2,sp
        rts
mlts
        movem.l d3-d7,-(sp)
        move.l d1,d6
        move.l d2,d7
        move.l d1,d3
        move.l d1,d4
        swap d4
        move.l d2,d5
        swap d5
        mulu d2,d1
        mulu d4,d2
        mulu d5,d3
        mulu d5,d4
        swap d1
        add d2,d1
        clr.l d5
        addx.l d5,d4
        add d3,d1
        addx.l d5,d4
        swap d1
        clr d2
        swap d2
        clr d3
        swap d3
        add.l d3,d2
        add.l d4,d2
        tst.l d7
        bpl.s chkd6
        sub.l d6,d2
chkd6   tst.l d6
        bpl.s done
        sub.l d7,d2
done    asl.l #5,d2
        swap d1
        rol #5,d1
        andi #$1f,d1
        add d1,d2
        movem.l (sp)+,d3-d7
        rts
```

Program II

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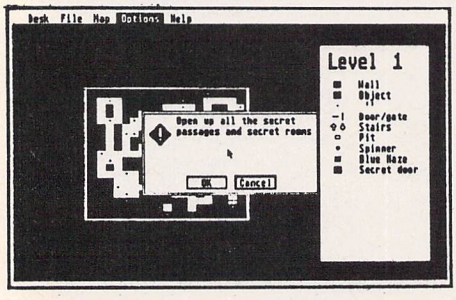

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◀ From Page 101

of the picture no end.

Beautiful curves

A Julia set is generated by a different recursion from the one used to produce the Mandelbrot set, although the principles are similar. This time the whole screen covers a range from –1.5 to 1.5 horizontally, and from –1.5*i* to 1.5*i* vertically. Now a complex number can be thought of as a single point from the Mandelbrot set, and as each value produces a different Julia curve we can say that any Julia curve is produced by a point on the Mandelbrot curve. Hence this is not the same as zooming in.

You can zoom in on a Julia curve, and this usually reveals more symmetrical detail than inherent in its parent and is equally beautiful. Program III produces a series of Julia curves in low resolution colour, each one being displayed after being drawn, so producing a sort of crude animation with each frame lasting for about 15 seconds.

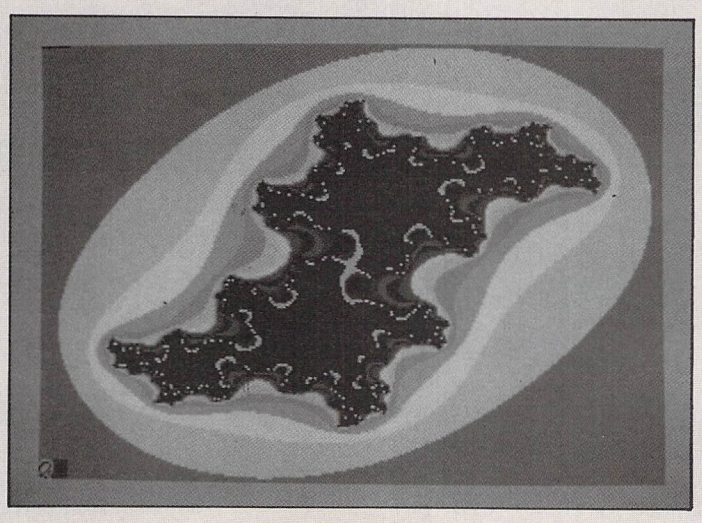
Perhaps some of the appeal for producing fractal patterns on the micro is generated by the enormous time taken to plot each one. Leaving your machine on all night and waking to find a technicolour marvel as well as a hot powerpack, leaves you feeling somewhat like a pioneer: "My, that was one hell of a calculation!". But if you are willing to wait a few hours, fast fractals open up a new dimension, a cliché which would take weeks to do in Basic.

The listings used to produce all these images are the absolute bare bones and a Basic or C handler could be written with menus windows and all the frills to allow easier manipulation, instead of juggling with hex all the time. The Mandelbrot set is produced by a self-squaring operation, but there are many other Mandelbrot-like sets produced by more powerful operations. From each major set an infinite family of Julia-like sets are spawned.

Finally, here is a development spinoff for all you seasoned fractal hunters. Program IV produces a monochrome pattern different to any I have seen before – perhaps it should be christened the Atari set.

```
* (c) Atari ST User
        move #2,-(sp)
        trap #14
        addq #2,sp
        movea.l d0,a4
        lea (a4),a0
        move #$2000,d0
q0      clr.l (a0)+
        dbf d0,q0
        lea (a4),a0
        movea #401,a1
        movea #-11*164,a3
q1      movea #-17*164,a2
        move #39,d1
q2      move #15,d4
q3      clr d5
        clr d6
        move #20,d3
q4      move d5,d0
        muls d0,d0
        move.l d0,d7
        move d6,d2
        muls d2,d2
        sub.l d2,d7
        asl.l #3,d7
        swap d7
        add a2,d7
        muls d5,d6
        asl.l #4,d6
        swap d6
        add a3,d6
        move d7,d5
        muls d7,d7
        move d6,d0
        muls d0,d0
        add.l d0,d7
        cmpi.l #$20000000,d7
        bhi q5
        dbf d3,q4
q5      andi #1,d3
        asl (a0)
        add d3,(a0)
        adda #$1c,a2
        dbf d4,q3
        addq #2,a0
        dbf d1,q2
        adda #$2d,a3
        subq #1,a1
        move a1,d0
        dbf d0,q1
        move #7,-(sp)
        trap #1
        addq #2,sp
        rts
```

Program IV



The output from Program III

```
* (c) Atari ST User
xstart  equ -$1800
ystart  equ -$1800
xinc    equ $26
yinc    equ $3e
kimag   equ $a7e
kreal   equ $1c2
kinc    equ $20
        move.l #kreal,d2
q01     move #2,-(sp)
        trap #14
        addq #2,sp
        movea.l d0,a4
        sub #$8000,d0
        movea.l d0,a0
        move #$2000,d1
q02     move.l (a0)+,(a4)+
        dbf d1,q02
        movea.l d0,a4
        lea (a4),a0
        move #$2000,d0
q0      clr.l (a0)+
        dbf d0,q0
        lea (a4),a0
        movea #200,a1
        movea #ystart,a3
q1      movea #xstart,a2
        move #19,d1
q2      move #15,d4
q3      move a2,d5
        move a3,d6
        move d5,d0
        muls d0,d0
        movea.l d0,a6
        move d6,d0
        muls d0,d0
        movea.l d0,a5
        move #14,d3
q4      sub.l a5,a6
        move.l a6,d7
        asl.l #4,d7
        swap d7
        add d2,d7
        muls d5,d6
        asl.l #5,d6
        swap d6
        addi #kimag,d6
        move d7,d5
        muls d7,d7
        move.l d7,a6
        move d6,d0
        muls d0,d0
        move.l d0,a5
        add.l d0,d7
        cmpi.l #$4000000,d7
        bhi q5
        dbf d3,q4
q5      move #3,d7
q52     move d3,d0
        andi #1,d0
        asl #1,d7
        asl 0(a0,d7)
        add d0,0(a0,d7)
        lsr #1,d7
        lsr #1,d3
        dbf d7,q52
        adda #xinc,a2
        dbf d4,q3
        adda #8,a0
        dbf d1,q2
        adda #yinc,a3
        subq #1,a1
        move a1,d0
        dbf d0,q1
        add #kinc,d2
        bra q01
```

Program III

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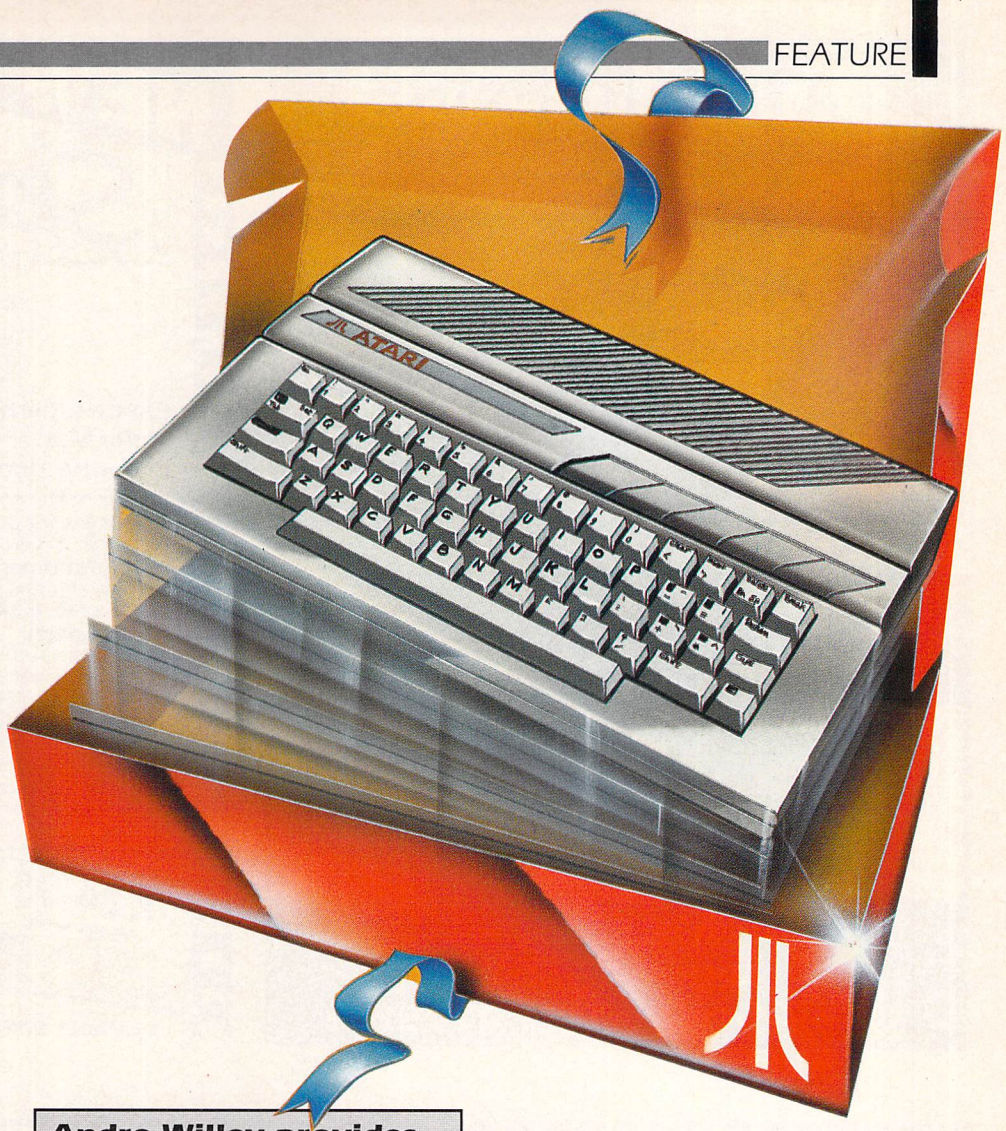

Andre Willey provides a host of hints and tips for anyone who has just received a brand-spanking new ST

Beginner's basics

THERE can be nothing quite so exciting as unpacking your first new Atari ST – perhaps received as a Christmas present. However, once you have connected all the relevant parts the excitement is usually soon replaced by a daunting feeling as you try to persuade the micro to do something useful.

If the operating system and Gem and all the other fancy Wimp-ish things are built into the micro's rom chips, why do we still use a boot disc? And what about those strange desk accessories people keep talking about... and Gdos, and AUTO folders...?

Altering the desktop

It's all a far cry from the old 8 bit home micros which you just switched on and there you were in Basic, ready to start writing your first program. In fact, as you will probably have realised by now, the ST is quite capable of getting as far as the desktop display on its own without any help from a boot disc.

This is all right as far as it goes, but very often you will want to customise the machine's performance with various extra facilities. These are usually provided in the form of special files which you can place on your master or bootup disc.

This is the disc which you put into drive A – the internal drive on STFMs and Megas – before you turn the micro on. The ST is programmed to check this disc automatically during the boot process, and then to load any appropriate files. These files fall into four main categories – the DESKTOP.INF file, various desk accessories, program files placed inside an AUTO folder and miscellaneous support files used by other sections of the boot process.

Every ST owner will have his or her own preferences as to how their system should be configured after booting, and thus each user's startup disc will be different. Probably the most common file on such a boot disc will be one called DESKTOP.INF which provides the ST with all the information it requires to set up your chosen desktop layout.

If no such file is found on your boot disc, the default display showing floppy disk A, floppy disk B and the trash can down the left hand side of the screen will be generated. This is all well and good, but often you will want other icons to be displayed, or perhaps you wish them to be located elsewhere on the screen.

In order to create such a file, first set the desktop up exactly as you would wish it to be each time you boot up the computer. You could, for example, have all your hard disc icons down one side of the screen and the others along the bottom edge, with a window open showing the top level of the main hard disc partition.

Once you have done this you should make sure you have a formatted disc in drive A and select the Save Desktop option from the Options pull-down menu. This will create a new DESKTOP.INF file for you, and whenever you boot up the machine with this disc in place the ST will go straight to your chosen layout.

Also saved in this file are such details as screen colours and the current settings of the various Gem menu selectors.

Auto folders

The next most likely type of file to be found on a boot disc is what is known as a desk accessory. These files determine what operations are available from the Desk menu – underneath the Desktop info . . . entry. The Control Panel utility is the most common example of a desk accessory, but countless others are available, such as clocks, free memory counters and file handling routines.

The system is designed so that these utilities are always available from the menu bar regardless of what other Gem program the ST is running at the time.

To install a new accessory simply copy it on to your boot disc and re-boot the system – making sure that your new .ACC file is in the top level directory rather than inside a folder.

There is a limit as to how many desk accessories may be held in memory at any one time, so many people rename some of their less frequently used .ACC files to use a non-standard extender – such as .ACK. Then, when they require that utility, all they need to do is rename it

Turn to Page 107 ▶

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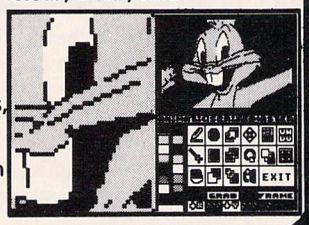

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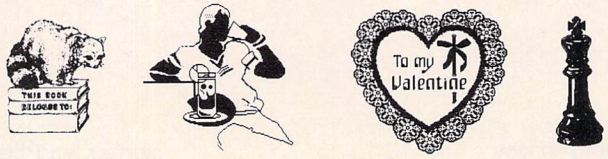

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◀ From Page 105

to .ACC and re-boot the whole system.

The third category of boot files are autobooting programs – which must have the extender .PRG, .TOS or .TTP. Any such program file which is placed inside a folder called AUTO will be automatically run when the system is booted. Unfortunately, this is not quite as useful as it sounds because the AUTO folder is checked before Gem is properly activated, and so any Gem-dependent programs will crash.

This means that unless a program has been written specifically for use in an AUTO folder it is unlikely to work correctly – and certainly no programs which use windows or menus will run. If you are unsure it is much more likely that a .TOS or a .TTP program will function correctly because these do not use the Gem system.

A great many routines are designed for AUTO folders, including hard disc drivers, clock setting routines and Atari's own Gdos program. Many third-party add-ons use the AUTO folder to initialise their control software, so it is fortunate that a number of different programs may be placed inside this folder – they will always execute in the order in which you placed them there.

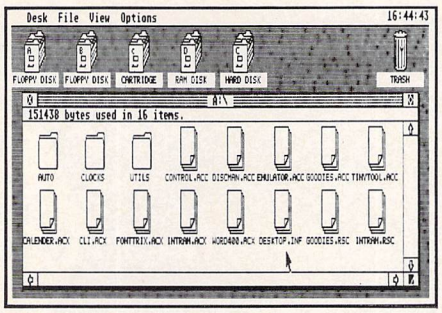
The final class of files on a boot disc are support files. These may be used by either desk accessories or AUTO programs and might contain extra data or resource information.

Some desk accessories, for instance, have .RSC files associated with them which provide Gem with information about the layout of their input forms and various boxes. If a particular accessory requires a .RSC file you should make sure that it is available on your boot disc, otherwise the accessory will not work.

Probably the most useful support file is one called ASSIGN.SYS, which must always be present in the top level directory if you are using the GDOS.PRG file. The Gdos system allows the ST to work in various text fonts and to send its output to different devices such as printers or plotters.

The Gdos program file itself is usually placed in the AUTO folder, but the ASSIGN.SYS text file which supplies it with font information is always in the top level directory.

The font files themselves may be stored anywhere, just so long as the first line of ASSIGN.SYS tells the system where it can find them.



Setting up the desktop

Booting from a hard drive

So far we've been talking about drive A as the boot drive, but if you are using a hard disc you might wish to load many of the boot files from there rather than from the somewhat slower floppy disc. In most cases you will still need to have a boot disc, with the hard disc software installed in an AUTO folder.

Once this driver has loaded, most other items – such as desk accessories and the DESKTOP.INF file – may be stored on the hard disc itself. In the case of some software you can even set the driver program to boot directly from the hard disc, obviating the need for a floppy disc drive completely. This is probably the most efficient system of all.

The boot process is really very versatile, and with a little practice you should be able to configure your ST to meet your exact requirements – whether you have a simple 520ST or a Mega 4 with hard disc and all the trimmings.

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Better class

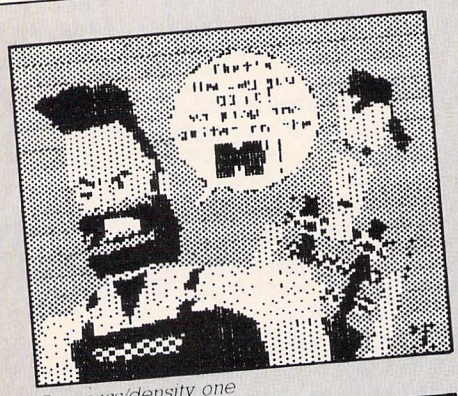
Roland Waddilove tests a flexible utility for dumping the screen in a wide variety of ways

AT first sight Flexidump, a utility to output the screen to the printer, may not appear to be a lot of use, as the ST has a powerful dump routine built in, which is easily accessed by pressing the Alternate+Help keys. Where Flexidump scores however is – as its name suggests – by offering a high degree of flexibility.

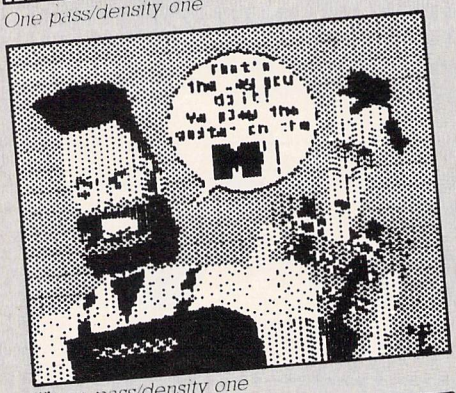
The ST's built in dump is excellent, but is restricted to outputting the whole screen at one preset size. On the other hand, Flexidump enables you to infinitely vary the size and shape – and you can also select from more than 70 dump options. The Gem-based software runs in any resolution. Though my pre-production version didn't correctly display the menus and options in monochrome, hopefully this will be corrected on the finished product.

The screen consists of a menu bar at the top and a panel of buttons below it. The mouse is used to select one to three pass printing in six densities, upright or sideways, normal or inverted from the button panel.

The Pass buttons select how many times each line is printed. A single pass gives a light dump, and three passes – printing each line three times one on top of the other – produces a darker one. The six densities select various bit image modes on the printer which, by the way, must be Epson-compatible. The higher



One pass/density one



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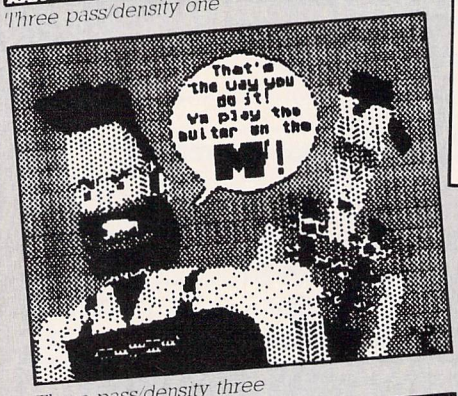
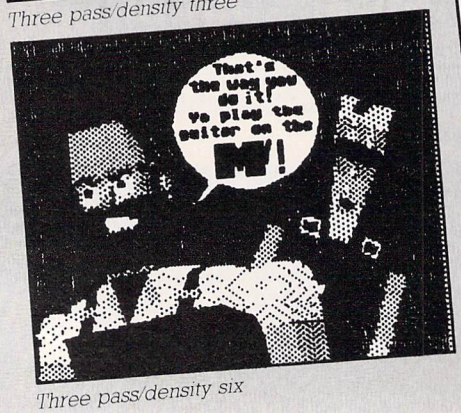


Three pass/density three



Three pass/density six

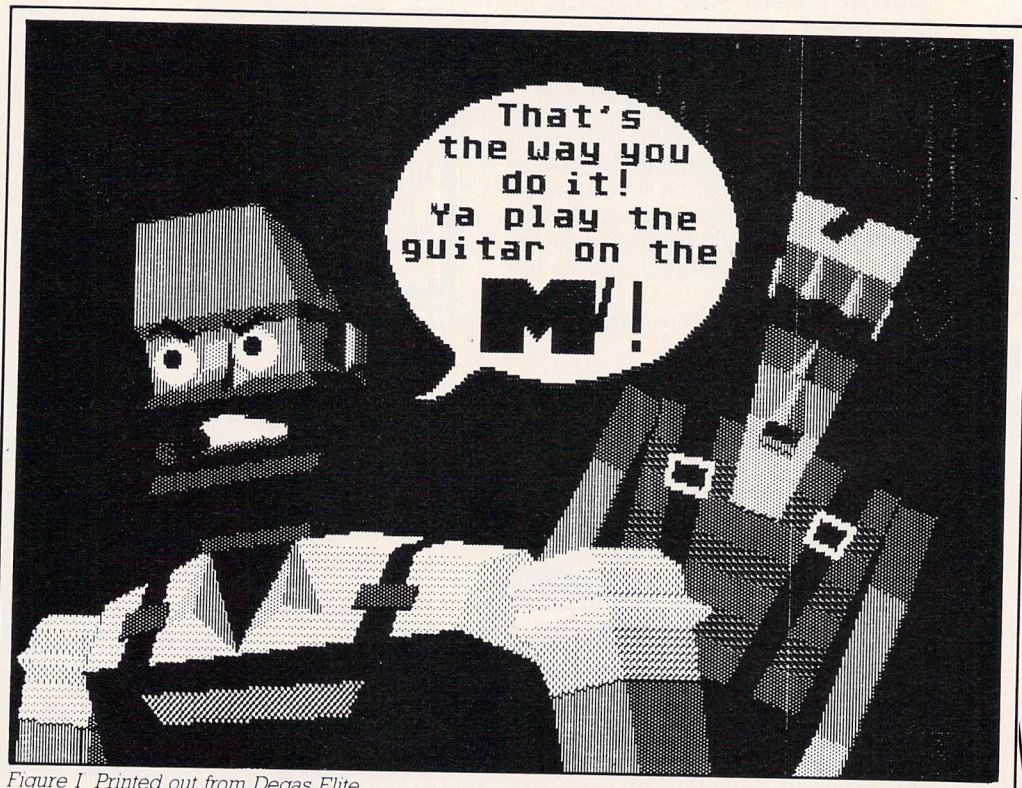


Figure I Printed out from Degas Elite

Figure III The final Flexidump output

# of dump . . .

the density the darker and more detailed the dump.

The Sideways option prints the dump sideways, and Inverted reverses the screen so black becomes white and white becomes black. These are required only occasionally, but are handy tools to have around.

To illustrate the effect of these options on the print quality, four dumps were output at one pass/density one, three pass/density one, three pass/density three and three pass/density six (shown opposite).

These screens are reprinted actual size, which leads me on to another powerful aspect of this flexible dump routine: You can select virtually any size for the dump. For the test strip I selected 55mm by 45mm.

Not only can you decide the size of the output in millimetres, but you can also either select the portion of the screen to dump by specifying pixel coordinates or use a rubber-banded box to grab an area. When choosing the size, the width and height are set separately, enabling you to stretch the dump vertically or horizontally.

The test strip was stretched vertically to give a square dump as the default output appears squashed. This is due to the low resolution screen only having 200 pixels vertically, but 320 horizontally and a direct 1:1 dump produces rectangles.

Having produced a test strip of screen dumps, three pass/density three appeared to offer the best quality, so the size was increased to 200mm by 150mm and the finished dump in Figure I was printed. Comparing this to Figure II which was produced by Degas Elite shows Flexidump to be streets ahead on quality.

A bonus is the ability to touch up the pictures with a primitive but useful editor before printing them. The palette is shown on screen and a colour can be chosen by clicking on it. Clicking the right mouse button takes you to the picture and you can draw by holding down the left mouse button.

Degas and Neochrome screens can be loaded, but I would also have liked to see a snapshot utility included so that I could save screens from within a package like a spreadsheet, database, CAD program and so on.

With just 10p change from three tenners Flexidump isn't cheap by a long chalk, but the quality is superb. The ability to specify the size of output in millimetres from an on-screen dialogue box is a boon, and on measuring the finished dump with a ruler it was found to be spot on. If you have a need for a flexible screen dump utility Flexidump is second to none.

FACT FILE

Product: Flexidump
Price: £29.90
Supplier: Care Electronics, 800 St.Albans Road, Garston, Watford, Herts WD2 6NL.
Tel: 0923 672102

POINTS FOR:

Infinitely variable size. More than 70 output options. Superb quality. Loads Degas and Neochrome screens.

AGAINST:

Quite expensive for a screen dump utility. Could be improved by the addition of a snapshot utility.

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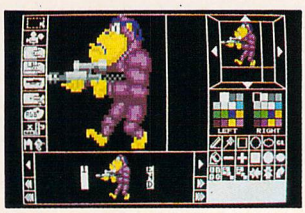
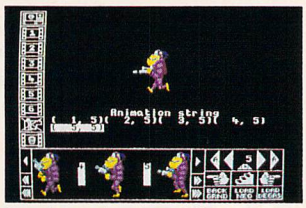
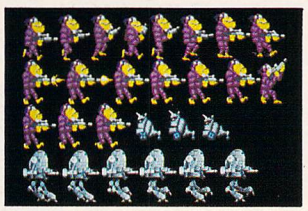


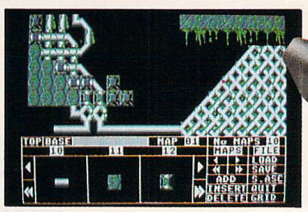
Design sprites using the powerful sprite editor



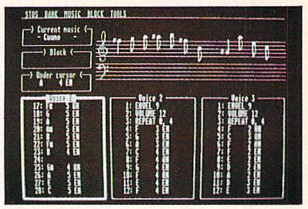
Set the sprites in motion with the animator section



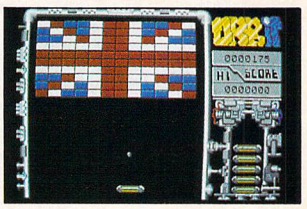
Choose from a range of example sprites included with STOS



Produce a layout for each screen with the room designer

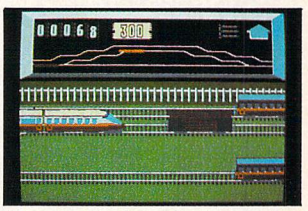


Create dynamic sound effects and compose a suitable score



Construct devious screens in the feature-packed Orbit game

Draw the flight paths of the attacking aliens in Zoltar



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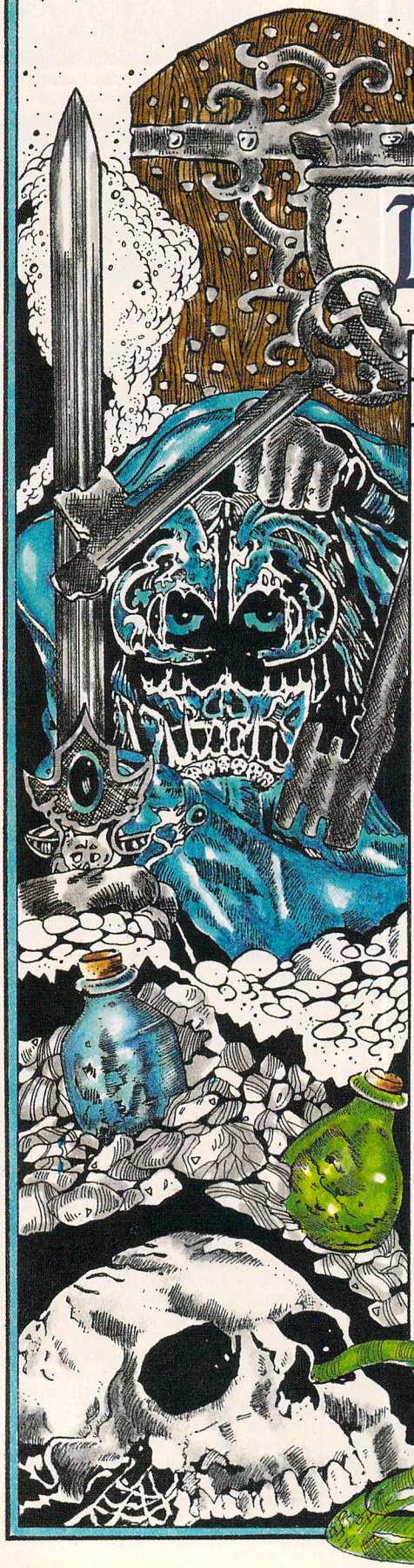
ARCADE CORNER

ARCADE CORNER is an occasional feature where avid games players can help their fellow readers. It's a place where we publish maps, complete solutions, cheat pokes and hints and tips.

If you have anything about your favourite arcade game that you feel would be of interest send it to:

Arcade Corner, Atari ST User, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

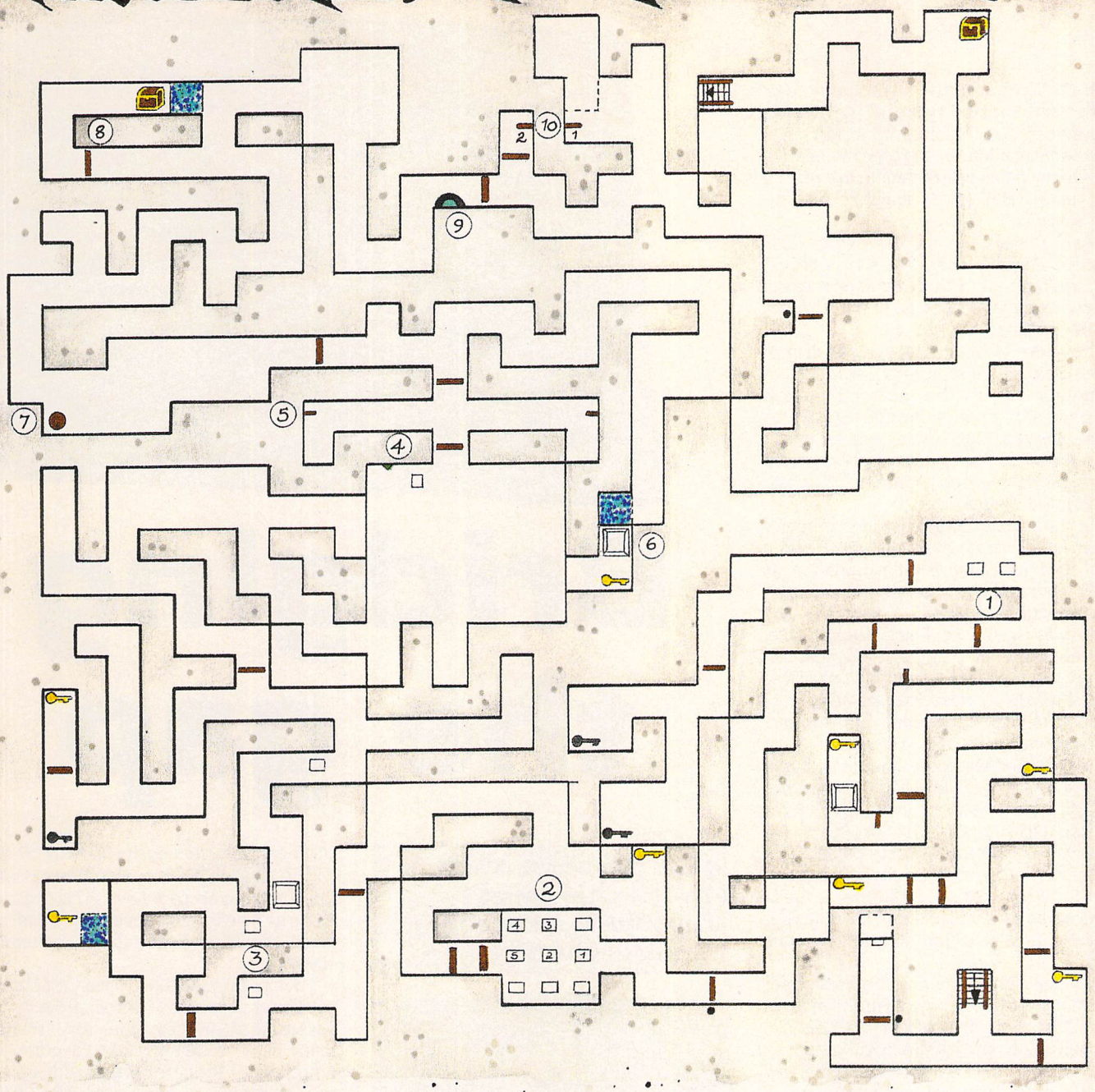


Dungeon Master

Dungeon Master Spells

Spell name	Symbols	Produces	Purpose
FUL		Light	Magic torch
V1		V1 potion	Gives health, cures injuries
MON		Mon potion	Gives stamina
YA ERO		Ya potion	Magic shield
V1 ERO		Antiven potion	Cures poison
DES VEN		Ven potion	Poisonous potion
OH VEN		Poison cloud	
ZO			Opens some doors
YA IR			Magic shield
DES EW			Kills spirits
FUL IR		Fireball	
FUL ERO NITA			Fireshield
OH IR RA		Light	
DES IR SA		Darkness	
YA ERO ROS		Magic footprints	So you don't get lost
FUL ERO KU		Ku potion	Gives extra strength
OH ERO ROS		Ros potion	Gives extra dexterity
YA ERO DANE		Dane potion	Gives extra wisdom
YA ERO NETA		Neta potion	Gives extra vitality
ZO ERO RA		Mana potion	Increases mana
OH KATH RA		Lightning bolt	
OH EW RA			See through walls
ZO KATH RA		Zokathra spell	

Note: To produce a potion you must be holding a flask. To increase the power of a spell use a higher power symbol.



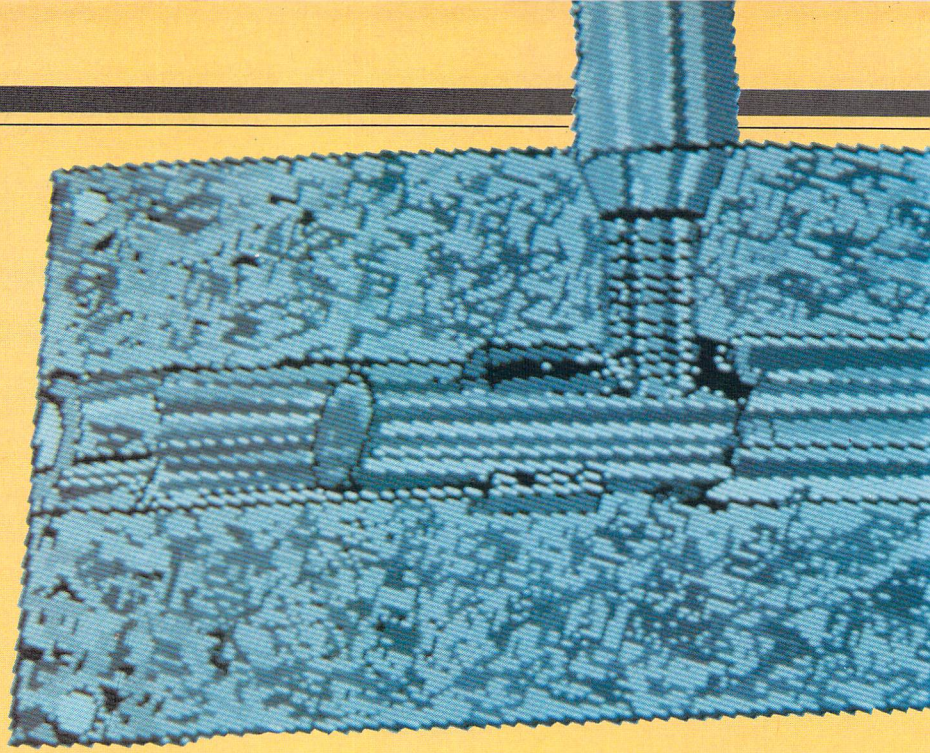
Key to map

- Stairs into level
- Push button
- Pit
- Push button
- Pressure pad
- Push button
- Transporter
- Lever
- Secret passage
- Hole
- Alcove
- Door with push button
- Coin slot
- Door to be opened by key/magic/force
- Floor button
- Stairs out of level

Dungeon Master - Level 2

(1) Step on to the first pressure pad and side step the second one.
(2) Step on the pressure pads in this order: 1, 2, 3, 4, 5, 2, 5, through doorway, 5.
(3) Put something on the pressure pad to open the door, and do the same for the pit.
(4) Press the button to open the door and step around the pressure pad.
(5) Pull the levers at both ends of the corridor to open the door.
(6) Step into the transporter and drop a weapon – it gets transported around the corner – to close the pit.
(7) Use this coin at (9).
(8) Chop down the door to get the chest.
(9) Drop the copper coin into the well to open the door. Pull lever 2 to reveal a secret passage.

by Bryan Stevens



Bridging the gap

Nic Outterside visits the heart of the ST revolution sweeping British education

SLEEPY Shropshire is probably best known for its pastoral poet A.E. Houseman and Telford's Ironbridge. Yet this section of Marcher land is the heart of a revolution that is threatening to overturn six years of BBC Micro domination in British schools.

As I revealed in the November 1988 issue of *Atari ST User*, the 16 bit Atari ST is sweeping into British education like a new broom, in most cases at the expense of the outdated BBC Micro.

Nowhere is this more evident than in Shropshire's secondary schools. I recently visited the Art and design department of the Grange School in Shrewsbury and was immediately impressed by the digitised photographs and computer-aided design work which decorated the walls.

In the small but purposeful computer room children sat around their STs in a mood of imaginative determination as they designed and created the pieces for their next assignment.

Copies of Cyber Paint, Degas Elite, Neochrome, 1st Paint and Stripper littered the table tops amid a fleet of 520 and 1040STs. It was clear that Atari's 16 bit flagship had been taken on board in a very serious way.

Art teacher Maggie Allmark explained that she is a formally taught art teacher and had only been involved with micros in education for the past two years. But she was so impressed by the potential for creativity and design of the ST that she has taught herself all the salient intricacies of the machine. She now uses it as a prime teaching and development tool.

All children at the Grange School are introduced to working with an ST in art in their first year. But due to the practical complications of machine/pupil ratio they only have hands-on experience for a few weeks during the first two years.

Two 12-year-olds, Joanne Edwards and Tia Baldwin displayed some excellent examples of onward ST-aided design work. These were achieved with no previous computer experience and with only two weeks at the ST keyboard. After making a small cloth collage they next produced a pencil drawing before replicating it using Degas Elite and making a black and white printout.

This type of work is enough to allow them to become familiar with the micro and provides knowledge which can be developed when they reach the third year when demand for the STs slackens as some pupils opt for other specialist subjects.

A fourth year pupil, Zoe Littler, had revelled in a full half term of art lessons working on a 1040ST. She had not been fortunate enough to experience the earlier grounding enjoyed by the current junior members of the school and was now experiencing the delights of the micro-aided design for the first time.

She had transferred a freehand drawing of a belt buckle to HAT's Sprinter program and was having fun enlarging, cutting, pasting and replicating it ready for a screen-print acetate.

At the upper level of the education spectrum seven fifth year pupils were using the STs in the development of their course work towards their GCSE examination in the subject at the end of the year, and two youngsters were using ST micro technology almost exclusively.

Fifteen-year-old Richard Carter hates drawing or painting on paper and has been set free from such shackles by the ST. He has delighted in attempting to take the computer art packages at his disposal as far as he can and spends more than six hours a week on one of the department's 1040STs.

Each pupil studying toward GCSE art is expected to produce three projects for assessment and examination. Where many such students would fill portfolios with work, Richard keeps his entire course work on a few single sided 3.5in discs.

He particularly enjoys using Cyber Paint for its basic drawing/painting capabilities and its excellent animation. Within a set project of Water, he has developed a 20 frame dripping tap animation which has to be seen to be truly appreciated. He was also working on a similar animation of a fish being hooked by an angler.

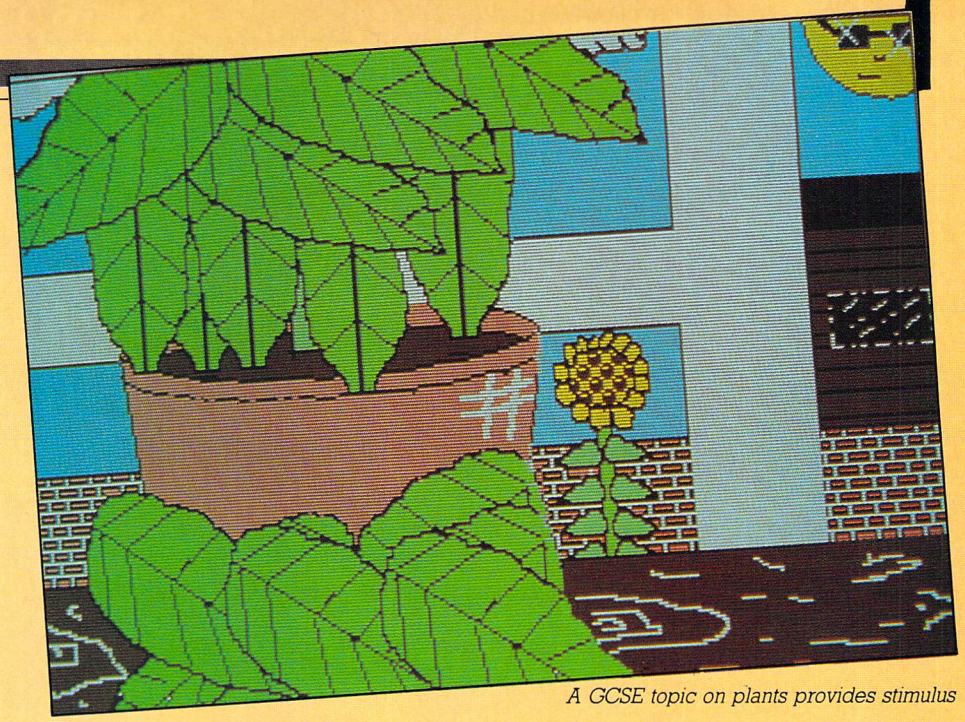
For a pupil such as Richard the ST is providing his working tool, medium and finished result. It really is an end in itself.

Fabric design forms a large part of much of the work done in this art department, and great use is made of Degas Elite and Sprinter with its unique colour separation facilities.

For 15-year-old Kerry Williams the ST has a very important roll to play towards her GCSE art exam. She enjoys working with cloth and the micro has opened up all manner of possibilities within her design work.

It has simplified the design processes and allowed for infinite play and experi-

The ST is used for basic designs



A GCSE topic on plants provides stimulus

mentation before the end product is realised. For her plant project she studied a large Cheese plant and took a leaf section for closer examination. From a base drawing she cut, reduced, enlarged and duplicated using Degas Elite and Sprinter.

After some hours of experimentation and development of ideas this resulted in her setting off to create a beautiful rug of patterned blues and greens and an even more stunning piece of screen-printed cotton.

Similar fabric design by other pupils is represented by T shirts, psychedelic boxer shorts and an equisite butterfly tablecloth – designed using Degas Elite's mirror utility.

Much use is also made of digitising techniques, especially of the human face and form.

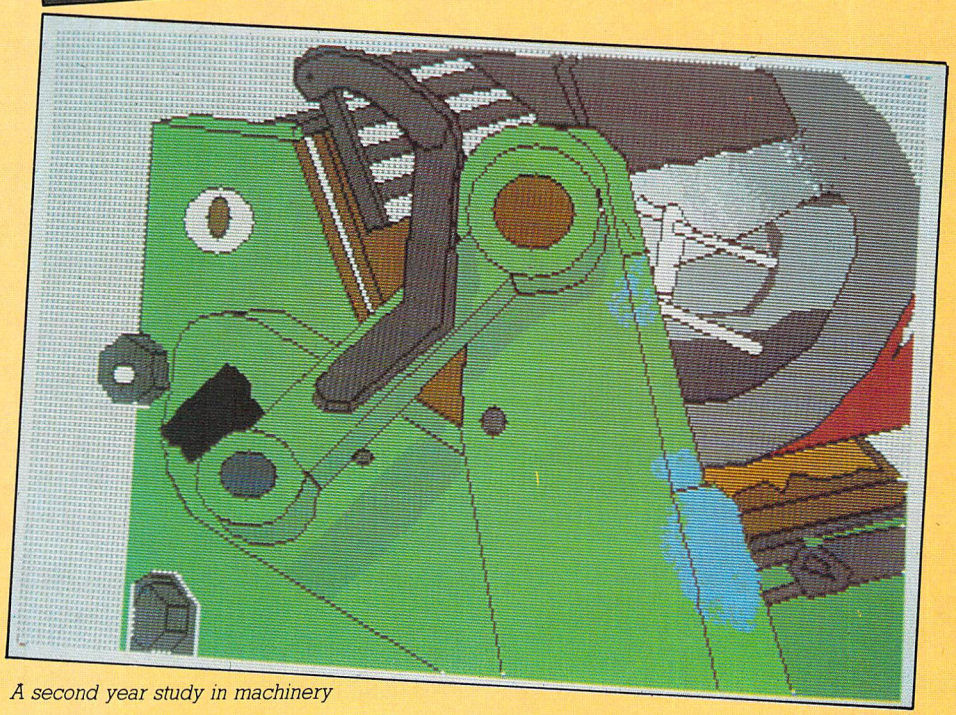
A wall display showed some outstanding work by second and third year pupils. This appears particularly useful where children have difficulties in drawing people, but by using a digitised photo they soon learn to draw and shade the basics of the human face and body.

Digitising is also used in conjunction with design work to create some interesting sheers and distortions of forms for printing on paper and cloth.

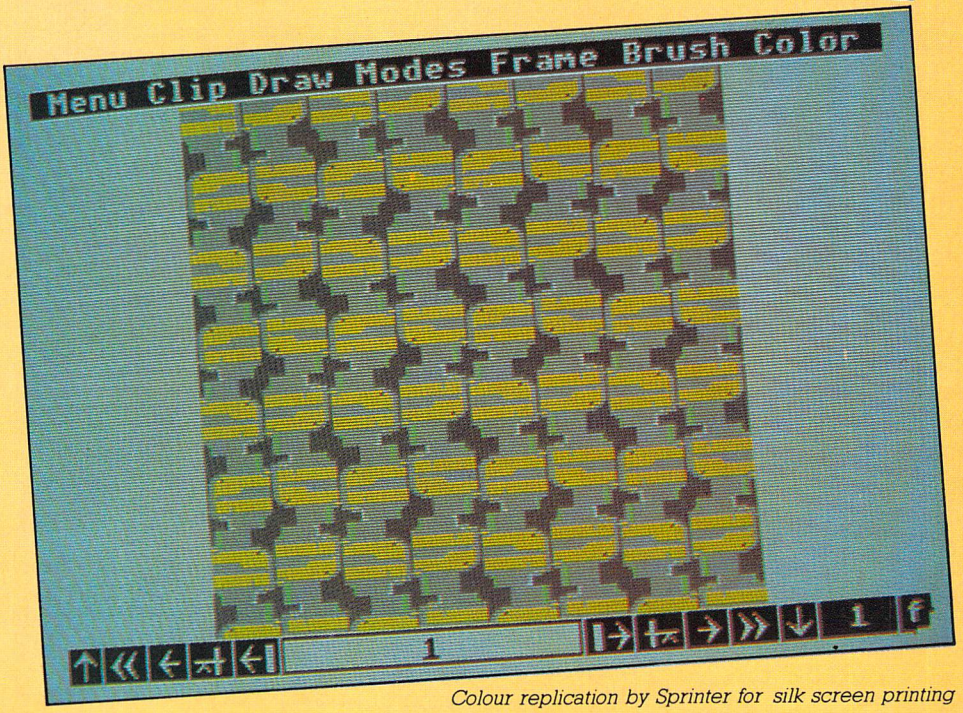
Maggie Allmark realises that computer technology in art education is still in its infancy and only the first and second years at her school are fully benefiting from the STs at their disposal and her recently acquired knowledge.

She firmly believes that the ST opens up new horizons for her charges and is an essential addition to the learning environment. She says that the next four years will be the acid test, when we will see true computer aided artists leaving the school.

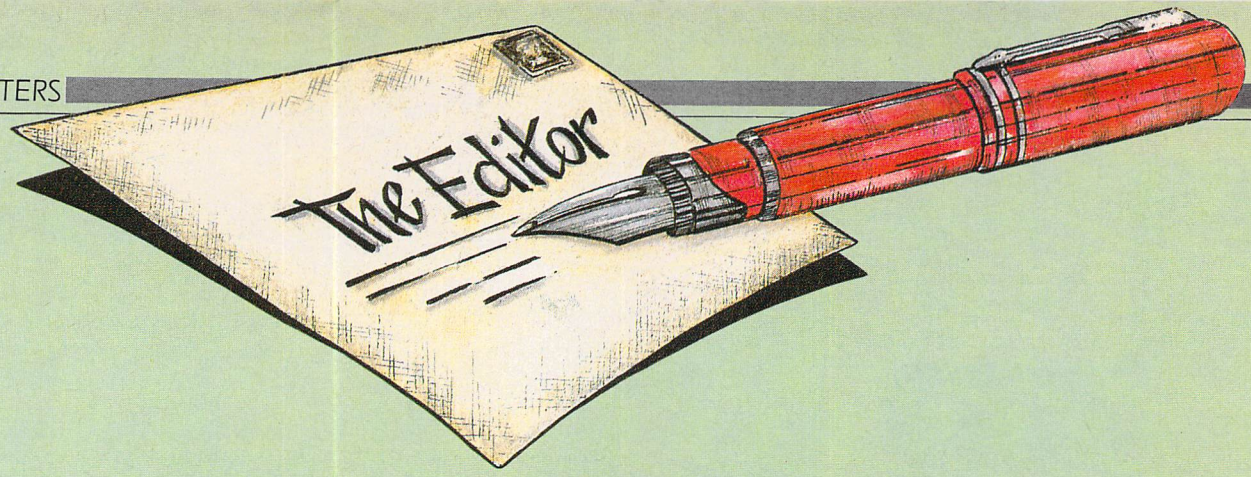
Much of what is happening there is also reflected in schools elsewhere in Great Britain. However, some counties and education establishments still cling to the 32k 8 bit dinosaur. It is not difficult to see just which pupils are going to be best prepared to meet the demands of an ever-changing technological work place.



A second year study in machinery



Colour replication by Sprinter for silk screen printing



Be bold for better quality

I HAVE experienced the same difficulty with 1st Word as Bernard Melling – mentioned in the June 1988 Mailbag – and have come up with this solution.

*When editing the printer driver using the WP mode, look for the vertical initialisation line and change the hex code from 20,C to *20. Also change line termination printer reset to 21,0.*

Further change the NLQ Bold On to 8,1B,47 and Off to 9,1B,48. This will allow you to print bold letters in NLQ which is not possible with the unmodified driver. The printer I use is a Star LC-10. – **Alex Ferguson, Worthing, West Sussex.**

● Thank you for these most helpful tips, Alex. We would be interested to receive response from readers who use other dot matrix printers.

Seeking a better bit of Basic

I HAVE bought a new Atari 520STFM and tried out the ST Basic supplied with the machine. However, I found it to be slow and extremely complicated to use.

I was wondering whether any of the other languages on the market would be better. I have heard that Fast Basic, HiSoft Basic and GFA Basic are quite good. Also can STOS be used for none games applications?

What I would like is a Basic that is as close as possible to the 8 bit BBC and Amstrad Basics – especially the edit display – but with more powerful features. I do not like the reliance on Gem that ST Basic requires. – **A. Webster, MicroLink, MAG80005.**

● STOS is probably the most similar to Amstrad Basic. It is the only non-Gem Basic for the ST that we know of, and can be used to program all manner of games, applications and utilities.

The other Basics you mention are all Gem-based. HiSoft's is an extremely fast compiled language. GFA Basic is highly structured and can be acquired in interpreted and compiled form. While Computer Concepts' Fast Basic is a good interpreted form which bears passing resemblance to BBC Basic

Basically it's a matter of different horses for different courses; you pay your money and take your choice.

Not-so-Grand Prix racing

I WAITED expectantly for the arrival of Nigel Mansell's Grand Prix for the Atari ST, after playing it some time ago on the Sinclair Spectrum. When I finally ran the program on my ST, my first impression was that the opening looked promising. However, after 10 minutes playing the game I was absolutely appalled at the conversion from 8 bit to 16.

There is no real sound, and the game strategy – steering and gear change – is absolutely pathetic. The scenery doesn't provide any help as to when to change gear, and even appears inferior to the Spectrum version in this respect.

I had a BBC Micro over four years ago and at that time bought Revs. This program gives you the thrill of a real Grand Prix race. – **D.M. Brown, Chorley, Lancashire.**

● Some 8 bit conversions for the ST fail to capture the extra graphic and musical excitement that the ST has to offer, but Outrun, Test Drive and Mandarin's new Lombard RAC Rally are excellent examples of what can be achieved with race games on a powerful 16 bit micro. What do readers think?

Aussie Soccer program

I READ an article in Atari ST User *on STOS, but it didn't explain whether you can design your own sprites or whether you are limited to what you see in the advertisement – gorillas and robots.*

My point is that there are no games of Australian Rules Football and I would like to create my own. Could I do it using STOS? I am not a games' programmer or even an ST Basic user, but I am an eager learner. – **David Graham, Victoria, Australia.**

● STOS includes a superb sprite designer which will enable you to create your own active images on screen. Whether or not you will be able to program an Australian Rules Football game will depend largely on your own programming skill. Though STOS does make the task easier than any other language, some knowledge of Basic programming is an advantage.

However, this should not deter absolute beginners, as STOS is about as user friendly as any Basic could possibly be.

Faulty, but not dangerous

IT was with some concern that I read your reply to a reader's letter in the October 1988 issue of Atari ST User, *under the heading: Choosing peripherals.*

This is the first mention I have encountered about the withdrawal of Atari SM125 monitors.

I would be very grateful if you would expand on your comment, and explain the exact nature of the design fault that has been discovered.

As you probably realise, my concern is due to the fact that I am the owner of an SM125 and am sure that there must be many others like myself who are now wondering exactly what to do about the faulty monitors in their possession. – **John Tanner, Eastwood, Nottinghamshire.**

★ ★ ★

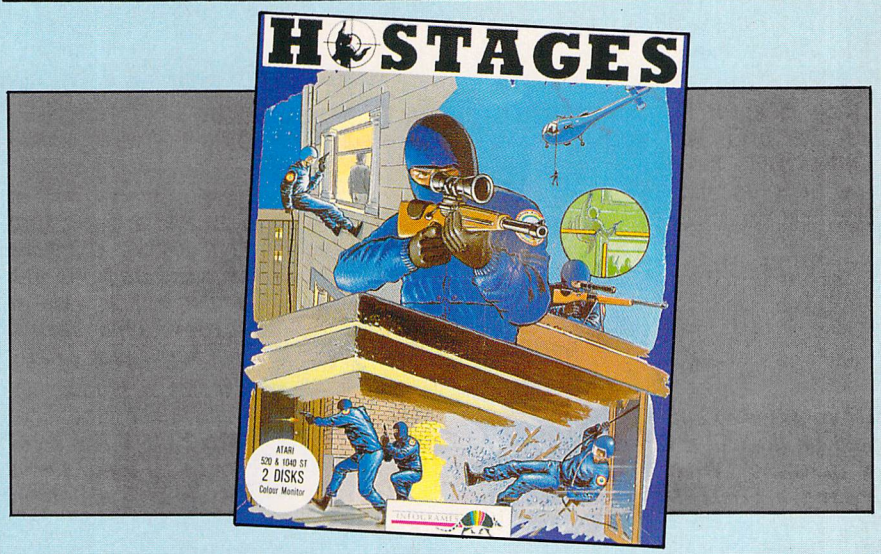
I SEE in the October issue of Atari ST User, *in reply to a letter, that the Atari SM125 hi-res monitor has been withdrawn because of a design defect.*

As I own one of the said monitors, I would like to know what the fault is, as I have never heard it mentioned before. What does Atari intend to do about it, as these monitors are still in circulation? – **A.S. Garton, Ipswich, Suffolk.**

● These letters are a sample of a number

Star Game for a Star Letter

Each month we select a letter of the month – and the sender receives the program which our reviewers have rated Atari ST User Star game. This month reader Paul McRoy will receive Hostages, which is reviewed on Page 16. Letters on every subject of interest to Atari ST users are welcome. Send them to: The Editor, Atari ST User, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP



The addict's long and costly road

ABOUT 11 years ago I decided to invest the enormous sum of £147 on an Atari TV games console. Twenty game cartridges later at £30 a cartridge, my wife was getting ready to divorce me.

I was absolutely hooked on the quality of the games so I decided to cut costs, sell the lot and buy an Atari 400 plus 410 cassette player. This cut my overheads considerably, which kept the wife happy until I informed her that I needed a proper keyboard.

She wasn't too pleased when one day I landed home with an Atari 800 under my arm. However, when I sold the 400 and gave her a couple of bingo treats she seemed to mellow slightly.

I knew it was a mistake buying a 1050 disc drive without discussing it with her first. When she found out that it cost £300 World War III began and all hell broke loose. Of course by now I was so addicted to computers that I wasn't particularly bothered what she thought.

It was obvious that a bingo treat wouldn't calm her this time and it took a new bathroom suite to end the war. By now I was beginning to realise that side by side, computers and marriages were expensive things to run.

Two years later I bought the Atari 800XL. Of course by now the missus was so conditioned to expecting everything at home relating to computing that I don't think she was really bothered. I was though – this time it cost me £500 for a new carpet to keep the peace. By now I was beginning to wonder what my next upgrade would cost. Eventually the ST series began to take off and I was looking for an inexpensive way to break into the 16 bit market – the way things were going I could see it costing me a new house to keep the peace.

Then fate struck a kind blow. I landed the position of district manager with my company and persuaded my wife that I needed an ST for work.

So I ended up with a 520ST, Cumana 1Mb drive, Star LC-10 printer and a Philips CM8833 monitor, for which I was very pleased. I was especially chuffed as it didn't cost me an arm and a leg to pacify the missus.

However, my life is still not without problems. I notice from the literature supplied that the CM8833 is a stereo monitor. While I realise that I will only get mono sound from the ST, only the left-hand speaker outputs sound from the monitor. I am sure it would be enhanced if both speakers worked.

Is it possible to utilise both speakers, and how can I do it? Finally, I could not bear to part with my 8 bit system due to the amount of software accrued, so where can I obtain the necessary cable to connect the 800XL to the CM8833. Will it utilise both speakers, and what do I ask for? – **Paul McRoy, Whitley Bay, Tyne and Wear.**

● Your story touched all our hearts, but that's life as they say. With regard to your monitor queries, a qualified TV electrician should easily be able to connect up the right speaker of your monitor to relay sound. Don't attempt this yourself as the tube is connected to capacitors holding enough voltage to kill you – long after it has been switched off.

Your second question is more difficult to answer satisfactorily. If the back of your monitor boasts phono sockets it should be an easy job to connect your Atari 800XL. Again get an electrics expert to make up a lead for you. However, if as we suspect, the only connection port is a scart socket, there is no easy way round your problem.

Have any readers any suggestions which may help Paul in his hour of need?

of inquiries we have received from worried readers concerning the SM125 monitor.

There is, however, no need to worry. Atari's main British distributor, SDL says the main design fault involves nothing more than inadequate supply shielding and some wobbly connections.

This is not dangerous, but the surges of power can cause interference to nearby CB radios and TV sets.

A few other minor faults exist but give no cause for concern and do not infringe any safety regulations. The monitor was withdrawn simply because it did not match up to new British codes of standard. The Atari SM124 hi-res monitor is an excellent alternative.

As has already been said, there is no need to worry. However, if your monitor is still under guarantee you could justifiably return it to your supplier for a modification or replacement.

New dimension in the Shades

I HAVE enjoyed logging into Shades via MicroLink during the past two weeks and have experienced a whole new dimension in gaming. I have never been much of a text adventuring fan, but this multi-user dungeon is a whole new ball game. I have met and slayed giant mice and lions among many foes and have made friends from every corner of the United Kingdom – even Iceland – courtesy of the Shades chat service.

I have already progressed to Explorer and look forward to many future evenings as I strive to become a Wizard.

All I can say is well done MicroLink.

Turn to Page 118 ►

◀ From Page 117

You're on to an absolute winner with this one! – **Lusardi the Explorer, Holborn, London.**

● Nice to know that more and more MicroLink users are logging into this excellent game. It really has to be played to be believed and provides a superb online chat service.

How to pick the ST for you

I AM considering buying an Atari ST and would be grateful if you could answer a few questions. What is the difference between a 520STFM a 1040ST and a 1040STFM? Do I have to buy a monitor or can I use my TV? Apart from the micro, what else would I have to buy? – **P.Grant, Catford, London**

★ ★ ★

I PREVIOUSLY owned a Commodore Plus 4 computer but now I am thinking of buying an Atari ST. There are a few questions I would like to ask before I outlay any cash.

What is the difference between the Atari STM and the STFM? Which is better and why? What extra can I do with a 1Mb disc drive that I can't with a 0.5Mb drive? Are there any educational programs available for the ST series? – **Fred Boylan, Exeter, Devon.**

● That's a lot of questions, but luckily the answers are quite straightforward. The table below shows the ram size, disc and modulator options for each ST model and as such should clarify the differences:

	Ram	Disc drive	TV modulator
520STM	0.5Mb	No	Yes
520STFM	0.5Mb	Yes	Yes
1040STF	1.0Mb	Yes	No
1040STFM	1.0Mb	Yes	Yes
Mega 2	2.0Mb	Yes	No
Mega 4	4.0Mb	Yes	No

The complete ST range

All new STs now come equipped with a double sided 1Mb disc drive. As this user base becomes more established, companies will naturally begin supplying more double sided disc software. We would advise that you opt for the models with a 1Mb internal drive. The M models can be used with a TV.

You do not need to buy anything extra for your ST at this stage, except perhaps for software of your choice. At a later date you may want to invest in a colour monitor, modem, printer and other goodies.

The array of educational software for the ST is growing all the time.

Bordering on the ridiculous

I HAVE recently bought a monochrome monitor for my Atari 1040ST, and when I boot up the system disc I am faced with a readable display, but with a wide and heavy black border. This appears regardless of which application I run.

I am not sure if this is normal, as it seems to me that the whole tube face is under-scanned. Why have a 12in screen if 25 per cent is not being used? I would be grateful if someone with experience on a monochrome system could please advise me whether this seeming problem can be overcome. – **Bill Harvey, MicroLink MAG40821.**

● A black border to your screen is normal on a hi-res monitor. However, it can be adjusted by a qualified TV technician using the internal vertical and horizontal hold controls. We recommend that you do not attempt to do this yourself as the tube is always live and can be lethal if touched.

ST is active in Ireland

I WISH to draw attention to a letter entitled Lonely STs in Ireland, which appeared in the November 1988 issue of Atari ST User. *The contents of the letter might be misleading to readers here in Ireland.*

The Atari Users Group of Ireland has been in existence since 1986 and caters for both 8 bit and ST users. With a membership of more than 150 the group is very active both locally and nationally. Meetings are held monthly in a large city hotel.

For further information and a copy of our newsletter please contact: Atari Users Group of Ireland, c/o Mike Casey, 3 Saint Kevins Park, Kilmacud, County Dublin.

Thank you for your cooperation and for a great magazine. – **Mike Casey, Kilmacud, Ireland.**

A wimp and proud of it

YOUR recent series of letters concerning sexism and violence has struck a chord to which I feel bound to reply. I hate violence and everything associated with it. I firmly believe that nothing can be solved by fighting, which only entrenches hate and violence even deeper. Who was it who said. "The pen is mightier than the sword?"

However, whether we like it or not, we are all by nature animals. The killer instinct lurks somewhere deep inside all our psyches no matter how civilised we would like to think we are.

Surely what better way to relieve this instinct than by blasting harmless sprites on a TV or monitor screen? If this saves some thug from vandalising a telephone box or mugging a pensioner the relief therapy will be proven. It would be interesting to hear if any university department has completed any studies on this hypothesis. – **John Carpenter, Llandudno, Wales.**

● A very interesting observation, which we feel may strike a different chord in other ST users. Would any readers like to reply directly to this opinion? It was Richelieu who preferred pen to sword.

Creating space for information

I HAVE bought a Panasonic KX-P1081 printer – and created a problem for myself which I hope you will be able to solve. I have a small loose leaf folder into which I wish to put a great deal of information. I could write it out in longhand but for neatness I want to print it out on to blank pages.

My problem is that the printer, insists on moving the paper forward several lines. As the pages are not very big this is a waste of space. Is there some way of stopping it?

The other part of the same problem is that the printer senses the end of the paper and stops feeding it through. I am using an Atari 520STFM and the 1st Word word processor program. – **Martin Beard, Banstead, Surrey.**

● There are basically two options open to you, both of which will solve your problem.

Using 1st Word you can adjust your header, top and bottom margins, to read zero. This will call on your printer to begin printing at the top of the page and finish at the bottom. Ensure, of course, that you have set page length to the number of lines you require, also set the paper to continuous feed.

Alternatively some listing paper suppliers can provide continuous printer paper in Filofax style size. This may, however, be an expensive alternative.

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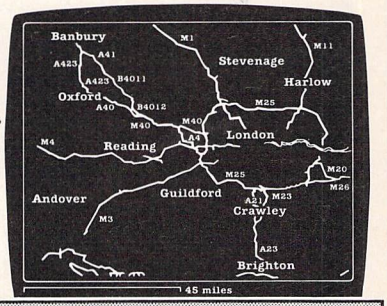

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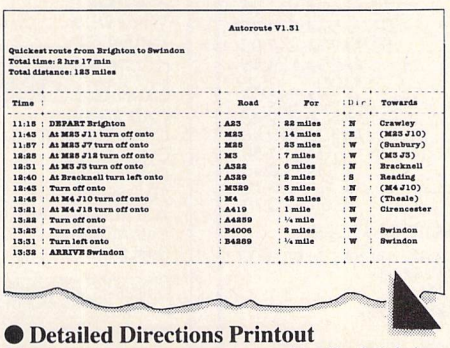

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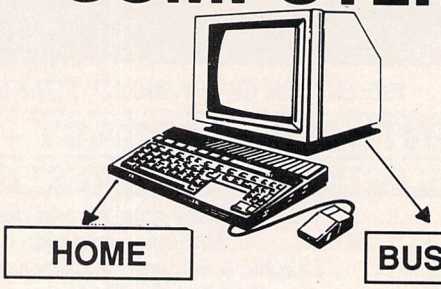

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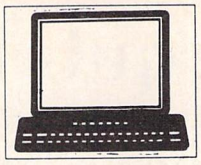

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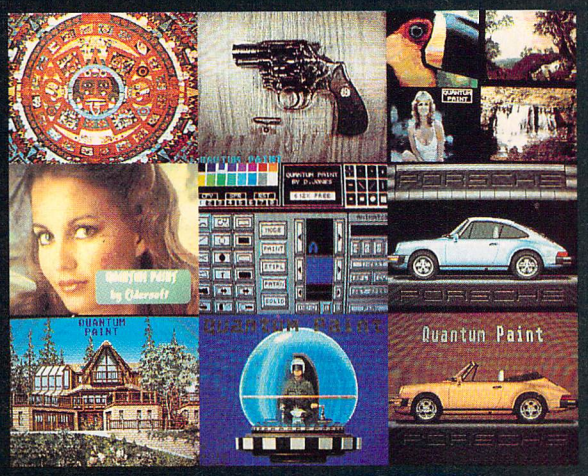

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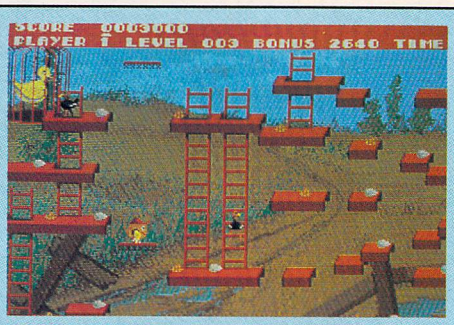

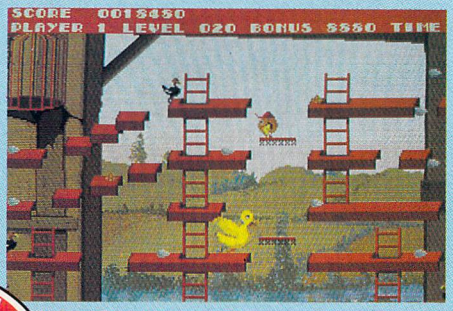

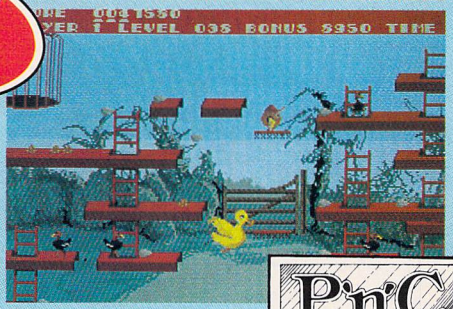

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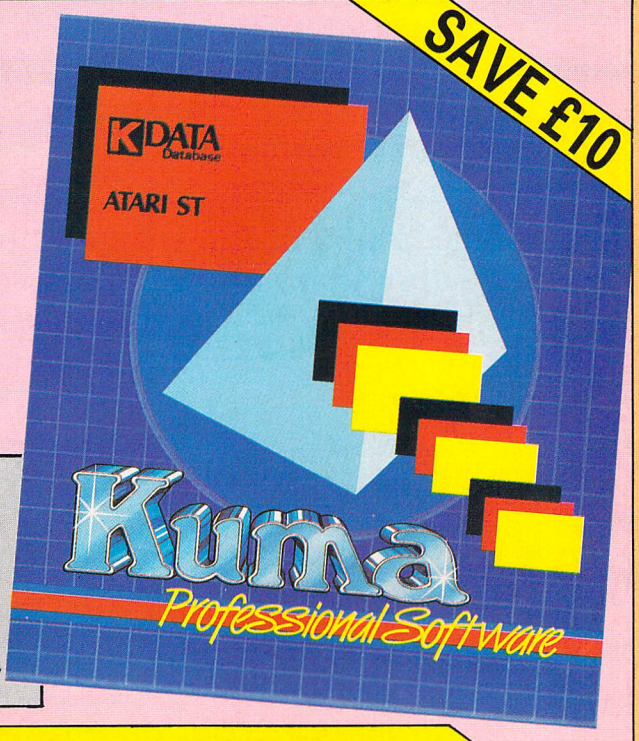

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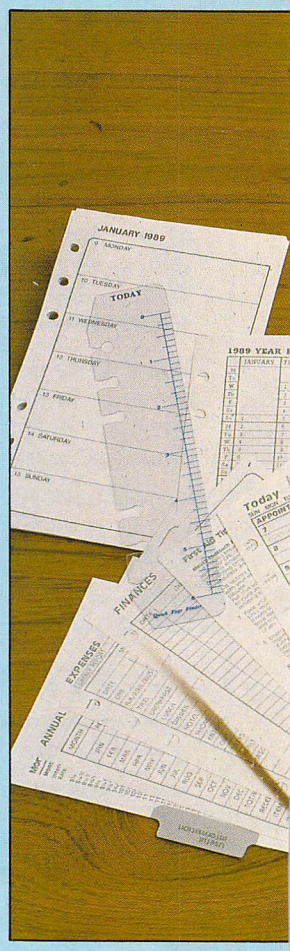

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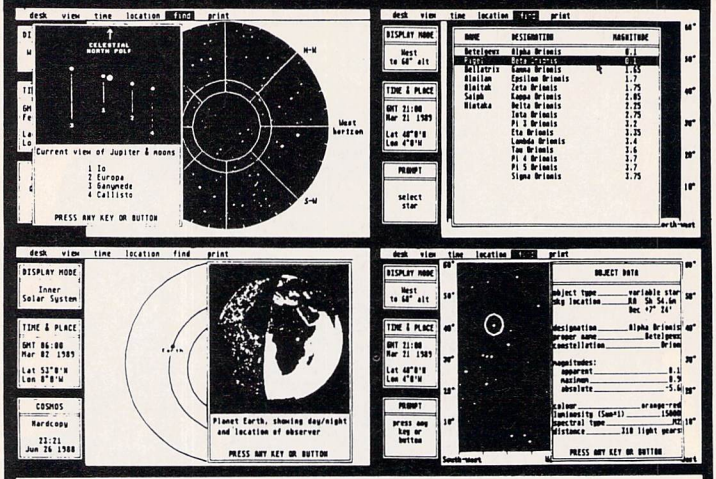

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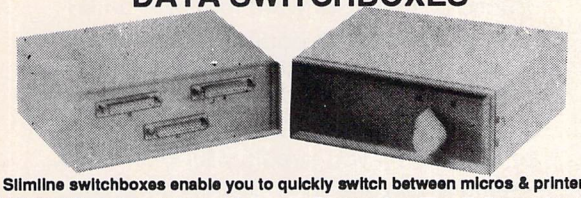

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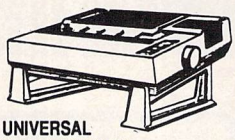

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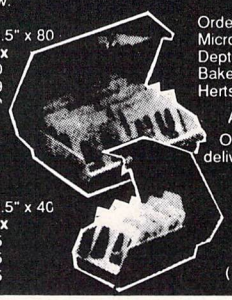

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BRK 126
B-Soft 123
Byte Back 58
Byteware 123
Cambridge Business Software 120
Care Electronics 88
Castle Computers 94, 95
Cavendish 92
CBS 57
Centec 98
Chips 126
Clik ST 137
Computer Adventure World 119
Computer Express 44
Computerwise 107
Cottage Software 100
Cut Price Software 109
Datel 12
Delta 131
DGA Software 127
Digita 100
Dr Soft 88
EDA Systems 126
Electric Distribution 14, 15
Evesham Micros 78, 79, 87
Excell Software 138
Fidget 20
Forest Computer Services 128
Frontier Software 6
Future-Soft 130
Gaymersoft 134
Goodman PDL 136
Gould Computer Services 128
Grand Slam 140
Gultronics 139
HB Marketing 39
Homesoft 135
Homeview 120
J F Hancock 138
KCS 80
Ladbrokes 64, 65
Mail Centa 43
Mailsoft 124
Mandarin Software 49, 111
Manor Court Supplies 104
Mcsoft 106
M D Office Supplies 125
Melton Computing 82
Microdeal 8
Micro-Check 136
MicroLink 33
Micromedia 135
Microsnips 75
Miles Better Software 60
MJC Supplies 2
Music Matrix 136
Next Base 119
North Notts 23
Novagen 30
Once Bytten 134
Page & Magazine 106
Pick 'n' Choose 130
PM Engineering 136
Power Computing 89, 90, 91, 126, 127
Rainbird 11
Rise-Time Electronics 134
Romantic Robot 56
Romulus 136
RPM Computer Services 129
RSD Connections 135
Sahara Software 61
SCC 62
Silica Shop 3
SJB Computing 27, 29
SK Marketing 51
Soft Bits 106
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Softville PD Service 124
Software Express 102
Software Supa Sales 124
Sonus 136
Southwest Software Library 127
Special Reserve 129
ST Amiga Club 138
STAT 136
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System Techniques 136
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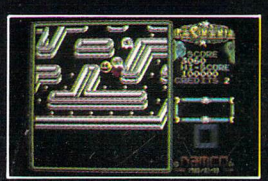

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