ATARI ST USER

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Volume 2
Number 8
October 1987
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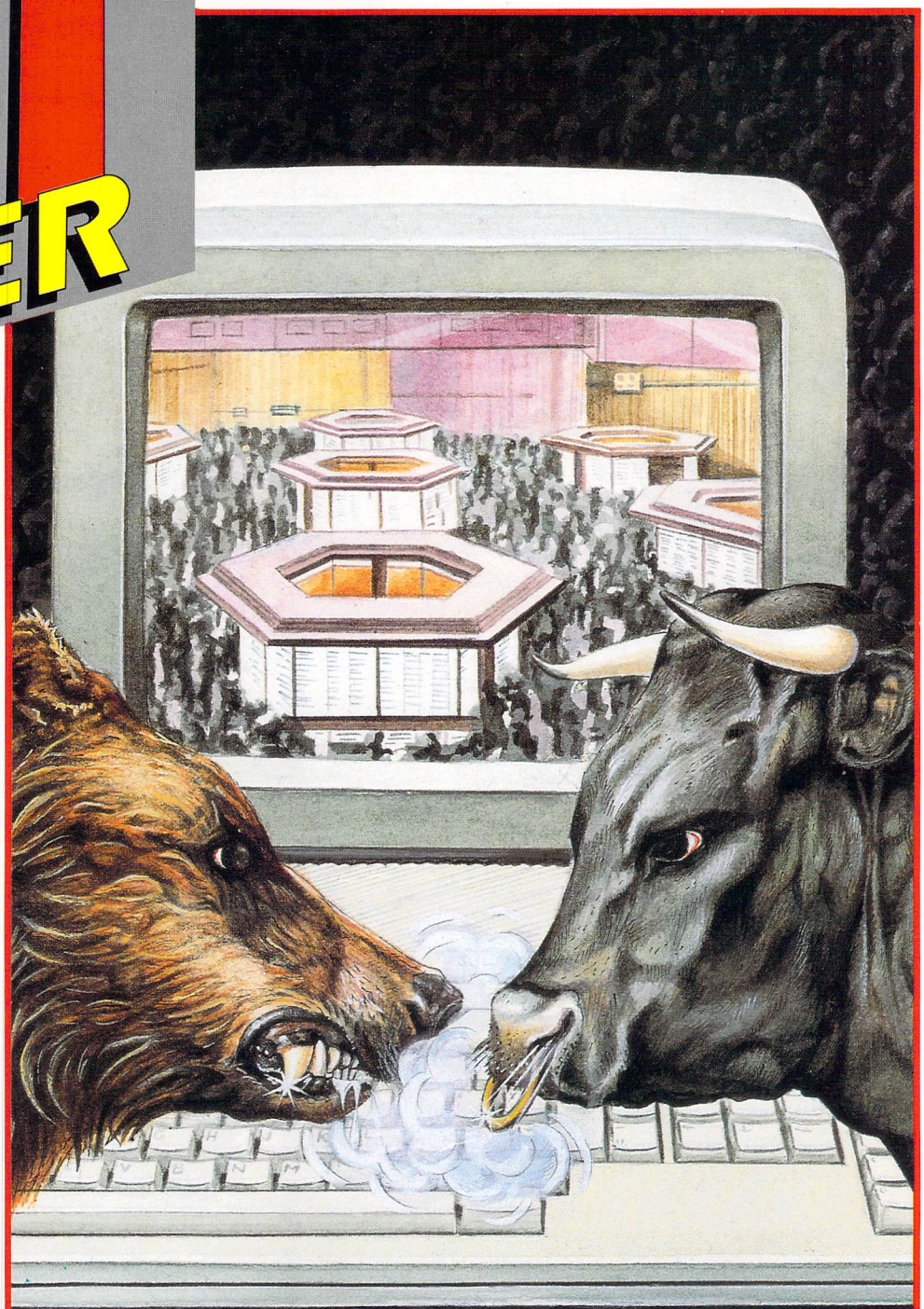

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LISTINGS
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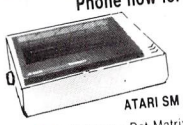

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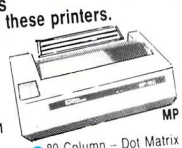

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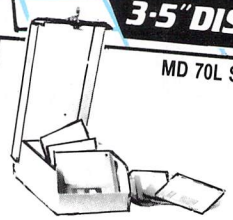

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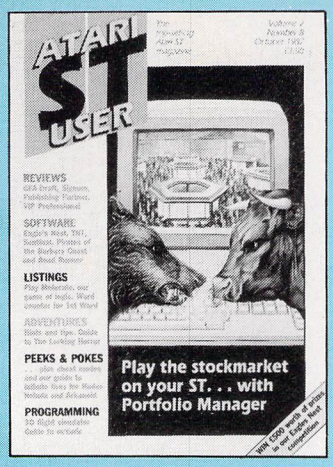

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CONTENTS

FEATURES

News 5
Up to date news, views and developments on the ST scene.

Gallery 10
A compilation of graphical genius created by top ST artists.

WeatherLink 34
Now ST users can display weather map pictures from space.

Communications 42
Part 3 of the guide to comms explores online databases.

Adventures 44
More hints and tips, plus a review of The Lurking Horror.

Mailbag 74
Another lively selection from our sack of letters.

REVIEWS

Signum 13
We examine this document processor with laser quality output.

VIP 20
The capabilities of this very important spreadsheet evaluated.

Software 25
Road Runner, TNT, Pirates of the Barbary Coast and Eagles Nest.

Publishing Partner 38
Press for action with the latest desktop publishing package.

GFA Draft 55
Glentop's latest design package comes under our microscope.

STuff 67
A whole host of useful utilities – all STuffed on one disc.

PROGRAMMING

Machine Code 17
Part 3 of our guide examines Gem's input and output functions.

Molecule 30
Predict the position of molecules in this fascinating logic game.

First Count 47
A desktop accessory to count the words in your 1st Word files.

Portfolio Manager 56
Keep your investments in check with our shares database.

Flight Simulator 60
Use 3D wireframe graphics to create your own flight simulator.

Scrapbook 71
Hints, tips and cheat modes for Arkanoid and Hades Nebula.

Computers In Action 79
Decorating your home? Then you need our wallpaper calculator.

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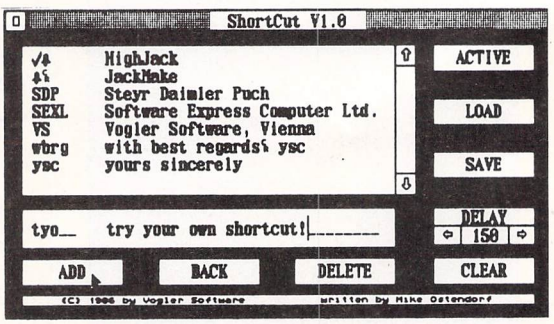

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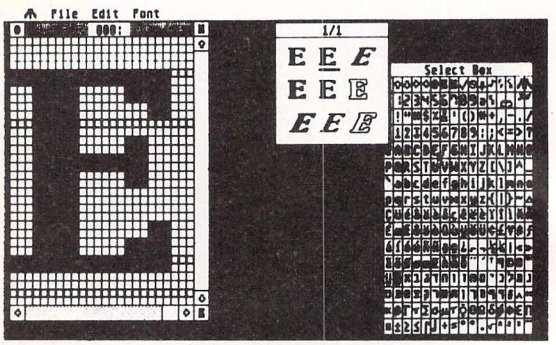

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Dealer and Overseas Enquiries Welcome

Education boost for the Mega ST

ATARI is poised to capture the top end of the UK educational market with the Mega ST. The first consignment of machines to arrive has met with unprecedented demand from British universities.

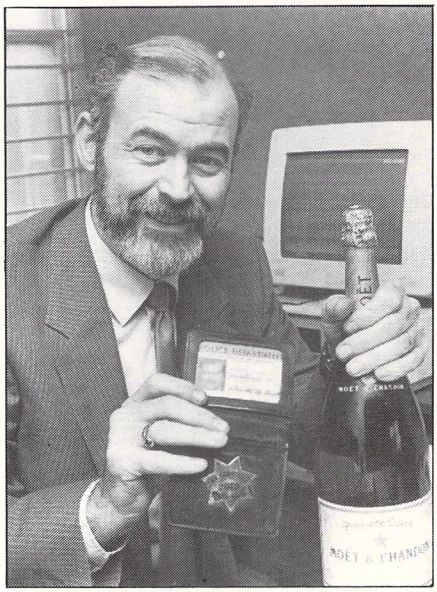
In Scotland, a leading dealer hasn't been able to meet the orders pouring in from the academic world. "Our delivery of Mega STs hardly had time to touch the shelves before they were sold", reports John Noble of Edinburgh's Silicon Centre.

"Universities have had the new computer earmarked for a long time because of its tremendous power and excellent price".

Edinburgh and Strathclyde were the first off the mark to purchase the new Mega STs. The two machines acquired by the University of Strathclyde will join 70 1040 ST computer systems already installed. "We feel that these machines are ideal for serious research", a university spokesman told *Atari ST User*. "Because of the huge memories they allow us to develop the highly sophisticated programs we require".

Reports from dealers all over the country indicate that the interest by Scottish universities is not just a local phenomena. Similar demand has been experienced in London, Birmingham and Liverpool.

Executives at Atari UK are well pleased. "We couldn't be more delighted by what's been happening in this very important market", commented a spokesman. "It can be seen as a major breakthrough for the acceptance of the ST range".



9999 call blew it

A NATIONWIDE electronic mail competition offering a magnum of champagne as the star prize resulted in a giant hangover when the winner unwittingly caused the software in the central computer to crash.

When ex San-Francisco police officer Cameron (Cam) Lacey posted the 10,000th message on the MicroLink bulletin board from his office in Grimsby, all that should have happened was that he received a three litre bottle of Moet & Chandon to mark the milestone achievement.

Unfortunately what no one realised at that time was that the BBS system was only designed to cope with a data field of four characters – up to and including 9,999.

So when just one additional message was received, it was as if a giant fuse had blown.

When the crash came there was consternation at MicroLink headquarters. What made matters worse was that technical chief Tim Clarkson was on holiday and all attempts by his staff to revive Britain's biggest bulletin board were unsuccessful.

After two hours of frantic transatlantic telephone calls the American authors of the bulletin board software finally traced the problem.

They were, however, unable to make the message numbering system accept a figure larger than 9,999. All they could do was make room by deleting the first 5,000 messages.

In fact, the only person left with a grin on his face was Cameron Lacey.

Yearbook for DTP

THE world's first yearbook dedicated to the rapidly-growing desktop publishing industry is to be published in October by Database Publications'.

Publication of The Desktop Publishing Yearbook is timed to coincide with the most important exhibition event in the DTP calendar – The Desktop Publishing Show 1987, to be held at the Business Design Centre, London, from October 15 to 17.

Published with the cooperation of PIRA, the UK technology centre for the printing and publishing industry, the yearbook will become the bible of desktop publishing.

As well as comprehensive details of price-performance of all the most important hardware and software in the field, the yearbook will also carry detailed practical articles aimed at both the newcomer to DTP and the experienced user.

Topics covered will include single-user and multi-user systems, publishing software, laser and other printers, digitisers and scanners, computer typesetting, magazine and many other key topics.

The yearbook will be on sale, price £5, at bookstalls throughout the country. Visitors to the Desktop Publishing Show will receive a free copy.

Now Atari cuts £100 off 1040

ANOTHER price cut on Atari STs – this time £100 off the 1040 models – marks a significant change in Atari UK's pricing policy.

The move follows a recent £100 cut in the price of the 520STFM down to £299. The timing of the announcement did not please some dealers who complained they would be unable to sell models throughout the summer with autumn price cuts pending.

Now the 1040s have been given the treatment and will cost £599.99 for the computer, monitor and mouse package, and £499 for the stand alone machine.

Falling production costs have made the cuts possible; the need to ensure a large user base have made them desirable.

Speculation is now growing about the effects of these downward movements on the pricing of the recently-arrived Mega STs. These are at present moving into the shops at £999 for the 2Mb version and £1,295 for the 4Mb.

Pascal 2 compiler for the ST

METACOMCO has produced a new Pascal 2 compiler and development system for the ST.

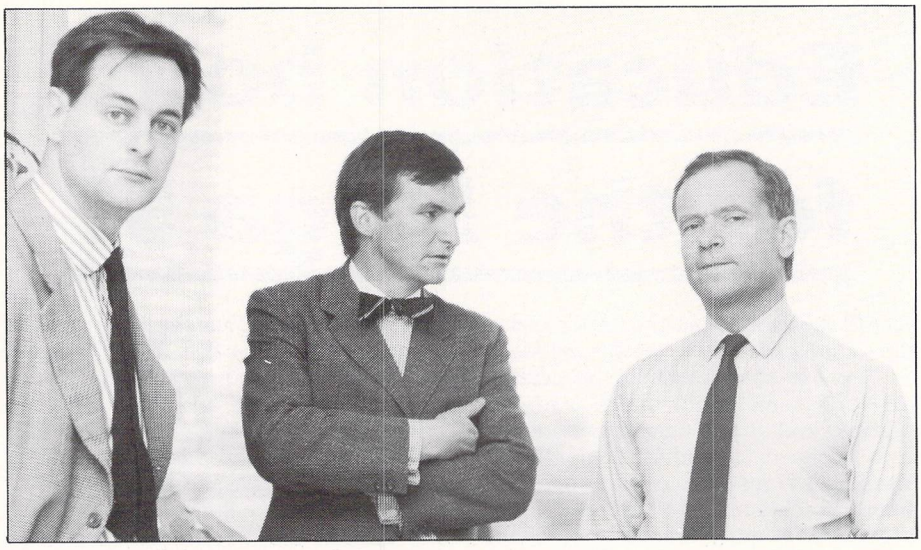
The thinking behind the new package was to provide an ISO standard compiler core, says Metacomco (0272 428781). A large range of extensions have been added for programmers wishing to access all the technically exciting features of the ST's Motorola processor and Gem environment.

The Pascal 2 compiler now offers single and double precision floating point arithmetic, full 32 bit pointers, sequential and random access files, dynamic strings, and conditional and separate compilation.

Other extensions include bitwise integer operations, OTHERWISE and CASE statements, binary, decimal, octal and hexadeciamal integer and character constants, and I/O error handling.

The system also contains new libraries, a new link-loader, resource and screen editors, new Make utility, and an enhanced and enlarged manual.

Price £89.95, with upgrades costing £34.50.



Penny for their thoughts

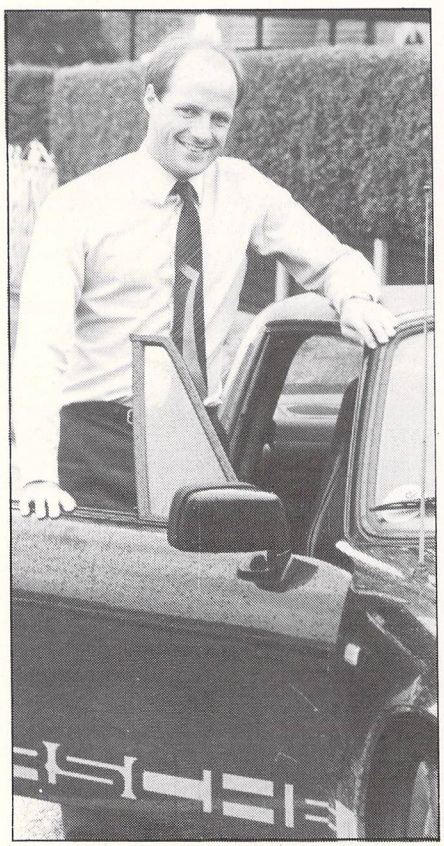
YOU'VE read the book, now play the game. Domark is to release a new title for the Atari ST based on Jeffrey Archer's novel, Not a Penny More, Not A Penny Less.

Details about the game (discussed above by Jeffrey Archer, right, Mark Strachan and Dominic Wheatley) released so far indicate that it will be a graphic adventure with the player in the role of Stephen Bradley, the Oxford maths don who has lost a small fortune to a fraudulent oil company.

The oil company is owned by multi-millionaire Harvey Metcalfe who has gained part of his fortune by getting people to invest in his business and then ripping them off.

In order to win you have to swindle back from the oil company exactly the same amount you have lost, plus expenses, not a penny more, not a penny Less.

Further information from Domark (01 947 5622).



Michael Meakin: "Huge market for software"

UK's SOFTWARE TO FLOW WEST

A NEW transatlantic deal will see a British software house reverse recent trends by establishing a major presence in the United States.

Database Software has reached agreement on a joint venture with ShareData, pioneers of budget packages in the States and a public company valued at $28 million.

The end result is the formation of Database Software Inc. in Phoenix, Arizona.

And it could present a great opportunity for ST software writers in this country to find an international market.

The new corporation aims to market the best British and European titles through ShareData's 22,000 outlets in North America.

Database Software is part of the Database Group, the UK's leading publisher of computer magazines including *Atari ST User*.

As a software house, it first sprang to prominence in Britain in October, 1984, with the release of Mini Office. Database Software is today recognised as one of the fastest growing companies in its field in the UK. The last 12 months have seen its turnover increase more than five times.

Similarly, ShareData in the States has a track record second to none. It has become the pacesetter for the American industry, recording sales of more than 500,000 units in the last three months.

Michael Meakin, joint managing director of Database, flew to Arizona to complete the British-American deal.

"We have spent a long time looking for a suitable partner in the States to make us a truly international company", he said, "and in ShareData we believe we have found the perfect answer.

"Now the search is on to find the hottest software properties in Europe and Britain to sell in America.

"It is a huge market with an insatiable thirst for good software", said Michael Meakin. "We intend to satisfy that demand with the help of the wealth of excellent software authors over here".

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NEWS

Orcward situation

AN Orc, traditionally a ugly little baddy roaming about in packs, has been chosen as the hero of Rainbird's latest adventure.

From the Level 9 stable, Knight Orc is set in three parts and casts the player as an oppressed orc in a magical world where all is not as it first seems.

Each character in the game leads its own life and their actions affect the hero and the outcome of the adventure.

"Communication with other characters, learning spells and solving puzzles are vital if you are to escape the mystical world and take revenge on adventurers", says Rainbird (01-240 8838).

It features high level commands such as "wait for innkeeper and attack him" plus simultaneous action so that you can continue with the game while others carry out your instructions.

Winged Pete Austin from Level 9 and Adrian Howells, Orcs all

Les graphics Gallic

AS the new French magazine Atari 1st puts it : "The ST is an artist which sometimes forgets itself" – which is the publication's excuse for featuring a somewhat risqué cover on its first issue.

The illustration relates to an article which compares graphics packages, and features some spectacular, though less titilating, artwork inside.

Switch monitors

A GERMAN firm has produced a switchbox for the ST which is said to be suitable for any colour monitor and totally compatible with ST software.

Kiesenberg Publishing (01049 231 577462) says the MTV-1 Plus cuts out the need to switch between colour and monochrone monitors and also offers an output for connection to a stereo amplifier.

The device is connected to the ST by a cable with 13-pin plug. A built-in button switches all required signals.

The cost is expected to be about £22.

Asci file maps

OCP's Advanced Art Studio has been released for the ST. Rainbird (01-240 8838) is repeating its claim for the package that it is "easily the most comprehensive art package of its kind".

It addition to its drawing and colouring facilities, the package features a sprite designer and a map creator which allows manipulation of a very large drawing including editing sections at a time.

The whole map can then be output as an Ascii file. Porting to other machines via the RS232 interface is also fully supported.

Kuma cost cutting

KUMA Computers has cut the price of its K-Max transputer development system for the Atari ST. It now costs £995.

At the same time Kuma (07357 4335) has released two new Occam products.

Occam-S allows the production of Occam programs on the ST and, says the company, is ideal for experimentation with this parallel processing language. It costs £59.95.

Cascade-XP comprises Occam plus a cascader to enable the production of true transputer code for running with a K-Max development system. Cascade costs £199.50 but an upgrade from Occam-ST is available at £139.35.

Sampling package

INNOVATED Software has produced a special sampling package to go with its Digitizer cartridge for the ST. I.S. (0903 40509) says the package offers many features usually found on more expensive sampling keyboards.

They include the ability to assign one sample for every key, to play samples through the Atari monitor or to an amplifier via the audio output socket on the I.S. Digitizer cartridge, to have multiple keyboard splits; to produce fade in and fade outs, to assign different loop points for each key, and to save complete keyboard arrangements to disc.

Price £19.95.

Challenge awaits

THE latest in the Ultima series is due out soon for the ST. Ultima IV from Origin (0666 54326) continues the fantasy themes of others in the series while remaining a complete adventure in itself.

The latest allows the player to embark on the search for the perfect mortal, Avatar who is needed to lead the nation into a golden age of prosperity.

The strategic use of terrain and weapons is essential to overcome the Balrons, Cyclops, Mimics, Floating Eyes, Visible Gremlins and to survive to reach the final frontier where the ultimate challenge awaits.

Author Richard Garriot says his main goal in producing the game was "to help the player develop his or herself into a better person through love, truth and courage".

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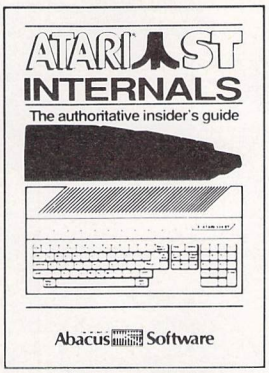
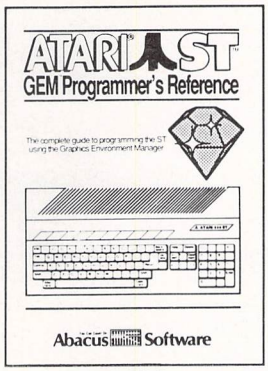


ST Internals

(Formerly Anatomy of the Atari ST)

An essential guide to the insider's information on the ST. Written for the programmer wanting a thorough, complete description of the inner workings of Atari's outstanding ST computers. Detailed descriptions of graphics and sound chips, hardware, the Centronics and RS-232 ports, GEM, important system addresses and much more. Included is a commented BIOS assembly listing. This reference work is a required addition to your ST library. Third printing.

AB 450 446 pages **£14.95**



GEM Programmer's Reference

An indispensable guide for the serious ST programmer needing detailed information on GEM. Written especially for the Atari ST, it has an easy-to-follow format. Covers choosing the right programming language, introduction to C and assembly languages; a study of the Editor, C-compiler, Assembler & Linker; programming the Virtual Device Interface (VDI); Application Environment Services (AES); Graphics Device Operating System (GDOS), and interfacing to TOS. Many example programs, Cross-referenced VDI/AES calls.

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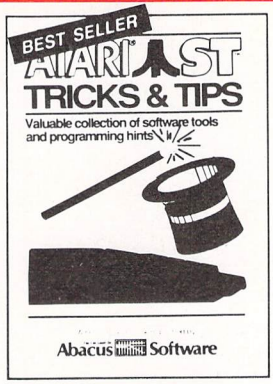

Tricks & Tips

Fantastic collection of ST program tools and techniques for the ST. Programs include a super-fast RAM disk; time-saving print spooler; colour print hardcopy; plotter output hardcopy; accessories construction – all of these programs and more are included in the price of the book! Learn how to create brilliant graphics, use the VDISYS commands, and master the powerful GEM applications. Refine your BASIC, assembler and C programs with advanced programming techniques.

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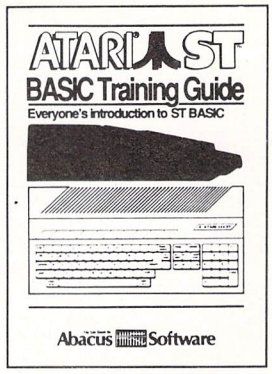

ST BASIC Training Guide

An educational, well-written introduction to Atari ST BASIC. You'll learn to program your ST quickly with the BASIC commands, problem analysis, and algorithms presented in the first few chapters. Quizzes throughout the book help you learn to "think in BASIC" while you get a practical grounding in the language at the same time. Topics include data-flow and program flowcharts, menus, multi-dimensional arrays, sort routines, file management, BASIC under GEM, advanced programming techniques, and much more.

AB 485 312 pages **£12.95**

Introduction to MIDI Programming

Your ST's built-in Musical Instrument Digital Interface (MIDI) lets you control any MIDI-equipped digital synthesizer – and the results can be phenomenal! This book covers the fundamentals of MIDI operation on the ST – how a synthesizer is actually interfaced with the ST's MIDI ports. Includes C sourcecode listings for comprehensive MIDI editor, driver and animated player for any of the Casio CZ series, etc. Written by the authors of XLENT Software's ST Music Box™ package.

AB 520 250 pages **£14.95**

Peeks & Pokes

Enhance your programs with the PEEK and POKE examples in this book. Clearly explains a number of the most important POKEs and their uses. At the same time, you'll get a good look at the architecture of the Atari ST. Topics include: the ST's configuration and interfaces, its "intelligent" keyboard; the mouse, pointer and stack, diskettes; TOS, GEM, interpreter/compiler, choice of programming languages, input and output; much more.

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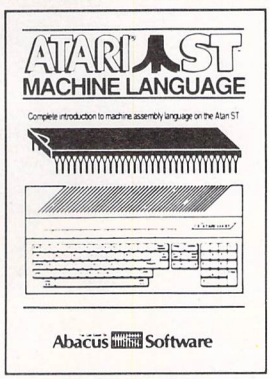

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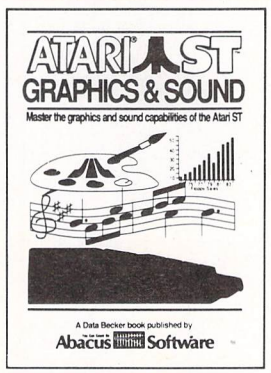

Graphics & Sound

An in-depth look at creating sophisticated graphics and surprising music and sounds on the ST. Detailed guide features step-by-step introduction to graphics in all resolutions: 2-D and 3-D function plotters, Moiré patterns, graphic memory, various resolutions, fractals, recursion, sound waveform generation, MIDI. Example programs written in C, LOGO, BASIC and Modula-2 ST. See and hear the audio-visual possibilities built into this remarkable computer.

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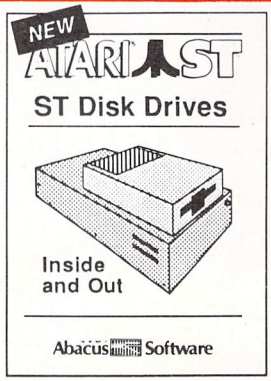

ST Disk Drives: Inside and Out

The definitive guide to the ST disk drives, including the Atari ST Hard disk. This exhaustive volume not only covers files, file structures and data management, but details both the programming and technical aspects of the floppy drives, hard drive and RAM disk. Includes program listings for several full-length utilities and programming tools that allow you to further explore the capabilities of these drives. Available first quarter '87.

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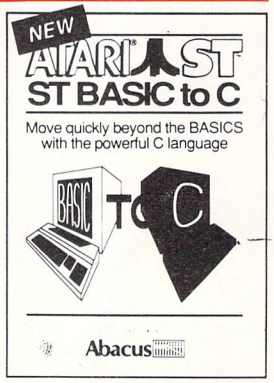

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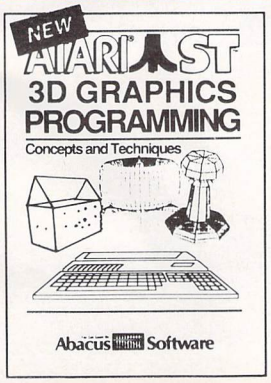

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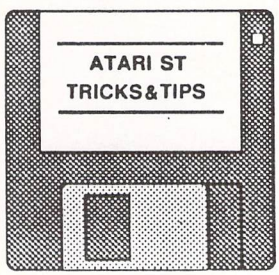

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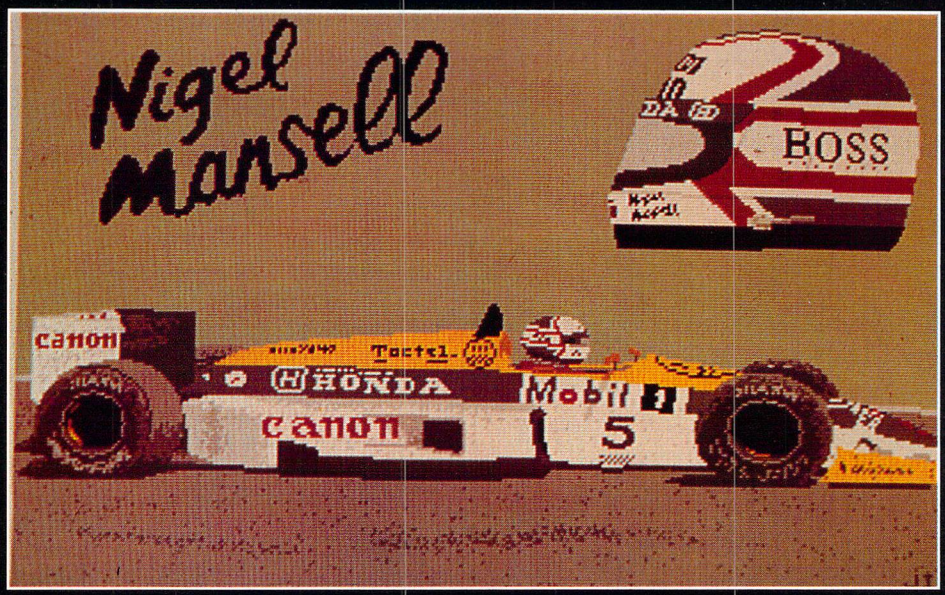
GALLERY

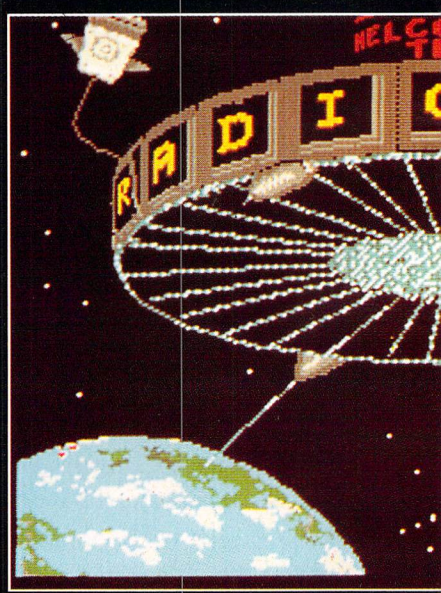
THIS month's superb collection of artistic artefacts has been gathered from all across the UK, from Kent in the sunny South up to the near Arctic wastelands of Hull in North Yorkshire. The topics covered range from racing cars to spaceships, cocktails and cottages in the Cotswolds.

If you have created a work of art you think would look good in our Gallery pages please send it to us. It doesn't have to be in low resolution colour, and monochrome pictures are quite acceptable – all we ask is that it is all your own work, that it hasn't been published or offered for publication elsewhere and you own the copyright to it.

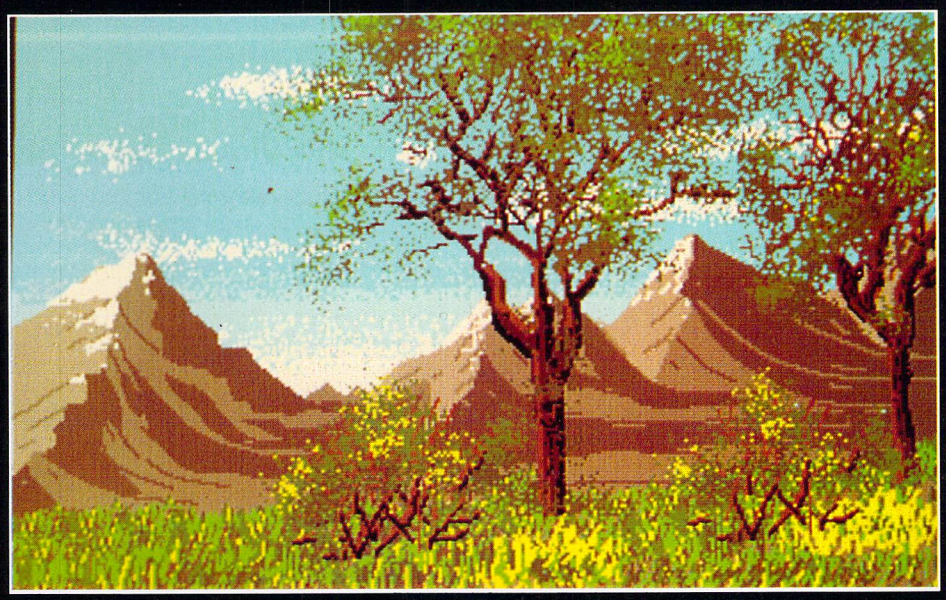


My hero by James Malloch of Petts Wood, Kent.

Mans best friend by Wilson Sharp.



Spaced out by Bob Chewter.



Peak District by Wilson Sharp, London.

Radical cocktail by Bob Chewter of Radical Systems, London.

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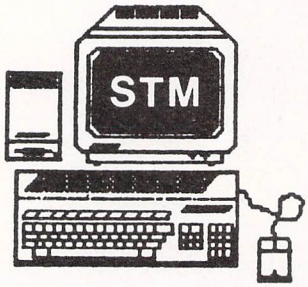

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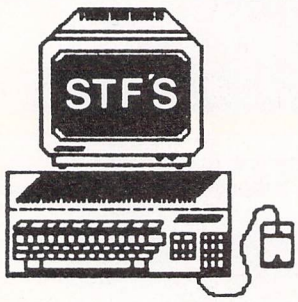

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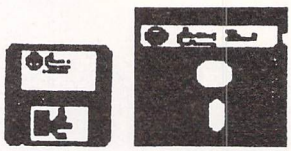

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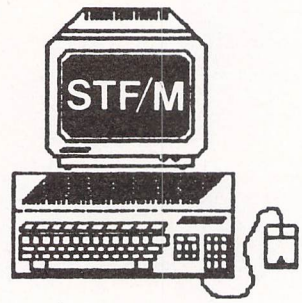

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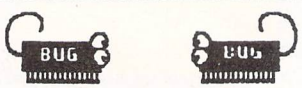

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Power at a price worth paying

Mike Monk reviews Signum, a powerful word processor and document creator

HAVING spent a long time using Signum, I feel reluctant to let it go, but it's only on loan so, it seems I'll have to buy a copy.

As a document processor, it is second to none and in the past the features provided by this program would have cost thousands.

The potential of the ST was recognised by Application Systems of Heidelburg, and Franz Schmerbeck set about writing a package capable of handling the mathematical formulae required to complete his thesis. Having taken a year to produce, I can only say it has been well worth the effort.

The features of the package reveal an excellent range of capabilities – full proportional spacing down to 1/54th inch vertically and an amazing 1/90th inch horizontally. Up to seven different fonts in a single document, tru WYSIWYG, (what you see is what you get), print quality almost as good as a laserjet printer from a dot-matrix, Gem functions available as key sequences and much more.

To use it you'll need a monochrome monitor, and if you intend writing more than a five page document, at least 1Mbyte of ram.

Signum is supplied on two single sided discs, one containing the main programs and the other containing the fonts. The discs themselves contain an embedded serial number to prevent unauthorised copying and the program will not run unless one of the master discs is present when the system is booted.

Also in the package is an Install program which must be run before the main program and this allows a backup copy to be used.

Far from being a problem, I found this a most efficient way of protecting the software without causing unnecessary problems. The program can be run as many times as needed once INSTAL.PRG has been run and you can even return after running other software provided the machine has not been reset.

Like most computer users, I can't wait to use a new piece of software, and never bother with the manual. This has been catered for by the author who has provided a Quick Start section at the beginning.

This allows you to satisfy your initial curiosity about what you've got for your money by giving a quick guide to the basic principles of the package and producing a simple print output.

Having loaded the program, you are presented with a blank page – there's no sign of any Gem windows and it takes up almost the whole of the screen. It was decided Gem just couldn't handle the complex scrolling required by Signum.

If you've ever used a word processor which uses Gem, you'll have noticed the very slow scrolling once a document reaches a reasonable length. There's none of that with Signum.

The speed is truly amazing when you consider the calculations which must take place to allow for its proportional spacing, multiple fonts and so on. Scrolling is simplicity itself, point the mouse to the edge of the screen or use the cursor to scroll in any of four directions.

The page layout is split into separate header, text and footer areas which are divided by horizontal lines. You must use the menu to move from one area to another. As Signum is true WYSIWYG, the header and footer appear exactly as they will on paper.

The page length can be adjusted at any time and the text is padded out as necessary – even up to 9999 lines (15 feet of continuous paper), per page if you wish.

Moving from page to page is achieved by pointing at a function area at the bottom of the screen. This may sound irritating, but in reality is a boon because you know exactly how much of your page is left and you can't stray over the end as ▷

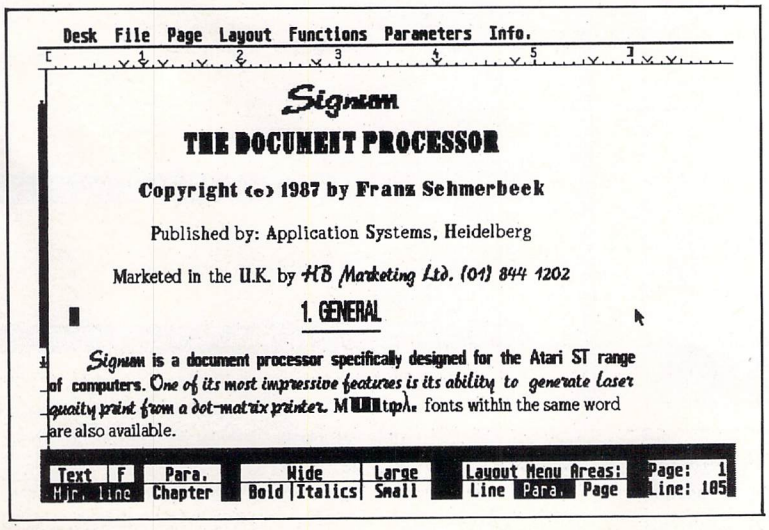

Figure I: Fonts galore

◁ you can with many other word processors.

Talking of other word processors, don't worry if you have a lot of files created using any of the conventional ones. There is a Load Ascii option on the file menu to allow you to process these.

Up to seven different fonts can be used in any one document. Ten are supplied on the system disc – including one containing mathematical symbols and another with general graphics. If you don't like the ones supplied, an editor is provided enabling you to design your own.

Fonts are chosen via the usual menu layout at the top of the screen and can be mixed at any point in the document, even within the same word if you like – take a look at Figure I to get an idea of what is possible.

The Macro option is an extremely useful feature. This is a way of allowing any key – except the function keys – to be programmed to contain any expression, symbol or even whole paragraphs of text.

For instance, if you are preparing a document which is to contain the same expression or complex word in many places, programming a key with the word or phrase allows it to be inserted into the document at the press of a key. The example given in the manual is for Deoxyribonucleicacid – I think I might be tempted to use DNA instead.

Now to the end result of all your efforts and this where Signum really excels – the printing. Having completed your document, you must exit to Desktop and run a separate print utility to produce your output. Once again this may sound annoying but when you consider the amount of information Signum needs to hold to produce the fonts and layouts you can understand why.

One excellent point which deserves mention is the Quit option from the main program. It saves your document for you if you forget to do so – much better than losing hours of work by mistake.

Having used a dot matrix printer in NLQ mode quite happily for many years, I will never again be satisfied with anything less than Signum's superb output. The quality of print achieved with this package and a humble dot matrix exceeds anything I've seen from anything other than the most expensive laser printers.

The only drawback is the time taken to print a document – up to eight minutes for a single page on a nine pin printer, but if you want quality it's certainly worth the wait.

Having said that, because you get a true WYSIWYG display you are more likely to achieve your desired layout on the first draft with Signum thus saving time re-editing documents.

After only a couple of hours, I found it easy to produce perfect results first time and the finished product rewards your patience.

Signum is one of the few programs which uses the power of the ST to the full. Its features far exceed any other word/document processor currently available for this or any other micro and rivals those on offer to users of mainframes and minis at a fraction of their price.

The programs are easy to use, fast and most important, free of bugs. The manual is easy to follow and documents all the outstanding capabilities of this excellent piece of software. At £230 it may sound expensive, but I can assure you it's worth every penny.

Interest is already being shown by a wide range of educational and business establishments and Signum should prove to be one of the major successes of the rapidly growing ST market.

This short review cannot do justice to a package of this complexity – you need to see and try it for yourself. □

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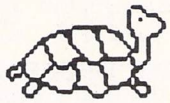

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Access

VISA

Routine operations

Stephen Hill stacks the numbers in his favour in Part 3 of his assembly language series

MOST high level languages provide the programmer with a wide variety of different ways to output information to the ST's numerous external devices such as the screen, printer or disc.

Unfortunately, all these operations are much too high level for the 68000 to cope with, and there are no equivalent instructions in assembly language.

To help us get round this problem the ST incorporates a comprehensive set of routines, known collectively as Tos (The operating system).

This takes most of the pain out of assembly language programming by providing many high level routines for loading disc files and printing messages on the screen or printer and so on. This means we don't need to write a complex machine code subroutine to load a program say, as we can hand over the whole task to the operating system.

We have seen one example of using a Tos routine already in this series. This was the short procedure we looked at last month, to enable our example programs to return to the Desktop. The first instruction of this procedure is:

```
MOVE #0,-(A7)
```

which places a zero on top of a list of numbers called the stack.

Stacks of numbers are rather like the stacks of trays you find in cafeterias. Just as with the trays, we always move our numbers to and from the top of the stack – we can't pull one out from half way down. The first number to be taken off will be the last one put on. This is known as a Last In First Out or LIFO stack.

The clever thing about it is that the only information we need in order to use it is the address in the ST's memory of the top. This location is normally loaded into an address register.

A number of different programs can use the same stack – there can be more than one – to store information. If we wish to push a number on to a stack, we can use an instruction like:

```
MOVE #100,-(An)
```

where *n* is the number of an address register. To take this value off the stack and load it into data register D0, the appropriate code is:

```
MOVE (An)+,D0
```

and we can use this type of instruction with many of the extensions.

As the technical details of this addressing mode are rather complex, I shall explain how this actually works in a later article.

The 68000 processor automatically sets aside a special system stack pointed to by address register A7, also known as the stack pointer or SP. When we call Tos, this stack is used to pass any parameters it needs. Remember, the last thing we push onto the stack will be the first thing Tos pulls off it, so we will need to put all our values in reverse order.

As there are many Tos procedures and functions it needs to know which one you want to use when you call it. So, each routine has been allocated its own special identification number.

Tos expects the top of the stack to contain the number of the function we require, so this is always the last thing we put there before calling it.

Having put the function number on the stack, we can now execute the routine directly using the TRAP instruction. The number following TRAP tells the computer what part of Tos we wish to access. In our examples, we will be using the chunk known as Gemdos, which concerns itself mainly with I/O (input and output) routines.

After the TRAP, Tos passes back any information we've asked for in the data register D0. If an error occurred for some reason, D0 is set to an appropriate negative error code.

Let us now write a small program to input a number from the keyboard:

```
MOVE.W #1,-(A7)    Function 1
TRAP   #1          Call GEMDOS
ADD.L  #2,A7       Restore stack
RTS                End
```

You can see an expanded listing in Figure I. Note that (CONIN) is a label the Tos documentation gives to function 1.

Enter and assemble it as a Tos file with a suitable package such as HiSoft's Devpac and run it. The screen will clear and the program will wait for you to press a key. Tap a letter and the program will exit back to the Desktop. If you watch carefully you'll see the letter flash up on the screen before it exits.

After this program has executed the bottom half of the data register D0 will contain a number representing the Ascii code of the key you pressed. The top half will hold another number called the scan code.

The scan code is used to determine precisely which key has been pressed, while the Ascii code is used to return a character from the keyboard. This means the scan code of the lower case letter a will be identical to capital A because the ▷

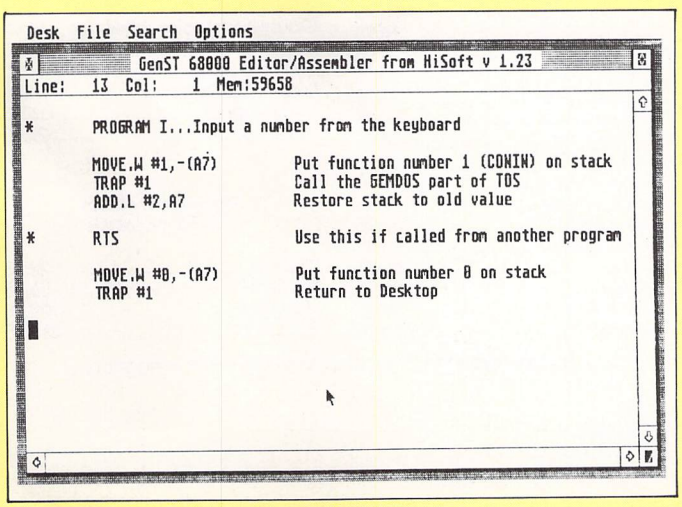

Figure I: HiSoft Devpac listing of Program I

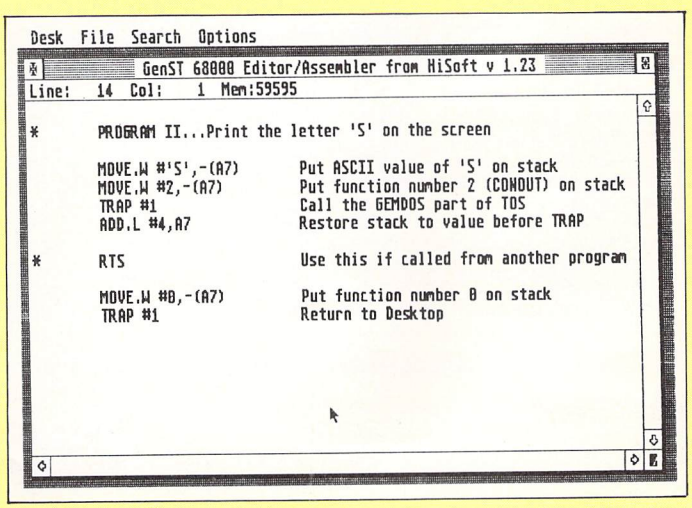

Figure II: HiSoft Devpac listing of Program II

◁ key you press is the same. The Ascii values however, are different.

The ADD.L instruction sets the system stack pointer A7 back to the value it was before we entered the routine by adding two. We can work out what number to add by counting the number of bytes we pushed on to the stack. This will vary from routine to routine.

If we don't get it right, an error will occur and errors like this are especially nasty as the ST often crashes some time after the initial mistake was made.

After a call to Tos, any data you were storing registers D0 to D3 and A0 to A3 will probably be corrupted. So if you use them to hold important information it's always a good idea to save them somewhere (like the stack) first.

Here is another worked example which prints the letter S on the screen:

```
MOVE.W #'S',-(A7)  Stack Ascii S
MOVE.W #2,-(A7)     Function 2
TRAP   #1           Call Gemdos
ADD.L  #4, A7       Restore stack
RTS                 End
```

You'll find an expanded listing in Figure II. Enter and assemble this as a Tos program and click on it from the Desktop. Watch the screen carefully – the machine code is so fast if you blink you'll miss the S as the routine returns to the Desktop immediately after printing it.

We will now combine Programs I and II to produce a single routine which converts any upper case letter input from the keyboard into lower case and prints it on the screen.

The conversion routine used simply adds the difference between the Ascii values of lower case and capital A – 32, to the character you input and prints it. Because there is no error trapping in this routine, if you input a non alphabetic character the result will be unpredictable.

```
MOVE.W #1,-(A7)    Function 1
TRAP   #1          Call GEMDOS
ADD.L  #2,A7       Restore stack
ADD.W  #32,D0      Add 32
MOVE.W D0,-(A7)    Stack new code
MOVE.W #2,-(A7)    Function
TRAP   #1          Calls GEMDOS
ADD.L  #4, A7      Restores stack
RTS                Returns
```

Again, there's an expanded listing in Figure III, this time the assembler used is Abacus' Assempro – note the semi-colon before the comments.

● *In the next article we will examine the logical operations supported by the 68000 and show how they can be used to enable us to write a program to print any number on to the screen in hexadecimal notation.* □

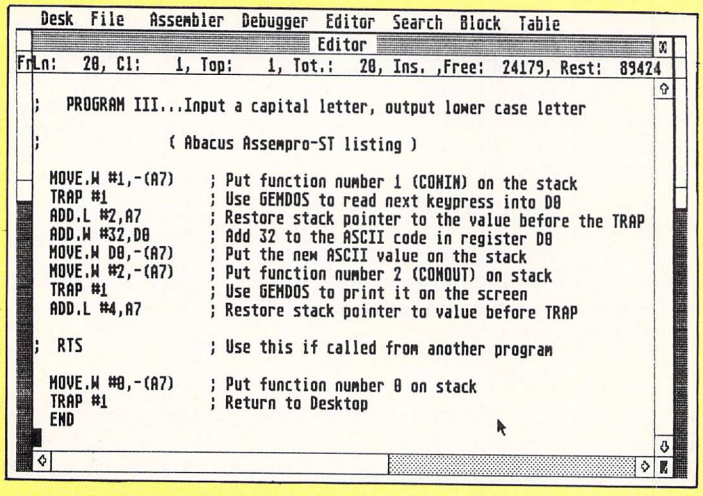

Figure III: Abacus assempro listing of Program III

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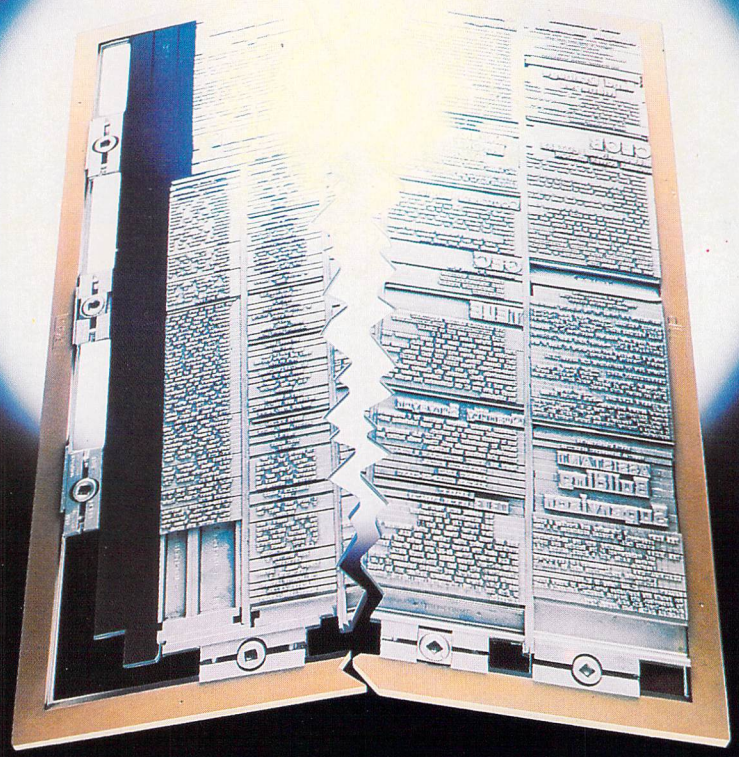

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VIP takes Lotus 1-2-3 steps further

Don Muspey reviews VIP Professional, a Gem-based spreadsheet

IMITATION is the sincerest form of flattery, so they say. If that's true, Lotus must be one of the most flattered companies around. Its 1-2-3 spreadsheet software has been faithfully imitated by hordes of other software houses.

VIP Professional, produced by the US company VIP Technologies, looks like becoming one of the more popular 1-2-3 clones. One of the reasons for this is VIP's policy of making the software available on a range of machines. It started life on PCs, but has moved on to Apple II micros, the Amiga and of course, the Atari ST.

The reasons for cloning Lotus 1-2-3 rather than creating a totally new product, are not too hard to define. You'll find 1-2-3 being used in virtually every large corporation, and quite a few small ones.

It was one of the few spreadsheets for the PC, and its early arrival goes some way to explaining its success. Another reason is that it is extremely powerful – the program is infinitely configurable, particularly through the use of macros and templates, which effectively allow you to customise the software.

There are three main advantages to buying a clone. The first is very simple – it's cheaper. A single-user version of 1-2-3 can be had for around £330. VIP Professional costs £230 for the Gem version, or £207 if you want it without Gem.

The second point in its favour is that you can use data and spreadsheets created on one computer – say, a PC at work – on your micro at home, even if it's a different machine. It's not always easy doing this, but it is at least possible.

Finally, the biggest plus point is that by coming out later and on a more exciting machine, VIP has been able to add extra goodies to the original package.

VIP Professional is bigger than Lotus 1-2-3, has some extremely useful database and graphics facilities, and it uses Gem – at least the main version of it does.

VIP Professional is faithful to the original in that it replicates all the commands. In this case the original is 1-2-3 version 1A. Later upgrades for the Lotus product have appeared, but 1A is the most common.

Not every company appreciates flattery, however. Lotus itself has been at the centre of several legal battles concerning copyright. Many of these involve the term 'look and feel'.

The argument is that, even if an imitator hasn't stolen the code itself, if the screen presentation and use of the keyboard – choice of commands and so on – is the same then there is infringement of copyright.

So it's no coincidence that VIP Technologies says in the manual, that it considers the 'look and feel' of VIP is significantly different from 1-2-3, even if the methods of using it are identical. The

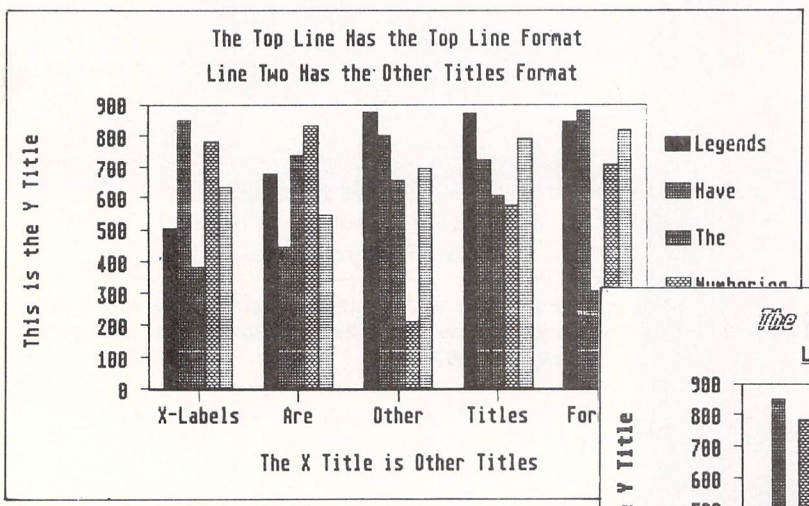

Figure I: Graph printed with the standard font

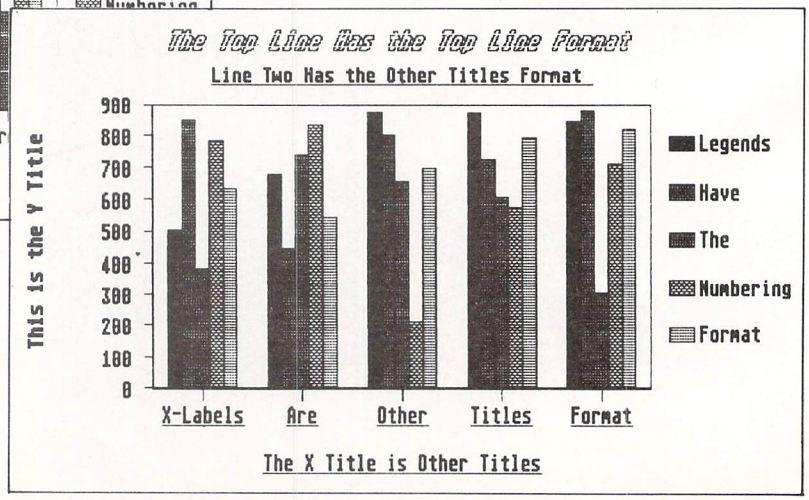

Figure II: Multi-font printout

most obvious difference between the packages is the use of Gem and the mouse.

This user interface is one of the reasons people buy the ST in the first place, so it's a logical step to implement it on something like a spreadsheet.

However, tacking on Gem does make the package slightly incompatible with 1-2-3. The differences are marginal – only space for 76 characters instead of 79 in menus for example – but to some people they could be important. So there are two versions of VIP Professional available.

The one reviewed here is the Gem version. The other leaves out Gem, freeing more memory and speeding things up a little and it's cheaper, though not as friendly.

The non-Gem version has the standard 20 rows of cells, while the Gem one can manage only 13 because of the other things on the screen, like scroll bars and icons.

The main reason for having a non-Gem version is to make it compatible with 1-2-3 templates produced on PC's. You can usually convert these, but if you want to use them straight, you'll need to get this text-only copy.

If you're already used to working with a PC version and need to use very large spreadsheets, then this will probably suit your need better. But those with more modest needs – and they don't have to be that modest, especially if you're using a 1040ST – will be better off with the easier Gem environment.

Even with Gem the spreadsheet is large. You get up to 256 columns by 8192 rows. Moving around is easy enough, using the pointer and scroll bars, but it can take a while as it is rather slow. This is mainly the fault of the large amount of screen memory the ST uses – 32k compared with as little as 1 or 2k on some micros.

As well as using VIP to manipulate your figures you can also use it as a simple database. In effect you arrange the data the same way you arrange the figures, in columns and rows. These can be sorted, alphabetically or numerically, and using simple commands you can extract the information you want, like retrieving the names of all friends with ages over 20.

Graphics are also a strong feature of VIP. Information can be represented as a pie chart, bar graph, stacked-bar, line chart or X-Y graph. You also have the choice of black and white or colour.

Creating a graph is simple enough. You mark out the cells you want to represent and answer a few questions about the range and type of chart you want. And by using one of the disc utilities, the resulting graph can be dumped to a printer.

With a product as complex as this, comprehensive documentation is essential. Fortunately the VIP package is pretty good. You get a 250 page ring-bound manual, a quick reference card and a separate introductory booklet.

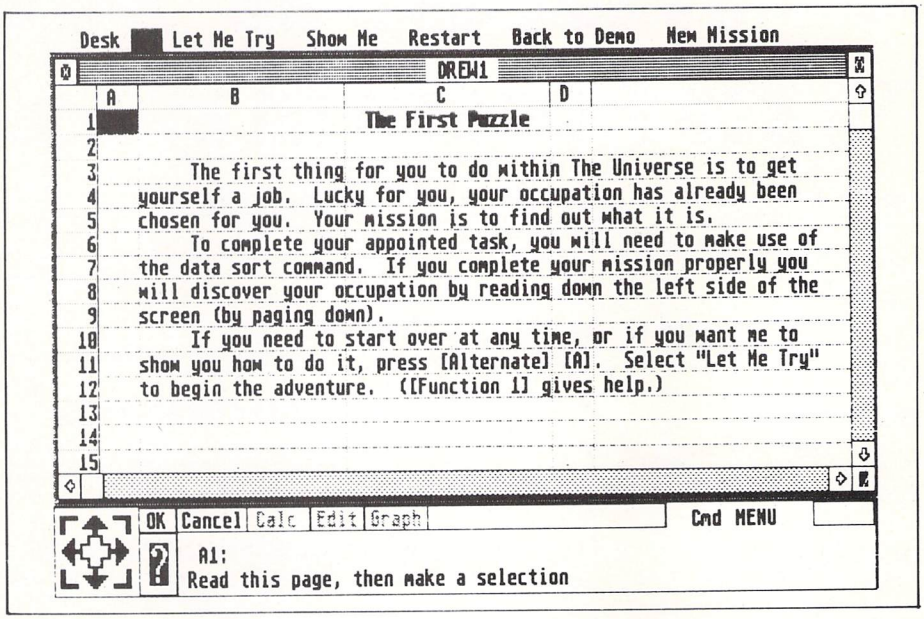

Figure III: VIP's work screen

The manual is excellent, with both tutorial and reference sections. Unusually for a product like this, the manual isn't just a mild rehash of another version. It has been thoroughly reworked for the ST.

The manufacturers want you to enjoy using this program. They almost see it as entertainment. The introductory booklet talks about "sample files for your amusement".

Owners of 520STs won't be too amused, however, as the examples require 1Mb of memory. VIP Technologies suggests several times that you go out and get more memory for your 520 if you really want to use the software to its full potential.

In addition to the main program disc there is also a utilities disc with help files and sample spreadsheets, as well as several utilities, including one for printing graphs. If you still get stuck, computer bookshops are full of 1-2-3 guides and tutorials which, because of the compatibility between the products, are just as good for VIP Professional.

Anyone with experience of Lotus 1-2-3 will feel at home on VIP Professional, and will probably relish the extra facilities and ease of use. But it's not just a package for people coming from other machines.

VIP isn't cheap, so can be recommended only if you have a real need for a spreadsheet. But if you fall into that category then you'll find this package will fulfil your need more than adequately. □

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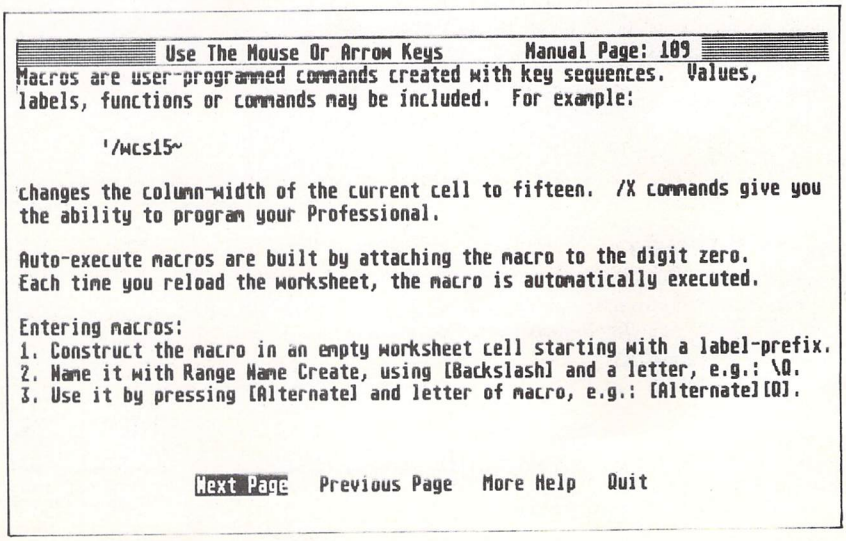

Figure IV: One of the built-in help screens

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MEMORY:

The basic 520 STFM has 192K bytes of ROM, an optional 128K bytes of plug-in ROM cartridges and 512K of RAM. The MEGAPAC 520 STFM has bigger memory — a full ONE MEGABYTE of RAM, like the 1040 STF.

DISC DRIVES:

The basic 520 STFM has a built-in single-sided disc drive. The MEGAPAC 520-STFM comes with two drives, one internal and one external. The latter is double-sided, offering twice the capacity (720K) of the built-in drive (360K). Your disc bill can be cut by almost half when compared with that of basic 520 STFM users.

PROCESSOR:

The Central Processor unit (CPU) is a Motorola 16/32 bit 68000 chip, running at a clock speed of 8 MHz. It is further enhanced by Atari's own custom ICs providing a Direct Memory Access (DMA) channel for fast data transfer with other peripherals such as the ATARI SH204 Winchester drive or the Atari Laser printer (available soon) and a real time clock.

DISPLAY:

The 520 STFM can display 40 or 80 column text on any domestic TV or colour monitor such as the Philips CM8533 or the dedicated ATARI SM125 high resolution monochrome monitor. Graphic is 600 × 400 pixels on the SM125, 600 × 200 pixels in 4 colours or 320 × 200 pixels in 16 colours on a colour monitor or TV. The colour palette contains 512 possible colours. Some ATARI software indeed uses the exceptional display hardware to produce stunning graphics with up to 256 colours at once.

MIDI INTERFACE:

The 520 STFM has 3 programmable sound voices and a Musical Instrument Digital Interface (MIDI) to allow direct connection to a wide range of musical organs and synthesizers such as the Casio CZ230S.

MOUSE:

The 520 STFM has its own dedicated mouse as part of its standard hardware.

PERIPHERAL CONNECTORS:

The 520 STFM can be easily expanded by plugging in 'add-ons' through its ports. They will accept printer (Centronics port), Modem (RS232 port), musical instruments (Midi port), sensors (joystick port) and fast intelligent devices such as network, Winchesters, laser printer etc (SCSI port).

BUILT-IN SOFTWARE IN ROM:

The 520 STFM has 192K bytes of permanent software in ROM. This comprises GEMDOS, the disc operating software which is now becoming the dominating standard for 16 bit computers, and GEM, the Graphic Environment which uses pictures and drawing instead of cryptic messages to communicate with the user and the electronic Mouse in place of the keyboard to enter the user's commands.

SOFTWARE ON 5 DISCS:

The MEGAPAC 520 STFM comes with 5 discs, containing an impressive collection of software by any standard:
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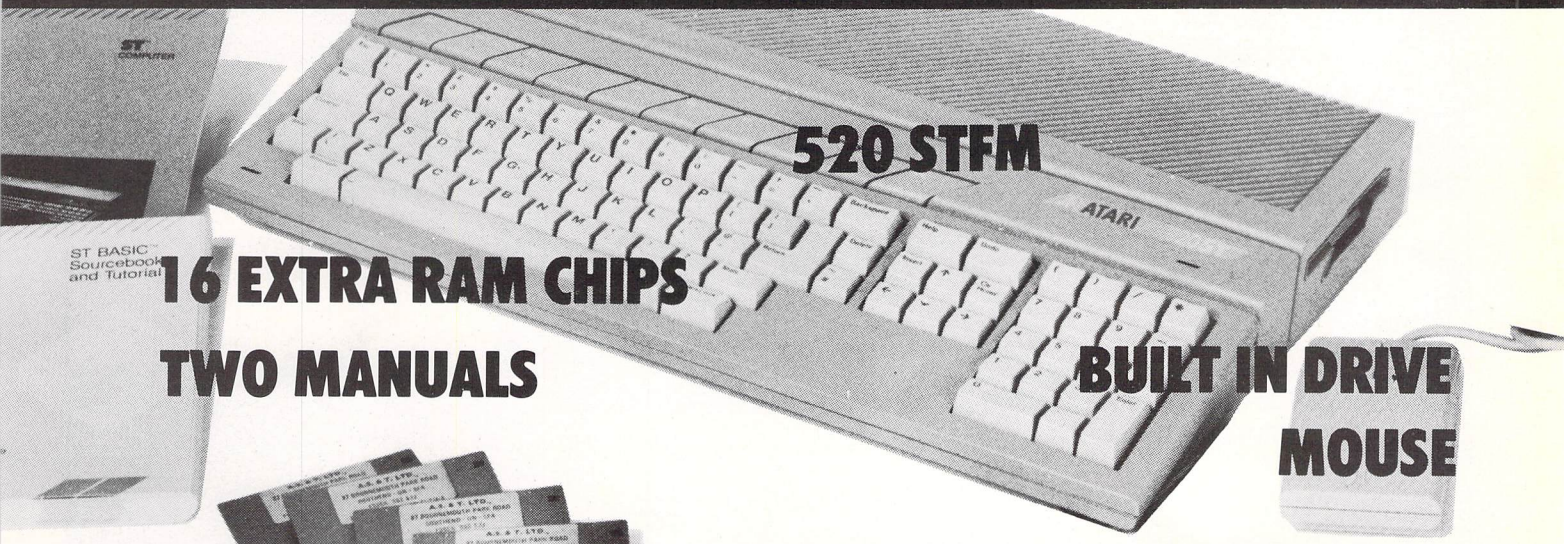

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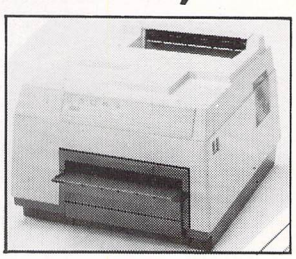

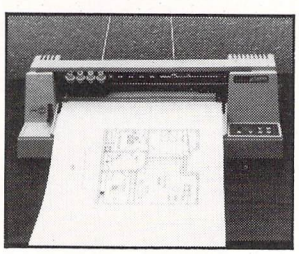

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Beep, beep!

Program: Road Runner
Price: £24.99
Supplier: US Gold, Units 2/3, Holford Way, Holford, Birmingham B6 7AX.
Tel: 021-356 3388

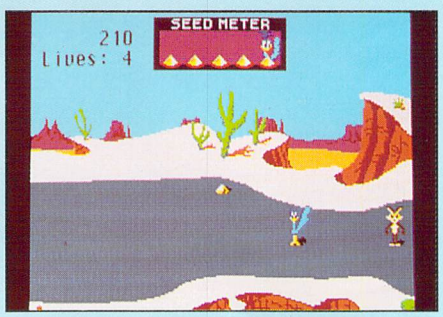
FRESHLY converted from the popular arcade game of the same name, Road Runner hits our screens. Although it has its faults, the game does have moments of humour and surprise that lift it above the general level of arcade games.

The game is played with a joystick and consists of several stages. Each one has Road Runner, a bright blue bird (in cartoon mythology) of renowned speed, sprinting along under your control pecking numerous piles of seed.

An indicator at the top of the screen marks how many seed piles he has failed to gobble up. Should he miss five, he is overcome with hunger and faints, leaving him at the mercy of Wile E Coyote who is always in hot pursuit. The screen scrolls smoothly to the right as Road Runner and Wile E make their way through the scenery.

If Wile E catches Road Runner, he carts him off to the right of the screen and a life is lost. However, you always restart near to the point where he was captured so the whole section doesn't have to be rerun from the beginning.

Another good feature of the game is that when all your lives are gone and the game restarts, you have the choice of taking a shortcut through a cave which is



sealed off the first time you play. This route immediately takes you to the start of the stage where you previously lost your final life.

Now if, like me, you're not one of the world's most skilled games players, this is one feature you're really going to appreciate. Not only does this it allow you to keep on playing from where you left off, but you get an extra life into the bargain.

Wile E Coyote usually pursues on foot, his legs spinning cartoon style, accompanied by a sharp cracking sound whenever he does a fast about-face. He does use other means of transport from time to time, undoubtedly purchased from the ACME company.

Among these is a rocket (not too hard to dodge), a pogo stick (sometimes Wile E moves quite swiftly on this), a jet skateboard and, his piece-de-resistance, a Jet-Pac from which he lobs sticks of dynamite.

Other hazards to be avoided are speeding lorries, falling boulders, cannons and mines. You can turn these to your own advantage, luring Wile E into their path. I loved the way either character turned into a charred shadow of its former self when blown up, just like the cartoons.

The game has been designed with the humour and style of the original cartoons very much in mind, and these two attributes are really the strongest features of the game.

Road Runner and Wile E Coyote are faithful and unmistakable representations of the original characters. They are small however and bigger sprites would have improved the game no end. The backdrops are rather stylised too, though this is in keeping with the cartoons.

The game gets pretty tough after the first few levels, mainly due to some rather suspect sprite-collision detection. Perhaps you'll have better luck getting past the cannons.

Sound effects are pretty good with the music being just right for this type of game with snatches of the Looney Tunes theme, William Tell overture, and Flight of the Bumble Bee.

A fun game it is not without blemish, but enjoyable. It has some neat ideas, a jolly atmosphere and is entertainingly daffy.

Bob Chappell

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

Futuristic warfare

Program: Autoduel
Price: £24.95
Supplier: Origin/Microprose, 2 Market Place, Tetbury, Gloucestershire GL8 8DA.
Tel: 0666 54326

BASED on Steve Jackson's board game Car Wars, Autoduel takes you to the freeways of the future where only those vehicles with the most powerful weaponry get to rule the roads.

Autoduel is more of a strategy than an action game. While the concepts behind the game are interesting, the poor graphics and constant disc accessing severely detract from what enjoyment there is to be had from the game.

The main idea is to buy and design your own vehicle, customising it with armour, weapons, power plants, suspension and tyres. Once it's ready, you can take it out on the roads from where you'll either return a victor or crash and expire with your car.

The longer you survive, the greater the growth of your abilities. You'll also have more opportunities to gain cash to improve your car or buy a better one.

There are several ways to become famous or wealthy. You can take your car to the arena where you can pit it against others in a fight to the finish. Or you might elect to be a courier, running your cargo across perilous territory. Or perhaps being a vigilante is more to your fancy, battling against road outlaws and cycle gangs.

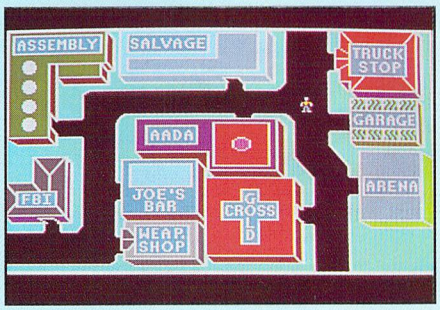
As a driver, you have three main skills and are given fifty points to be allocated between them – driving, mechanical skill and marksmanship. At the start, you have $2000 to your credit and begin in a town.

Using the joystick, you move around a graphically rudimentary town (nothing more than a plan view of a group of blocks with names to show they are different buildings).

Each building offers a variety of options which are listed as a text menu. For example, at the Truck Stop you can catch a bus, listen for rumours, get batteries charged, hire a room for the night, or buy body armour.

Weapons and ammunition may be bought at the Weapon Shop while the Garage offers repairs, storage, lessons and power recharging. In the Salvage Yard, cars, weapons and goods can be sold for cash.

At the Assembly Line, you can build a car to your own spec – providing you have sufficient money. Designing is a ▷



◁ complex business and the accompanying 32 page booklet goes into great detail on this and other subjects. The booklet contains many tables and much data and statistics and therefore a must for reference when playing.

Reading it leaves you with the impression that Autoduel is an unusual and complex strategy game with added arcade-type elements. And so it is.

Unfortunately, the arcade elements are laughable and it would have been better to have eliminated them altogether. All they serve to do is flatten any excitement, expectation or imagery that may have been built up in the player's mind.

For instance, all those wonderful design features seem as nought when your screen displays a tiny dodgem car that fires a row of white blobs (bullets) or a red splodge (flame thrower).

Strategy fans may well enjoy Autoduel, but only if they are prepared to ignore the slow gameplay and mediocre graphics. A good game marred by an amateurish implementation.

Bob Chappell

Sound	***3***
Graphics	***3***
Playability	***5***
Value for money	***4***
Overall	***4***

Plain sailing

Program: Pirates of the Barbary Coast
Price: £12.95
Supplier: Cascade Games, 1-3 Haywra Crescent, Harrogate HG1 5BG.
Tel: 0423 525325

IN contrast with the impressive artwork of the packaging, this game turns out to be very dull indeed. The idea behind it is good, if not entirely original, but sadly the implementation is lacklustre.

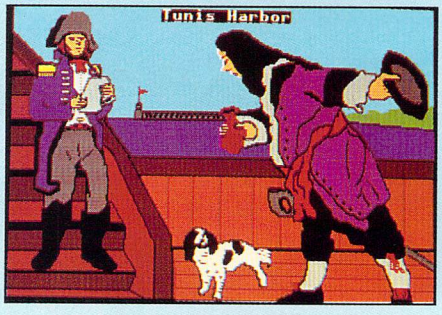
You are captain of the US trading frigate, American Star which has been raided by the notorious pirate Bloodthroat – now holding your daughter to ransom, to be paid within 30 days or else. To raise the money you must sail the Barbary Coast, trading and fighting.

The game sets sail with a beeping, nautical tune and switches to the main screen, a map of the Barbary Coast. Moving a rather stiff and sluggish pointer, you place it on one of the several destinations you wish to sail to.

The disc drive then whirrs away for a not inconsiderable period and eventually the next scene appears, a view from behind one of your cannons. A pirate ship may come sailing slowly past which you can engage in battle.

All or any of the cannons can be loaded in one operation and while the procedure attempts to be technically realistic, I suppose, it is also a tedious and frustrating business.

It goes like this: Select load, select the numbers of the cannons to be loaded, move to any working cannon, point at powder, point at cannon, point at push rod, point at cannon, point at cannon ball, point at cannon, point at brush and finally point at cannon again. Get any of this wrong and you must start all over again.



Also someone unloads them again whenever you dock so you have repeat the sequence each time you sail.

To fire any loaded cannon, you point at the fuse whereupon it will start to burn down. The ball will then be ejected with a feeble explosion. The elevation of the gun can be altered and is necessary because the pirate ships sail past at different distances.

If you hit an enemy ship hard and long enough, you may board her and either claim the booty or read her log, but not both. Hits on your ship are shown by any number of your cannons going up in flames and thereafter becoming inoperable.

When you reach a destination, the disc again whirrs and finally you will be told if there is anything at your chosen spot. If there's nothing, the message "Captain, there be nothing here. Wish ye to set sail?" appears with the rather pointless single-choice answer "Aye". In other words, there's no option but to sail to somewhere else. Long disc whirr and it's map time again.

If there is something there, you are shown a treasure map and must pick one of several crosses. With luck, you may find treasure, otherwise, it's sailing time once more. By now your adrenalin and grey matter will have decided they won't be neeeded on this voyage.

Should you land at a port on the coast, you are given an opportunity, in a very simplistic way, to buy or sell food and goods, hire men, acquire cannonballs, make repairs and bribe the port officer in return for a hint.

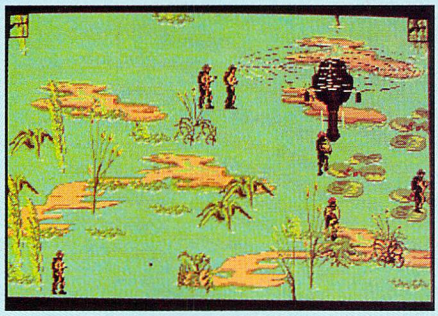
The game plays exceedingly slowly and is unredeemed by graphics (they are not bad but there are so few scenes), sound (crude) or content.

Bob Chappell

Sound	***3***
Graphics	***4***
Playability	***3***
Value for money	***3***
Overall	***3***

Explosive action

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



TRINITRO Toluene or TNT for short, is an extremely powerful and dangerous explosive, and this just about sums up the action in this game of the same name.

Your mission, as a top commando, is to plough a route through enemy infested countryside and single handedly rescue the Khe Sanh base.

Immediately you select the one or two player option, an allied helicopter drops you into the forbidding marshland of the first section. Now you must quickly whip out your sub-machine gun and blow away anything that moves – apart from the other player in a two player game. Although he does seem to be pretty indestructible.

Wave after wave of enemy soldiers attack you, landing in bunches from enemy helicopters, or appearing out of the undergrowth in front of you.

If you are lucky you'll reach the end of the stage where your trigger finger will receive some welcome respite, as your helicopter very kindly retrieves you, only to abandon you at the next stage.

It's at this point you begin to wonder why you started on this mission at all, and definitely decide to cross the helicopter pilot off your Christmas card list, because now comes the jungle.

Thick vegetation and lurid blackness make this stage very difficult indeed. The enemy can be anywhere, hiding in the undergrowth or behind a tree stump. Your grenades are useful for picking off the odd sniper or two you can't hit with the machine gun. If you manage to battle your way through the jungle then it's on to the enemy encampment.

It's rather like jumping out of the frying pan into the fire. Make it through that lot and you'll reach your objective.

When you finally complete the fourth wave the chopper picks you up and it's back to the start, only this time it's harder still.

TNT is one of those games I just couldn't put down, although I suspect it's one you will either love or hate. I found it difficult to play at first, though I soon got used to it.

The graphics are what you would expect from Infogrames and are quite superb, though the characters were a little small making them difficult to see at times. The full screen scrolling, on the other hand is superb.

In the sound department TNT is not going to win any medals, with only the odd popping noise to simulate gun fire. The tune, nice as it is, doesn't add to the game.

For anyone who's played Commando in the arcades, TNT will be disappointing, but as a game in its own right it stands up very well.

Marcus Adams.

Sound	**4**
Graphics	**9**
Playability	**6**
Value for money	**7**
Overall	**8**

Absorbing fun

Product: The Sentinel
Price: £19.95
Supplier: Firebird, 64-76 New Oxford Street, London WC1A 1PS.
Tel: 01-379 6982

IMAGINE a land far away across the waste of space, drifting for all eternity through the endless void. A land formed of pure energy guarded by a being as ancient as the universe itself. And imagine yourself trapped in the domain of the Sentinel, a place born from the dreams of a surrealist.

So the scene is set for Firebird's new release, originally devised and coded by Geoff Crammond on the BBC Micro. The Sentinel has now finally arrived on the ST and like the original, it is excellent.

The object of the game is quite straightforward, get the Sentinel before he gets you. The Sentinel being the strange hooded figure standing atop a pedestal on the highest peak of the barren landscape.

At the first he lies dormant, unaware of your presence. This enables you to survey the landscape and carefully plan your assault.

As soon as you absorb or expend energy the Sentinel and his acolytes begin to revolve, slowly, indefatigably seeking the offending power source.

When the Sentinel locks onto you, a warning scanner flicks into action. You then have about five seconds to get out of sight or your energy rapidly begins to drain away.

If he cannot see where you are then he will turn a nearby tree into a Thingy. These don't have the power to absorb your energy, but they can teleport you to a more open part of the landscape where you will be more vunerable. The only way to escape is to create a new robot somewhere else on the landscape and transfer yourself into it.

Eventually, by climbing higher and higher you can look down on the Sentinel, absorb him and travel to a new landscape where the battle begins afresh.

The scrolling graphics employed in The Sentinel's 10,000 landscapes are quite stunning, but I feel better use could have been made of the Atari's colours. Likewise, the sound is atmospheric, but limited.

After saying that, I must point out the death scene is very effective, with the landscape slowly dissolving away to be replaced by an image of the victor accompanied by a few bars of creepy music.

The strange, angular scenery employed in the game is a product of fractals. In play, the game exudes a sinister feeling quite unlike anything I have ever experienced before. As such it is not the sort of game that should be played just before bedtime.

This latest version, written for the ST, includes several new features including mouse control and the tactical display.

The Sentinel may not be everyone's idea of a great game. However, it will remain high on my list of favourites for a very long time to come.

Steven Spink

Sound	**4**
Graphics	**9**
Playability	**10**
Value for money	**9**
Overall	**8**

Commando raid

Product: Eagle's Nest
Price: £19.95
Supplier: Pandora, Mercury House, Calleva Park, Aldermaston, Berks RG7 4QW
Tel: 07356 77421

IN Eagle's Nest you are cast in the role of a commando and your mission is to infiltrate enemy headquarters and rescue some prisoners. In addition, as you make your escape you must destroy the building and the troops within.

On previous missions, explosives have been placed by allied commandos at strategic points throughout the headquarters, based in a castle, and you simply have to locate the detonator, activate it and escape.

There's an option at the start of the game to choose either a simple castle layout or complex maze-like design. The screen display is a window looking down on the castle providing a bird's eye view of a small section of it.

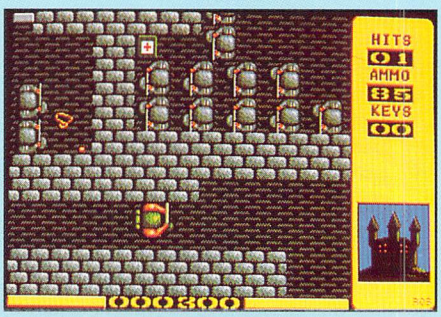
Your character, controlled by the joystick, can wander about this window and when he reaches the edge it scrolls to reveal the next section of castle.

The headquarters is split over several levels and you'll need to locate an elevator pass to use the lift. This is difficult to spot as it is just one pixel in size and at first I ignored it thinking it was a minor bug in the program displaying a spurious coloured dot.

Once you know what to look for, it's not difficult to find – in castle two it's in the loo so visit each one until you discover it.

If you find the full mission too difficult there are easier options to choose from. The simplest is to blow up the castle by setting the detonators. Harder levels also involve rescuing the prisoners.

Your task is far from easy as there are locked gates barring access to many of



the rooms and passages. Some of them are quite flimsy though and a round of bullets from your machine gun will break them down.

As you explore the castle you'll find many objects to collect and some help you on your mission. Golden keys enable you to open locked gates – one per gate, there's amunition for your gun, food to build up your energy and first aid kits can be used to patch up wounds inflicted by the enemy soldiers occupying the castle.

There are literally hundreds of these soldiers wandering about, but they can quickly be despatched with a shot or two (depending on the difficulty level) from your machine gun. They display little intelligence and at times simply line up waiting to be shot.

You have to take care where you fire as a stray bullet can quite easily land in one of the boxes of dynamite piled up in the storerooms. This sets off a chain reaction which sends the whole place up with a massive bang ending the game.

Eagle's Nest bears many similarities with Gauntlette, but is different enough to hold your interest and I found it quite addictive. I can recommend it to anyone who likes a good arcade adventure.

Roland Waddilove

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

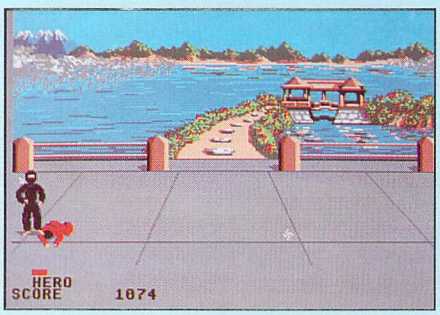
Budget bash-'em-up

NINJA Mission, so far as I am aware, is the first ST game to be offered at under a tenner. Who else could it be bucking the trend but Mastertronic, leaders in providing software at a price that doesn't leave just mothballs in your piggy bank.

This is their first offering for the ST and holds out reasonable promise of things to come. Ninja Mission is not new – it first appeared on the 8 bit Ataris.

As the title implies, the game is yet another oriental martial arts bash-'em-up. In it, you control a black-garbed Ninja who must recover a group of jade idols from a multi-floored fortress.

Each floor has several rooms in which one or more adversaries stand guard. Your opponents are skilled in karate, judo and the warrior ways of the Ninja.



Program: Ninja Mission
Price: £9.95
Supplier: Mastertronic, 8-10 Paul Street, London EC2A 4JH.
Tel: 01-377 6880

They are clearly under orders to duff you up on sight so there's nothing for it but to cut them up with your sword, stab them with one of the throwing stars and knives lying around or simply lay them out with a combination of the many fighting movements in your repertoire. Naturally, they will be trying to do the same to you.

You gain access to the floor above by jumping up through a hole in the ceiling in one of the rooms. You can also come down by the same route – drop through the corresponding hole in the floor.

Red bars at the bottom of the screen indicate the current state of health of yourself and opponents. Each time a blow is landed, the relevant bar diminishes. When your own bar shrinks to nothing, you flop down and the game is at an end.

Points are scored for flattening opponents and grabbing idols. Each time you collect one, your strength is boosted to maximum. Once you have six, a locked door at the top of the fortress will open up allowing you to try and complete your set.

The graphics are pretty good with an excellent title screen and attractive and varied Eastern backdrops. The characters are well drawn and the animation is good – your Ninja has 16 moves up his sleeve. The music is outstanding – a catchy, oriental number that stays with you after you've finished playing.

The game pauses for several seconds between one screen and the next, and while this does at least serve to give your fingers a rest, skilled games players are likely to find it a frustration.

Despite the attractive graphics and high quality music, there's not much in the way of gameplay below the surface. It's really just a question of thumping and thwacking away until you finish or are finished off.

As a budget priced debut, Ninja Mission is quite impressive. If you like martial arts games but can't afford some of the higher priced offerings, this should be to your liking and is recommended.

Bob Chappell

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

DESKTOP PUBLISHING AWARDS 1·9·8·7

Desktop Publishing is the biggest growth area in microcomputing today. Many of the UK's top graphic designers have embraced it, harnessed its tremendous potential, and produced extremely eye-catching layouts.

But it has also enabled people from all walks of life, from owners of small businesses to club secretaries and community groups, to become publishers in their own right.

Pira, the UK technology centre for the printing and publishing industry, is to sponsor annual awards for the best examples of Desktop Publishing.

Entries are invited from individuals, companies or organisations.

There will be three major awards:

Category One:
Best newspaper or magazine

Category Two:
Most outstanding company report

Category Three:
Best leaflet, newsletter or brochure

The awards will be presented to a nominated representative of the winning entry at the first Desktop Publishing Show in October.

What you have to do

Supply two copies of the submission, together with a disc containing any relevant files and the completed entry coupon.

Entries can be made for more than one category, but additional entries should be accompanied by separate copies of the coupon below.

All entries must be received no later than noon on Thursday, October 1.

These awards are not open to the staff of Database Publications Ltd., their agents or their families.

The judges' decision is final. The results will be announced at the Desktop Publishing Show in October, and printed in the December issue of Atari ST User.

Desktop Publishing 1987 SHOW

Business Design Centre, Islington, London
Thursday, October 15
Friday, October 16
Saturday, October 17

Plus

The Atari is fast becoming a major player in the Desktop Publishing field with sophisticated packages like Publishing Partner and Fleet Street Publisher. There will be a special award for the best design produced on an Atari ST. More details in next month's Atari ST User.

ENTRY COUPON

Category entered: ☐ One ☐ Two ☐ Three

Name of person submitting entry _____

Address _____

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_____

Description of entry _____

_____

Computer: _____

Software: _____

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Other equipment used: _____

_____

Send to: Desktop Publishing Awards 1987, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

Dark secret of the black box

John Sinyard presents a game designed to stretch your powers of logic to the limit

MOLECULE is a game of logic and deduction for one person. Written in ST Basic, it requires a high resolution monitor to run

Your objective is to deduce by experiment, in as few goes as possible, the structure of a single molecule. Each game is virtually unique and an intellectually stimulating puzzle.

The molecule is contained within an empty black box, represented on screen by an eight by eight grid. You can fire rays of light into the box from any position on any side and observe how the atoms of the molecule absorb, reflect and deflect them.

By comparing the entry and exit positions of the ray, you can gather clues as to the location of the atoms in the molecule.

When you run the program you will be asked how many atoms (represented by balls) you want hidden in the molecule. Enter a number from one to five and press Return.

An eight by eight grid will then be displayed with a strip along each edge. These are where the rays are fired from, and where they emerge. Also shown is the number of hidden balls and your current score.

The grid and strips are initially empty, but as the game progresses various symbols will appear in both. Within the grid, though not visible, are the atoms which make up the molecule. Your task is to find where these are. They remain stationary throughout the game.

To help you find them you place probes in the outer strips and these fire the rays into the grid. The results give you the clues to the location of the atoms.

To place a probe, point to a square on one of the outer strips and press the left-hand mouse button. When you have done this one of three things will happen.

Either a solid black square will be displayed, a hollow white one or one with a pattern inside. Each type of square has a different meaning and in the last case a square with the same pattern will appear in one of the outer strips.

In Figure I, a probe has been placed and is displayed as a solid black square. This indicates the ray has been totally absorbed by an atom – in this case, one directly in its path. In this example the ray travelled in a straight line, but this need not be the case as we'll see later.

In Figure II the ray from the striped probe has travelled through the grid, but has been deflected by passing in close proximity to an atom. Each near miss deflects the ray by exactly 90 degrees.

Figure III shows the situation where the ray has been deflected through 180 degrees and returns back to the square it started from. This is indicated by a white square.

In the special case of an atom at the outer edge of the grid as in Figure IV, the ray will be immediately deflected back on itself and again a white probe will result.

Working through the conditions shown in Figure V, we can see the sort of results that we can expect. Situation one, in the top left hand corner of the grid, shows a ray being deflected through 90 degrees by the atom to the right and below. The same atom is totally absorbing the ray in situation two and the probe is solid black.

Three shows the sort of tortuous path that can be encountered. The ray is fired into the grid and is deflected through 90 degrees downwards by the atom that has

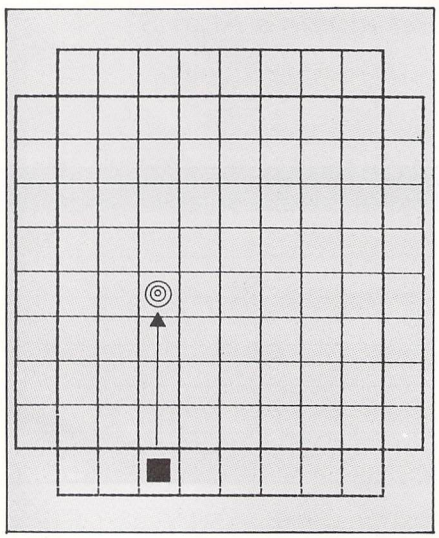


Figure I: Any ray which hits an atom is absorbed

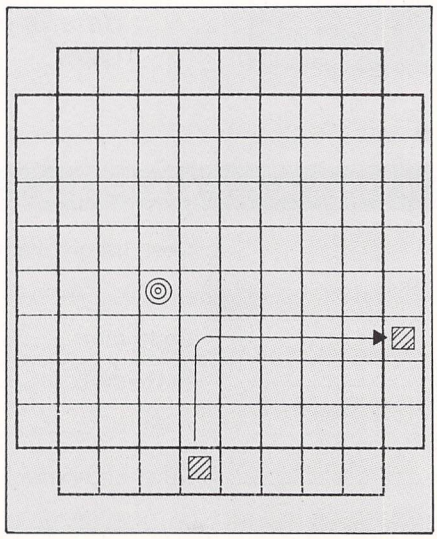


Figure II: A ray which approaches an atom closely is deflected from its original path through 90 degrees

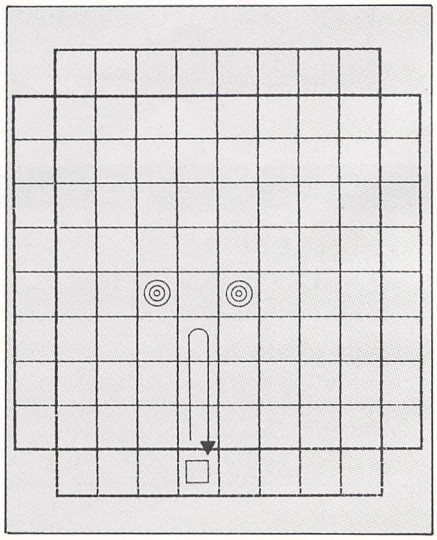


Figure III: A ray deflected by two atoms simultaneously, turning the ray through 180 degrees.

absorbed ray two. It then approaches another atom to the right and so is deflected 90 degrees to the left.

Unfortunately for our ray, this move brings it into proximity of another atom to its left and so it swings another 90 degrees – making a total of 180 in the one square – and starts heading up the grid.

At this point it passes close to the first atom it passed on its outward journey and is deflected by it once more – this time to the left – and ends up at the same place it started from. Because of this the probe sees it as a deflected ray and turns white.

Situations four and five also show deflected rays – four being a true deflection and five being an edge deflection.

The black probe shown in situation six may lead you think there is an atom directly in the ray's path, as in Figure I. However, you will see that it follows as convoluted a route as ray three and is only finally absorbed at the edge of the grid.

If you enter a probe and a patterned square appears, along with another of the same pattern exactly opposite – as in situation seven – you may have found a row or column with no atoms in it or alongside and the ray has passed straight through.

You will notice your score increases each time you enter a probe. The object of the game is to correctly guess the location of each atom in as few a number of goes as possible.

You can guess at the position of an atom by clicking the left-hand mouse button on your chosen square. If later you decide your guess was wrong, a second click on that square will remove it.

When you are satisfied your guesses are all correct, press the right hand mouse button – the location of the cursor doesn't matter – and your ST will display the hidden atoms.

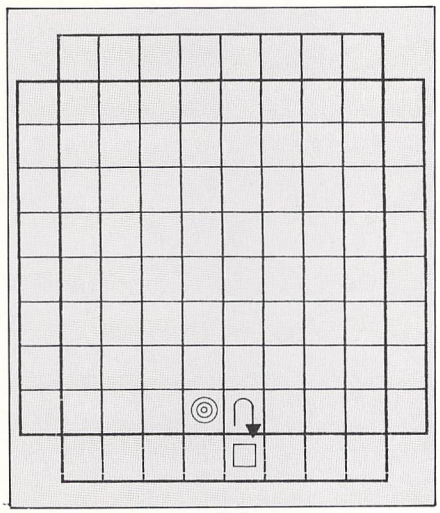


Figure IV: A ray fired near an atom at the edge of the grid is deflected through 180 degrees

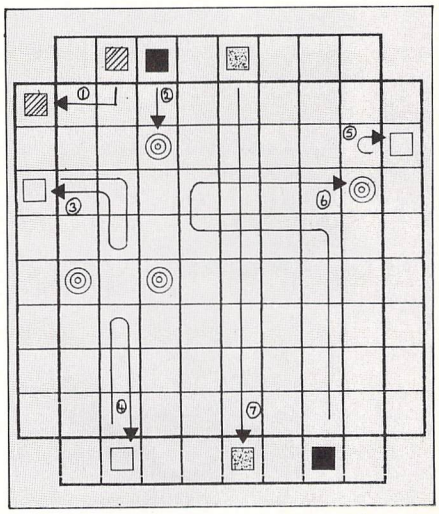


Figure V: An example of the complex situations that can arise

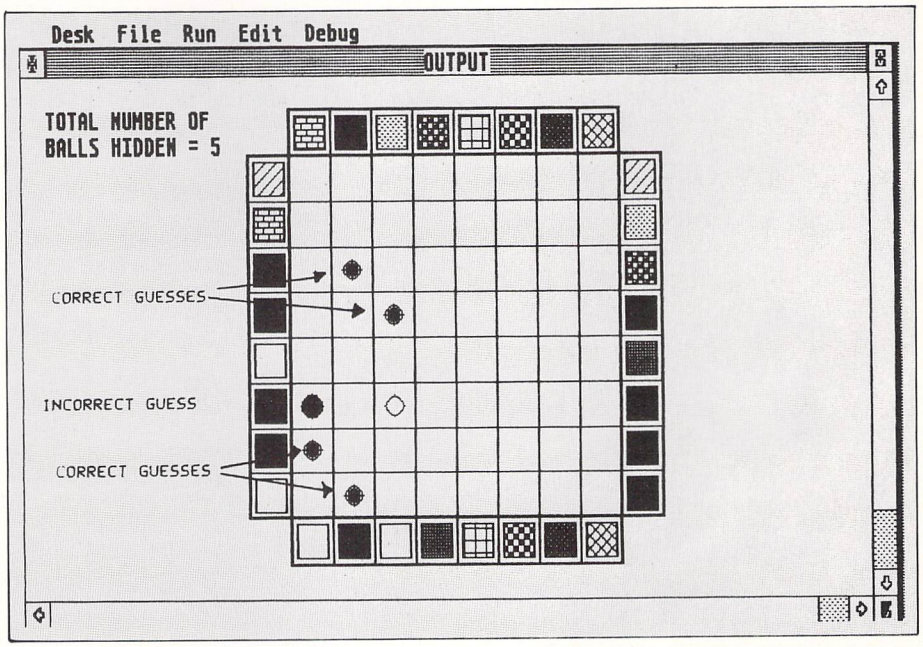
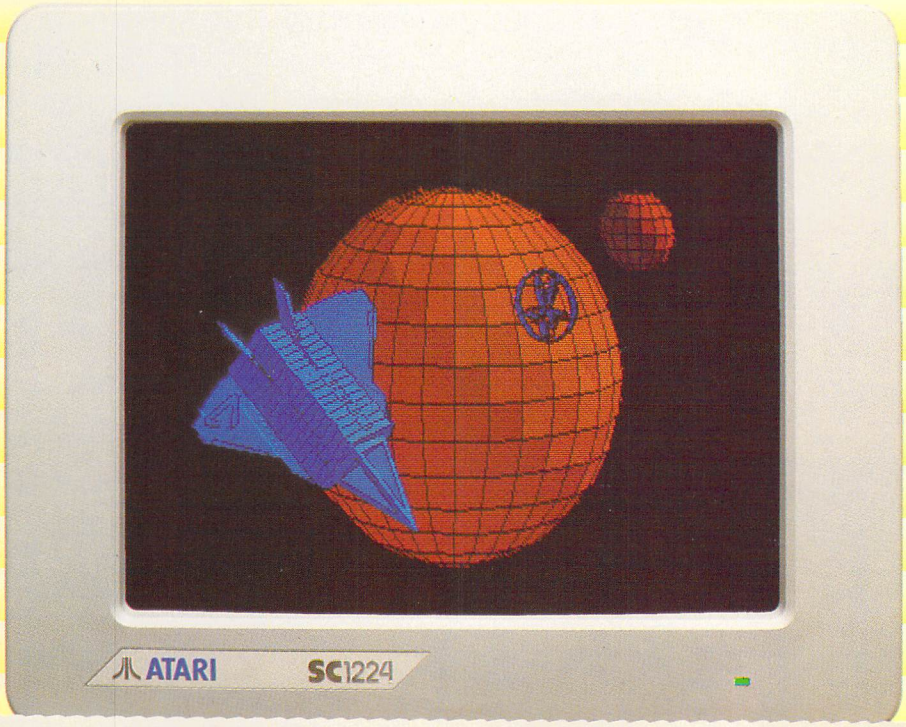


Figure VI: Hidden atoms revealed at the end of the game

```
10 REM ************************
20 REM *                      *
30 REM *       Molecule       *
40 REM * by  John M. Sinyard *
50 REM *  (c) Atari ST User   *
60 REM *                      *
70 REM * Written in ST Basic *
80 REM *                      *
90 REM ************************
100 a#=GB
110 CONTROL=PEEK(A#):GLOBAL=PEEK(A#+4)
120 GINTIN=PEEK(A#+8):GINTOUT=PEEK(A#+
12)
130 ADDRIN=PEEK(A#+16):ADDROUT=PEEK(A#
+20)
140 OPTION BASE 0:DIM GRID(9,9):FULLW
2
150 GAMESTART:
160 RESTORE: SCORE=0:CLEARW 2:COLOR 1,
1,1:GOTOXY 6,8:N$=" "
170 INPUT "Please input number of ball
s to be hidden (1-5) ? ",N$
180 IF VAL(N$)<1 OR VAL(N$)>5 THEN GOT
OXY 10,10:SOUND 1,15,4,4,0:PRINT "Ival
id input, please try again":WAVE 7,1,0
,18000,30:GOTO 160
190 NOBALLS%=VAL(N$):CLEARW 2
200 GOTOXY 1,1:PRINT "TOTAL NUMBER OF"
210 GOTOXY 1,2:PRINT "BALLS HIDDEN =";
NOBALLS%
220 DRAWOUTSIDEBIT:LINEF 194,21,434,21
:LINEF 194,321,434,321
230 LINEF 193,20,434,20:LINEF 193,322,
434,322
240 LINEF 163,50,465,50:LINEF 163,290,
465,290
250 LINEF 164,51,164,291:LINEF 464,51,
464,291
260 LINEF 163,51,163,291:LINEF 465,51,
465,291
270 LINEF 193,21,193,321:LINEF 433,21,
433,321
280 DRAWGRID:FOR A%=51 TO 291 STEP 30
290 SOUND 1,15,(325-A%)/30,6,0:WAVE 7,
1,4,0,0:LINEF 164,A%,464,A%
300 NEXT A%:FOR A%=194 TO 434 STEP 30
310 SOUND 1,15,A%/40,6,0:WAVE 7,1,0,0,
0:LINEF A%,21,A%,321:NEXT A%
320 BOXCLEAR:FOR A=0 TO 9:FOR B=0 TO 9
:GRID(A,B)=0:NEXT B,A
330 RANDOMIZE (0)
340 FOR A%=1 TO NOBALLS%
350 RNDPOS:BALLX%=INT(1+8*RND):BALLY%=
INT(1+8*RND)
360 IF GRID(BALLX%,BALLY%)=2 THEN GOTO
 RNDPOS ' ball already here
370 GRID(BALLX%,BALLY%)=2
380 NEXT A%
390 GUESSES%=0
400 GOTOXY 1,9:PRINT "CURRENT SCORE=";
SCORE
410 PRESSBUTON:REM:POKE 422048,0
420 GEMSYS(79):MX%=PEEK(GINTOUT+2):MY%
=PEEK(GINTOUT+4)
430 SCANX%=(MX%-165)/30:SCANY%=(MY%-59
)/30
440 ORIGINALSCANX%=SCANX%:ORIGINALSCAN
```

```
Y%=SCANY%
450 IF PEEK(GINTOUT+6)=2 AND GUESSES%=
NOBALLS% THEN GOTO CHECK
460 IF PEEK(GINTOUT+6)=1 THEN GOTO 520
470 IF PEEK(GINTOUT+6)=0 THEN GOTO PRE
SSBUTON ' wait until button pressed
480 IF (NOBALLS%-GUESSES%)>1 THEN A$="
[1][ STILL REQUIRE " :A$=A$+STR$(NOBAL
LS%-GUESSES%)+" |  MORE GUESSES ][ OK
]" ELSE A$="[1][  STILL REQUIRE | ANOT
HER GUESS ][ OK ]"
490 A=VARPTR(a$):A1=INT(A/65536):A2=A-
(A1*65536):POKE ADDRIN,A1
500 POKE ADDRIN+2,A2:POKE GINTIN,1
510 GEMSYS (52):A=PEEK(GINTOUT):GOTO P
RESSBUTON
520 IF MX%>194 AND MX%<434 AND MY%>329
 AND MY%<359 THEN GOTO FACE
530 IF MX%>164 AND MX%<194 AND MY%>89
AND MY%<329 THEN GOTO FACE
540 IF MX%>434 AND MX%<464 AND MY%>89
AND MY%<329 THEN GOTO FACE
550 IF MX%>194 AND MX%<434 AND MY%>59
AND MY%<89 THEN GOTO FACE
560 IF MX%<194 OR MX%>434 OR MY%<89 OR
 MY%>329 THEN GOSUB OOPS:GOTO PRESSBUT
ON
570 IF GRID(SCANX%,SCANY%)-INT(GRID(SC
ANX%,SCANY%))=0 THEN GOTO 620
580 GUESSES%=GUESSES%-1
590 GRID(SCANX%,SCANY%)=INT(GRID(SCANX
%,SCANY%)):COLOR 1,1,0
600 CIRCLE 179+30*SCANX%,36+30*SCANY%,
7:GEMSYS(79)
610 WHILE PEEK(GINTOUT+6)<>0:GEMSYS(79
):WEND:GOTO PRESSBUTON
620 IF GUESSES%<NOBALLS% THEN GOTO 680
630 A$="[1][ YOU HAVE ALREADY| ENTERED
 THE CORRECT|"
640 A$=A$+" NUMBER OF GUESSES][ OK ]"
650 A=VARPTR(a$):A1=INT(A/65536):A2=A-
(A1*65536):POKE ADDRIN,A1
660 POKE ADDRIN+2,A2:POKE GINTIN,1
670 GEMSYS (52):A=PEEK(GINTOUT):GOTO P
RESSBUTON
680 GUESSES%=GUESSES%+1
690 GRID(SCANX%,SCANY%)=0.5+GRID(SCANX
%,SCANY%) : COLOR 1,1,1
700 CIRCLE 179+30*SCANX%,36+30*SCANY%,
7:GEMSYS(79)
710 WHILE PEEK(GINTOUT+6)<>0:GEMSYS(79
):WEND:GOTO PRESSBUTON
720 FACE:IF INT(GRID(SCANX%,SCANY%))<>
1 THEN GOTO 790
730 A$="[1][YOU HAVE ALREADY|ENTERED A
 PROBE|"
740 A$=A$+"     HERE ][ OK ]"
750 A=VARPTR(a$):A1=INT(A/65536):A2=A-
(A1*65536):POKE ADDRIN,A1
760 POKE ADDRIN+2,A2:POKE GINTIN,1
770 GEMSYS (52):A=PEEK(GINTOUT):GEMSYS
(79)
780 WHILE PEEK(GINTOUT+6)<>0:GEMSYS(79
):WEND:GOTO PRESSBUTON
790 GRID(SCANX%,SCANY%)=1
800 IF SCANX%=0 THEN INCSCANX%=1:INCSC
ANY%=0
810 IF SCANX%=9 THEN INCSCANX%=-1:INCS
CANY%=0
820 IF SCANY%=0 THEN INCSCANX%=0:INCSC
ANY%=1
830 IF SCANY%=9 THEN INCSCANX%=0:INCSC
ANY%=-1
840 IF INT(GRID(SCANX%+INCSCANX%,SCANY
%+INCSCANY%))=2 THEN COLOR 1,1,1,1,1:G
OSUB DRAWLITTLEBOX:GOTO PRESSBUTON
850 IF SCANX%=0 THEN IF INT(GRID(1,SCA
NY%+1))=2 OR INT(GRID(1,SCANY%-1))=2 T
HEN COLOR 1,0,1:GOSUB DRAWLITTLEBOX:GO
TO PRESSBUTON:' white
860 IF SCANX%=9 THEN IF INT(GRID(8,SCA
NY%+1))=2 OR INT(GRID(8,SCANY%-1))=2 T
HEN COLOR 1,0,1:GOSUB DRAWLITTLEBOX:GO
TO PRESSBUTON:' white
870 IF SCANY%=0 THEN IF INT(GRID(SCANX
%+1,1))=2 OR INT(GRID(SCANX%-1,1))=2 T
HEN COLOR 1,0,1:GOSUB DRAWLITTLEBOX:GO
TO PRESSBUTON:' white
880 IF SCANY%=9 THEN IF INT(GRID(SCANX
%+1,8))=2 OR INT(GRID(SCANX%-1,8))=2 T
HEN COLOR 1,0,1:GOSUB DRAWLITTLEBOX:GO
TO PRESSBUTON:' white
890 IF SCANY%=0 OR SCANY%=9 THEN GOTO
YMOVEMENT
900 XMOVEMENT:IF INT(GRID(SCANX%+INCSC
ANX%,SCANY%))=2 THEN COLOR 1,1,1,1,1:S
CANX%=ORIGINALSCANX%:SCANY%=ORIGINALSC
ANY%
910 IF INT(GRID(SCANX%+INCSCANX%,SCANY
%+1))=2 AND INT(GRID(SCANX%+INCSCANX%,
SCANY%-1))=2 THEN GOTO WHITEBOX : ' wh
ite
920 IF INT(GRID(SCANX%+INCSCANX%,SCANY
%+1))=2 THEN INCSCANX%=0 : INCSCANY%=-
1 : GOTO YMOVEMENT
930 IF INT(GRID(SCANX%+INCSCANX%,SCANY
%-1))=2 THEN INCSCANX%=0:INCSCANY%=1:G
OTO YMOVEMENT
940 SCANX%=SCANX%+INCSCANX%
950 IF SCANX%>0 AND SCANX%<9 THEN GOTO
 XMOVEMENT
960 GRID(SCANX%,SCANY%)=1
970 READ PATT1,PATT2:COLOR 1,1,1,PATT2
,PATT1
980 GOSUB DRAWLITTLEBOX
990 SCANX%=ORIGINALSCANX%:SCANY%=ORIGI
NALSCANY%:GOSUB DRAWLITTLEBOX
1000 GOTO PRESSBUTON
1010 YMOVEMENT:IF INT(GRID(SCANX%,SCAN
Y%+INCSCANY%))=2 THEN COLOR 1,1,1,1,1:
SCANX%=ORIGINALSCANX%:SCANY%=ORIGINALS
CANY%: GOSUB DRAWLITTLEBOX:GOTO PRESSB
UTON:' have hit BLACK
1020 IF INT(GRID(SCANX%+1,SCANY%+INCSC
ANY%))=2 AND INT(GRID(SCANX%-1,SCANY%+
INCSCANY%))=2 THEN GOTO WHITEBOX:' whi
te
1030 IF INT(GRID(SCANX%+1,SCANY%+INCSC
ANY%))=2 THEN INCSCANX%=-1:INCSCANY%=0
:GOTO XMOVEMENT
1040 IF INT(GRID(SCANX%-1,SCANY%+INCSC
ANY%))=2 THEN INCSCANX%=1:INCSCANY%=0:
GOTO XMOVEMENT
1050 SCANY%=SCANY%+INCSCANY%
1060 IF SCANY%>0 AND SCANY%<9 THEN GOT
O YMOVEMENT
1070 GRID(SCANX%,SCANY%)=1:' have reac
hed face
1080 READ PATT1,PATT2:COLOR 1,1,1,PATT
2,PATT1:' read new fill pattern
1090 GOSUB DRAWLITTLEBOX
1100 SCANX%=ORIGINALSCANX%:SCANY%=ORIG
INALSCANY%:GOSUB DRAWLITTLEBOX
1110 GOTO PRESSBUTON
1120 DRAWLITTLEBOX:BOXX%=168+SCANX%*30
:BOXY%=25+SCANY%*30
1130 LINEF BOXX%,BOXY%,BOXX%+22,BOXY%
1140 LINEF BOXX%+22,BOXY%,BOXX%+22,BOX
Y%+22
1150 LINEF BOXX%+22,BOXY%+22,BOXX%,BOX
Y%+22
1160 LINEF BOXX%,BOXY%+22,BOXX%,BOXY%
1170 FILL BOXX%+4,BOXY%+4
1180 SCORE=SCORE+1:GOTOXY 1,9:PRINT "C
URRENT SCORE=";SCORE:RETURN
1190 WHITEBOX:COLOR 1,0,1:SCANX%=ORIGI
NALSCANX%:SCANY%=ORIGINALSCANY%:GOSUB
DRAWLITTLEBOX:GOTO PRESSBUTON
1200 OOPS:A$="[1][YOU SELECT SENSING P
OINTS BY|POINTING THE MOUSE AT ONE|"
1210 A$=A$+"OF THE BOXES AT THE EDGE O
F|THE GRID AND THEN PRESSING|"
1220 A$=A$+"THE LEFT MOUSE BUTTON][ OK
]"
1230 A=VARPTR(a$):A1=INT(A/65536):A2=A
-(A1*65536):POKE ADDRIN,A1
1240 POKE ADDRIN+2,A2:POKE GINTIN,1
1250 GEMSYS (52):A=PEEK(GINTOUT):RETUR
N
1260 CHECK:GOTOXY 1,9:PRINT "
      "
1270 FOR SCANX%=1 TO 8:FOR SCANY%=1 TO
 8
1280 IF GRID(SCANX%,SCANY%)<>2.5 THEN
goto 1390
1290 GOTOXY 30,7:PRINT "YOU DETECTED"
1300 GOTOXY 30,8:PRINT "THIS BALL"
1310 FOR I%=1 TO 6
1320 COLOR 1,0,0 : PCIRCLE 179+30*SCAN
X%,36+30*SCANY%,5
1330 SOUND 1,15,6,6,0:WAVE 7,1,0,1000,
3
1340 COLOR 1,1,1,1,1:PCIRCLE 179+30*SC
ANX%,36+30*SCANY%,5
1350 SOUND 1,15,6,6,0:WAVE 7,1,0,1000,
3
1360 NEXT I%
1370 GOTOXY 30,7:PRINT "            "
1380 GOTOXY 30,8:PRINT "         ":GOT
O 1530
1390 IF GRID(SCANX%,SCANY%)=0.5 THEN S
CORE=SCORE+5
1400 IF GRID(SCANX%,SCANY%)<>2 THEN GO
TO 1530
1410 GOTOXY 30,7:PRINT "YOU FAILED"
1420 GOTOXY 30,8:PRINT "TO DETECT"
1430 GOTOXY 30,9:PRINT "THIS BALL"
1440 FOR I%=1 TO 6
1450 COLOR 1,0,0:PCIRCLE 179+30*SCANX%
,36+30*SCANY%,8
1460 SOUND 1,15,4,4,0:WAVE 7,1,0,1000,
3
1470 COLOR 1,1,1,1,1:PCIRCLE 179+30*SC
ANX%,36+30*SCANY%,8
1480 SOUND 1,15,4,4,0:WAVE 7,1,0,1000,
3
1490 NEXT I%
1500 GOTOXY 30,7:PRINT "            "
1510 GOTOXY 30,8:PRINT "            "
1520 GOTOXY 30,9:PRINT "            "
1530 NEXT SCANY%,SCANX%
1540 FOR T=1 TO 4000:NEXT T
1550 A$="[3][ YOUR SCORE IS "+STR$(SCO
RE)
1560 A$=A$+"| PLAY AGAIN ? ][ YES | NO
 ]"
1570 A=VARPTR(a$):A1=INT(A/65536):A2=A
-(A1*65536):POKE ADDRIN,A1
1580 POKE ADDRIN+2,A2:POKE GINTIN,1
1590 GEMSYS (52):IF PEEK(GINTOUT)=1 TH
EN GOTO GAMESTART
1600 DATA 2,4,2,22,3,3,3,21,2,9,2,14,2
,19,3,12
1610 DATA 2,7,3,2,2,10,2,16,3,9,2,11,2
,5,2,24,3,8
```

CYBER STUDIO



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Your Own Living CAD 3D Works of Art!

Cyber Studio for the Atari 1040 ST is an exciting real-time package which combines the versatile CAD 3D 2 with Cybermate, an advanced animation facility.

Cyber Studio provides you with the tools to create a virtually limitless range of 3D images - from cartoons and science fiction fantasy to designing a car or landscaping your garden! The package is ideal for illustrating the various dimension of objects viewed from different angles and plane - invaluable for both educational and practical usage.

Dimensioning can be either in metres or feet, allowing for relational scaling between objects and real world situations. Additional features include arbitrary rotation points and a custom colour rendering system with up to 16 colours. Total control of light sources enables you to cast shadows from your objects - just like natural light!

The Cybermate animation facility allows you to view complex objects in a continuous sweeping movement, showing all possible perspectives. Just imagine it . . . design your own house or castle - then fly round your creation for a bird's eye view!

You Created It . . .
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Want to get right in with the action on your screen? Well, now you can! These amazing Stereotek glasses will give you a startling view of your software, a 3D depth of vision you won't believe! As well as your screen adventures, enjoy your education and business presentations in glorious 3D too! Simply plug these hi-tech glasses into the cartridge port of your Atari 1040 or MEGA ST and get a whole new perspective on life.

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Please rush me your information sheet with full specifications of Cyber Studio.

Name _____

Address _____

Postcode _____

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ST eye in the sky

Ken Hughes takes a look at the technique of downloading weather pictures from space

AMATEUR weather forecasting conjures up visions of seaweed, pine cones and old grannies with rheumatism. However since February 1986 MicroLink subscribers with BBC Micros, Apples, PC clones or 8 bit Ataris have had the ability to download pictures taken by the NOAA 9 European weather satellite.

Now, thanks to two Bristol-based computer enthusiasts, Mike Cuff and Andrew Brown, Atari ST users can see the results of this ultra modern technology for themselves.

Mike Cuff works for the Avon Health Authority operating their massive Vax systems and doing all the trouble shooting required. He graduated to the ST by way of a Commodore Vic 20 and a BBC Micro. He now has an Atari ST with 512k of extra ram, two disc drives and colour and mono monitors.

Andrew Brown is a transport engineer for TNT Roadfreight and came into home computing with a Spectrum followed by a QL, Atari 800XL, Amstrad PC1512 and now an Atari 1040ST.

Their interest in weather pictures was kindled at a computer club in Yate, near Bristol, run by Jerry Charts. Andrew was giving a demonstration of computer communications. The WeatherLink program and a map file were downloaded and displayed on a BBC Micro.

The rivalry between the BBC faction and the Atari ST group showed itself through comments that the BBC Micro could do something the ST couldn't – the challenge was issued and the program, written in GFA Basic and using the low resolution screen mode, was born.

There are a vast number of improvements over the programs available for other machines. The conversion of the hex file into a picture file – and the display of the finished display – are done in the same program.

From the main menu screen of the program, weather maps can be saved to or loaded from disc, they can be printed out on your dot matrix printer or they can be saved in Neochrome or Degas format for working on further.

Perhaps the most useful new feature is the built in text editor. Due to noise on the telephone line, the valuable bytes of hex data can become corrupted during transmission. Until now, the only way around this problem has been to load the file into a word processor and make any necessary corrections.

With the editor being resident in the program, the changes to the corrupted bytes can be made without having to resort to other programs. Figure I shows the menu screen with the options available. Saving to disc in Neochrome or Degas format is achieved from View mode by pressing the N or D key.

```
Weatherlink Satellite Picture Utility
   (c)1987 M.P.Cuff and Micro Link

C - Convert Map      V - View Map
L - Load Map         S - Save Map
P - Print Map        D - Disc Space
H - Help             Q - Quit

Select option (C,V,L,S,P,D,H,Q)?
```

Figure I: Main menu screen

The pictures are provided for MicroLink by Kent schoolmaster Victor Young and the pupils of Swadelands School, Lenham, Kent. The school uses an aerial with circular polarisation to follow NOAA 9 every time it appears on the horizon, faithfully recording its signals until it disappears from view some 15 minutes later. This sequence occurs four times a day.

Live pictures produced by the weather satellite – it takes two at a time, one in visible light, the other infra red – clearly show part of the world from North Africa, through Europe and Great Britain up to Iceland.

The latest weather satellite – Meteosat – is also monitored at Swadelands. This takes pictures of water vapour as well as the two modes used by NOAA 9.

A zoom facility was developed by the Swadelands team, in conjunction with MicroLink, which allows for close ups of designated areas on the satellite maps.

Figure II shows the British Isles and Northern Europe about to be engulfed by a cloud mass approaching from the West.

Figure II: Clouds approaching Britain and Northern Europe

All data picked up by the aerial is channelled through a micro at Swadelands School before transmission to the MicroLink mainframe. The next stage involves a convertor which takes the image and readies it for transmission.

Once you logon to the WeatherLink section of MicroLink, all you need to do is pull down the picture file in expanded format, compress it using Mike and Andrew's program (also available for downloading from the WeatherLink menu), and display it on your monitor. □

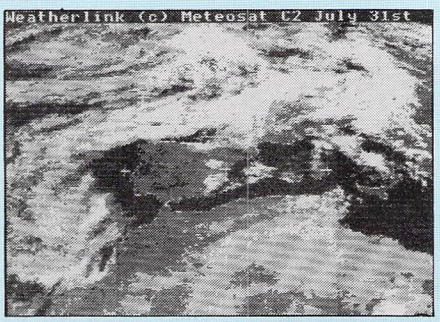


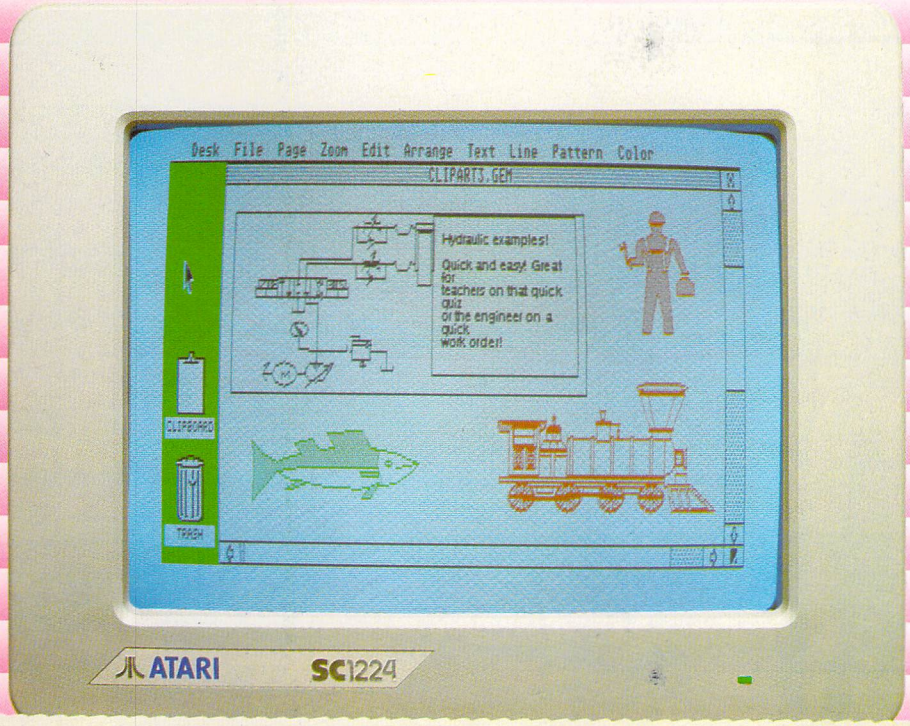
Figure III: North Africa, the Med and Southern Europe has sunshine

Victor Young can be contacted at Swadelands School, Lenham, Kent. ME17 2QJ (enclose a stamped addressed envelope if you want a reply). He can also be contacted on Telecom Gold 72:MAG95296 or Prestel mailbox 096032518.

Swadelands viewdata bulletin board is on 0622 850440, 0622 858304 and 0440 820002.

MicroLink can be contacted at Europa House, 68 Chester Road, Hazel Grove, Stockport. SK7 5NY. Tel 061 456 8383

EASY DRAW 2



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Picture Perfect Every Time With Easy Draw 2

Easy to use Easy Draw 2, enables even the novice ST user to create professional line drawings and diagrams in no time! Let Easy Draw 2 make your reports, essays and plans more effective - illustrate points, create a strong impression and remember that your picture will paint a thousand words.

No matter how limited your drawing skills are with conventional materials, with Easy Draw 2 you can create a shape then cut it, reflect it, or smooth it to create the design you want.

Easy Draw 2 is simply bursting with special features, including shadowing effects, the ability to flip mirror images horizontally and vertically, edit polylines or sketch objects, and then smooth or fragment them. To cut your layout time drastically, use the object alignment facility - centred, ranged right or left, or all equally spaced, the choice is yours!

Drawing is quicker
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High Quality Prints
are produced using either the 24 Pin Driver Pack or Laserjet Driver Pack which power Epson 24 pin matrix & HP Laserjet printers & compatibles.

With Font Pack 1
the annotations on your drawings can have a typeset quality with two new character sets - Rocky & Hi-Tech.

All packs are available through Softline.

Text? It's just as easy with Easy Draw 2! Type sizes range from 7 to 36 points, with a comprehensive range of styles. You have the option to load ascii files from your word processor and then add the style in Easy Draw 2.

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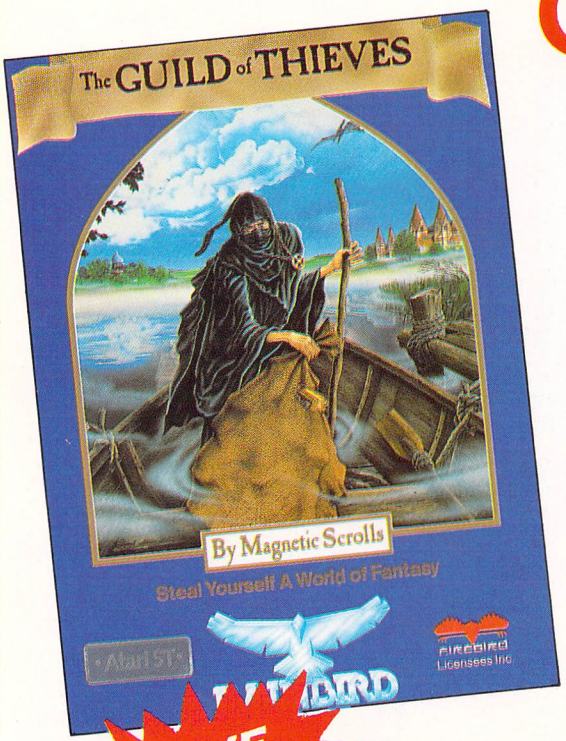
Guild of Thieves – it's a steal!

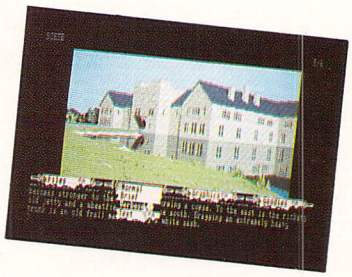


SAVE UP TO £9

GUILD of Thieves is the long-awaited follow-up to the award-winning adventure, The Pawn.

You're back in the fantasy world of Kerovnia, in the role of a novice thief who has applied to become a member of the illustrious Guild. To prove your worthiness you must ransack an island of all its treasures.

There are 29 beautiful illustrations, a massive vocabulary, and a text parser which is claimed to be more sophisticated than the parser in the Infocom adventures.



What you get:

- 400k disc
- Six-sided die
- Bank of Kerovnia credit card
- Adventure Guide
- Contract of Service
- What Burglar? 40-page magazine

"Guild of Thieves is a cracking adventure, even better in my opinion than The Pawn. Rainbird and Magnetic Scrolls are charged with combining superior illustrations, gripping text, teasing puzzles, and general good humour to produce an irresistible adventure."

– Brillig, Atari ST User, August 1987

Look at what the parser can understand:

Get all the bottles that are on the bar except the green one, open them and throw the contents of the bottle of whisky at the scar-faced man then quickly run through the door and hide under the bushes.

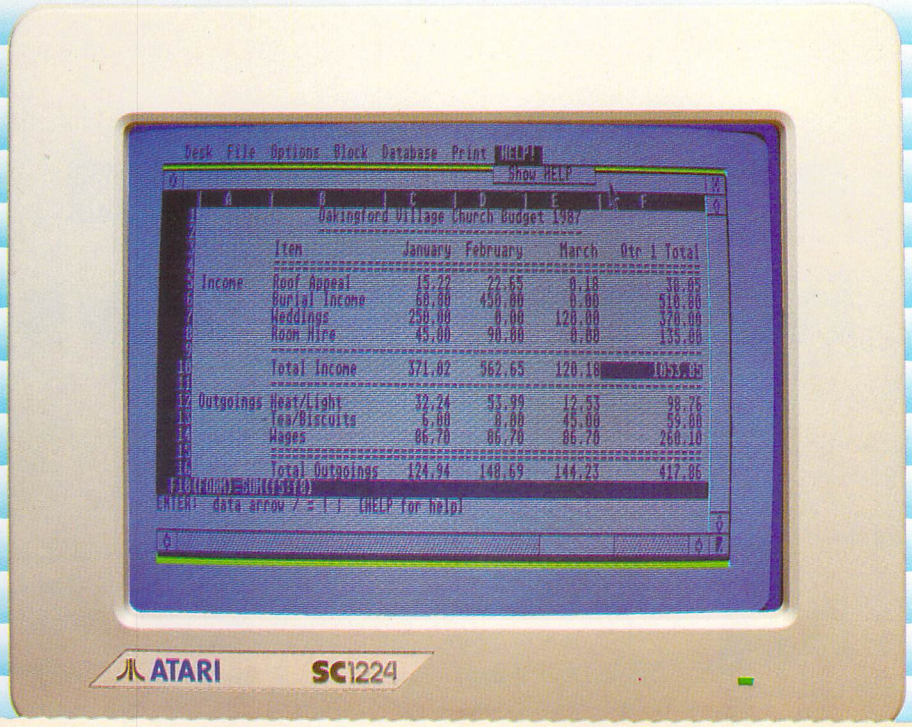
AND

Get the glass and the bottle and the shirt and use the shirt to tie the glass and the bottle together.

Suitable for	Product	Format	RRP	Special reader offer	YOU SAVE	Offer including subscription	YOU SAVE
Atari ST	Guild of Thieves	Disc	£24.95	£21.95	£3	£30.95	£9

TO ORDER, PLEASE USE THE FORM ON PAGE 77

SWIFTCALC-WORDWRITER-DATA MANAGER



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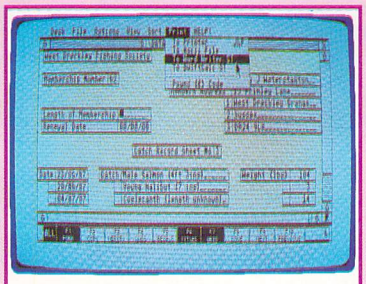
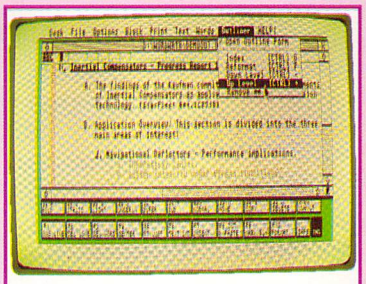


SwiftCalc ST

A powerful package that makes working with numbers for your personal or business plans fast and accurate!

The spreadsheet features SwiftSort, Swiftkeys, Cell Protection and Browse Mode, plus a windowing facility. Super Graphics mean you can turn your results into pie charts & graphs . . . useful for maths homework!



Data Manager ST

The comprehensive database system for general information storage & retrieval, report writing, graphics and label making.

Special features include quick access to important items, Exclusive Search & Sort features, Full Mathematical functionality, a name & address file, plus customised reports! Super Graphics mean you can output your results as pie charts and graphs!

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The complete professional word processing system, ideal for business reports, essays and budding novelists!

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Build your own complete library of business software products, all fully support GEM, all designed to interface with each other.

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Take a partner and make headline news

Bruce Smith reviews Publishing Partner – a powerful desktop publishing package

DESKTOP publishing is a topic very close to my heart these days, using it as I do to publish books with a colleague. Three years ago I couldn't have managed it, as the cost of traditional publishing is quite astonishing.

Of course, not everyone wants to write books, but virtually everyone will find a use for a good desktop publishing (DTP) package. Think for a moment. It can be used to produce club newsletters, circulars, small magazines and even fancy letters to impress your friends.

The idea is that by using a combined graphics and word processing package you can design and lay out pages of text and graphics – the page make-up.

Being a graphics-orientated package you can import illustrations you have prepared earlier or which have been taken from one of the many public domain clipart discs. You could even incorporate the splendid pictures that have been appearing in the Gallery in recent issues of *Atari ST User*.

Once you have designed your page or pages they act as master copies and can be used for photocopying or supplied to a printer as camera ready copy (CRC) from which he can print in the traditional manner.

Publishing Partner is a new DTP package from SoftLogik and distributed in the UK by Silica Shop. It is the second such package to be launched for the ST, following in the footsteps of Fleet Street Publisher which was reviewed in the May 1987 issue of *Atari ST User*.

The package contains four discs and a quite readable manual which itself was written using the software – a testimony to its abilities. Two of the discs contain the software itself – one for colour monitors and the other for monochrome. For general use the monochrome version is the best to use because of the higher resolution screen.

The colour version is only of real use if you plan to use colour printing techniques. You can supply the printer with colour separations, that is a separate sheet printed for each colour showing only the areas set in the colour.

9 Pin Dot Matrix:	Atari SMM804, Blue Chip M120, Cal Abco, C.Itoh, Citizen MSP, Mannesman Spirit–80, NEC 8023, Panasonic KXP, Star Gemini and SG, Star NX, Epson FX/RX/LX.
18 Pin Dot Matrix:	Okidata Microline 292.
24 Pin Dot Matrix:	C.Itoh C–715, Epson LQ/SQ, Toshiba P321, NEC P6/P7, NEX XL.
Laser printers:	Centronics PP8 LaserJet or compatible, QMS PS800, Apple LaserWriter.

Table I: Printers supported

Product: Publishing Partner
Price: £159.85
Supplier: Silica Distribution, 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX
Tel: 01-309 0300

Disc three carries the printer drivers and this caters for standard dot matrix printers which support the Epson standard, and more expensive laser printers. The final disc is from the public domain and contains clipart and a font editor. Both these discs are documented in small leaflets.

Publishing Partner needs every spare byte in your ST, and that means a minimum requirement of 512k with Tos in rom. Desktop accessories eat into this space so they must not be loaded with the system disc.

To ensure this you are advised to insert the Publishing Partner disc in the drive and then switch on. The program boots up surprisingly quickly and the screen shows a grid with the tool selection box running down the right-hand side of the screen.

Scroll bars are positioned along the bottom and up one side to allow you to move over the documents you are producing – the screen in effect becomes a small window onto the page.

The disc contains a sample and tutorial document. It is a good idea to play around with these and work through the description provided in the manual. Any temptation to go it alone should be avoided if you can.

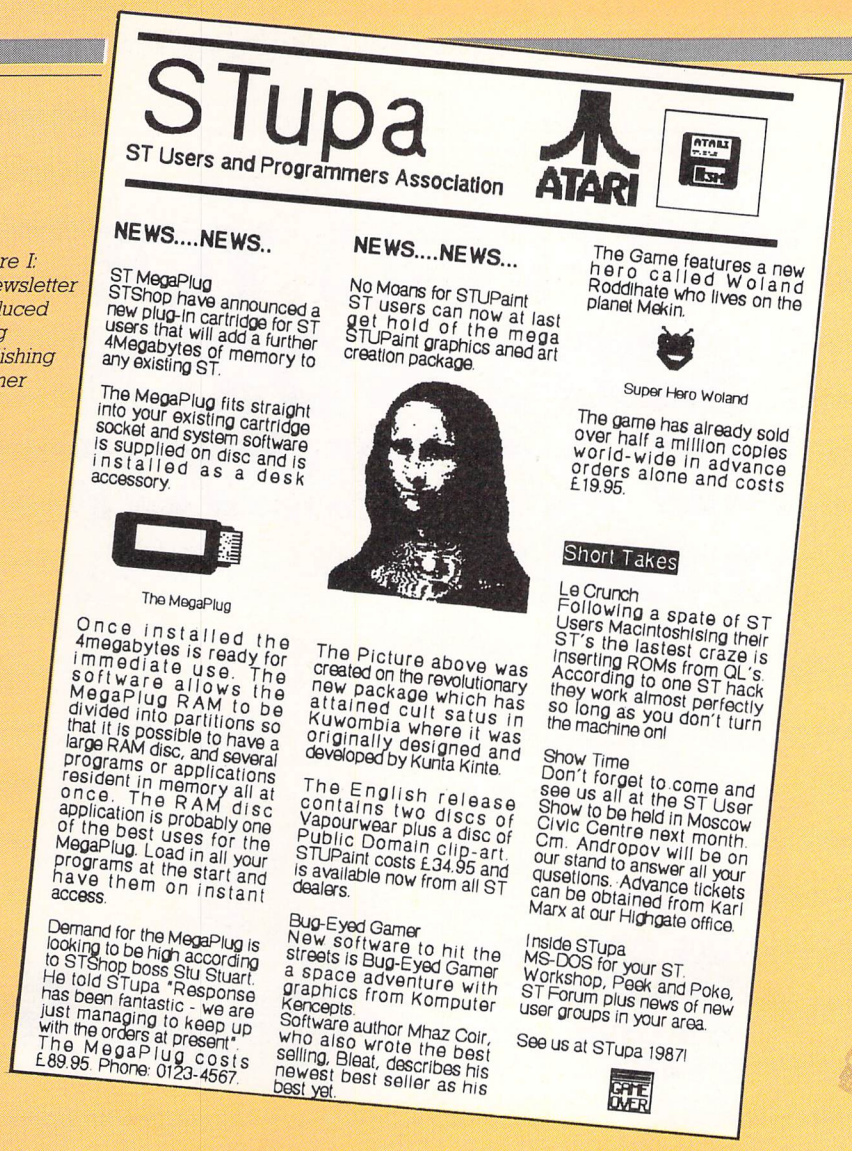
I have found from experience that a few hours working in this manner speeds up the learning process and lets you get to the actual publishing quicker in the long run.

As with any DTP package, before you start laying out your publication you need some material to work with. Text can be prepared in a wordprocessor and graphics created using a suitable drawing program.

Publishing Partner has a built-in word processing facility which includes many features like block operations such as search and replace. However, like most DTP packages containing word processors, it is a little slow to use and you tend to waste a lot of time experimenting with fonts rather than typing.

As it is not a dedicated word processor it lacks some of the finer points and features. I would recommend you use one of the many text editors or word processors and import the text into Publishing Partner.

To see how flexible the import text facility is I decided to experiment with files I had previously created using the View word processor on a BBC Micro. I



STupa

ST Users and Programmers Association

ATARI

NEWS....NEWS..

ST MegaPlug STShop have announced a new plug-in cartridge for ST users that will add a further 4Megabytes of memory to any existing ST.

The MegaPlug fits straight into your existing cartridge socket and system software is supplied on disc and is installed as a desk accessory.

The MegaPlug

Once installed the 4megabytes is ready for immediate use. The software allows the MegaPlug RAM to be divided into partitions so that it is possible to have a large RAM disc, and several programs or applications resident in memory all at once. The RAM disc application is probably one of the best uses for the MegaPlug. Load in all your programs at the start and have them on instant access.

Demand for the MegaPlug is looking to be high according to STShop boss Stu Stuart. He told STupa "Response has been fantastic - we are just managing to keep up with the orders at present". The MegaPlug costs £89.95. Phone: 0123-4567.

NEWS....NEWS...

No Moans for STUPaint ST users can now at last get hold of the mega STUPaint graphics aned art creation package.

The Picture above was created on the revolutionary new package which has attained cult satus in Kuwombia where it was originally designed and developed by Kunta Kinte.

The English release contains two discs of Vapourwear plus a disc of Public Domain clip-art. STUPaint costs £34.95 and is available now from all ST dealers.

Bug-Eyed Gamer

New software to hit the streets is Bug-Eyed Gamer a space adventure with graphics from Komputer Kencepts.

Software author Mhaz Coir, who also wrote the best selling, Bleat, describes his newest best seller as his best yet.

The Game features a new hero called Woland Roddlhate who lives on the planet Mekin.

Super Hero Woland

The game has already sold over half a million copies world-wide in advance orders alone and costs £19.95.

Short Takes

Le Crunch

Following a spate of ST Users Macintoshising their ST's the lastest craze is inserting ROMs from QL's. According to one ST hack they work almost perfectly so long as you don't turn the machine on!

Show Time

Don't forget to come and see us all at the ST User Show to be held in Moscow Civic Centre next month. Cm. Andropov will be on our stand to answer all your qusetions. Advance tickets can be obtained from Karl Marx at our Highgate office.

Inside STupa

MS-DOS for your ST. Workshop, Peek and Poke, ST Forum plus news of new user groups in your area.

See us at STupa 1987!

GAME OVER

Figure I: A newsletter produced using Publishing Partner

am a hopeless artist, so I cheated and stuck with the clipart supplied on the public domain disc – The end result is the STupa Newsletter shown in Figure I.

To start a new document, that option is selected from the file menu. At this point a dialogue box is displayed and you can set about designing your page layout – for example the number of columns on the page and the left and right margin sizes.

By default the measurement system is inches, but centimetres and picas (pronounced pie-kas) can be used. The last method is that used in traditional typesetting.

There are six picas in one inch and 12 points in a pica. Unfortunately Publishing Partner seems to have re-written the text books in implementing 10 points per pica which can be confusing.

The file menu contains an import option which will allow you to load Ascii text created in another text editor or word processor. This is processed and formatted, flowing through the columns starting at the current cursor position.

Any number of files can be imported on to a page – provided there is room of course. To complement the import option there is an export capability where text held in Publishing Partner can be written back to disc in Ascii format.

If the text is too long to fit in the available columns then a + at the end indicates there is more. It can be added to subsequent pages if required.

Once in position the text style – that is it's size and font – can be altered. The STupa sheet shows this to good effect – there are headlines of varying sizes. This is easily performed by first highlighting the text and then selecting the size and font from a dialogue box accessed via the style menu.

Highlighting is an easy technique to learn – simply place the cursor at the start of the text and then drag it along while holding the mouse button down. The highlighted text appears in inverse video.

The size of the characters can be ranged from 1pt (that's 1/72nd of an inch) through to 216pt in 1 pt increments. The STupa letter was set in 10pt text.

A wide range of text styles are available – 14 in all – and are based broadly on the Sans Serif font Helvetica.

Placing picture files is again, easily done. You must first import them using the PIC option which is accessed from an icon based menu – the toolbox – which runs down the righthand side of the screen. Any Degas or Neochrome picture can be loaded, though not in colour – they must be converted to black and white first.

The picture file or files are imported on to a blank screen and the one required selected and copied to a picture buffer. Returning to text mode the picture can then be copied across on to the page and positioned to suit.

If it doesn't fit too well, and it's likely not to, it can be resized to whatever you need. Other graphic facilities include lines from 0.5pt to 6pt thickness, 40 fill patterns and the abilty to draw circles and ellipses.

Once in position you can use the various line drawing tools from the toolbox to frame or partition sections of text or pictures.

Publishing Partner supports a degree of manual kerning, which is an important feature. This is the process where two characters are moved closer together so their "spaces" overlap. This reduces the amount of white space between them, producing a much neater style.

Look at the STupa headline in the STupa newsletter. The S and T have not been kerned and there is a gap between them. On the other hand the T and u have been kerned so the u has been moved left, invading the T's space. The result is more pleasing to the eye.

Printing your page or pages is straightforward, though time consuming. First the relevant printer driver must be loaded from the printer driver disc. A wide variety is available and they should meet all needs, although none were really suitable for my Citizen C120D.

Once loaded, the page can be printed out. As quad density graphics are used the process is slow and can take 10 minutes or so per page. On a nine pin dot matrix printer the resolution is 240 by 216 dots per inch and on a 24 pin printer 360 by 360 dots per inch.

A draft driver is available which dumps the page out in a few minutes, and this is best used for proofing pages. Table I contains a list of printers currently supported.

A view option is also available which allows you to see in minature on screen how the final page will look and thus reduces the need to continually print out the page. This is a What You See Is What You Get (WYSIWYG) display.

Publishing Partner contains many more facilities that space does not allow us to cover. Certainly it contains most of the ones available on the more expensive packages on the Macintosh and PC market.

The only real omission is hyphenation. This is where the program intelligently or manually splits words across two lines when producing justified text.

Publishing Partner is by far superior in operation and terms of what is on offer, to Fleet Street Publisher, where multiple page documents are not really possible easily and there is also a severe lack of printer drivers.

While it struggles to keep pace when compared to its more expensive Macintosh counterparts, Publishing Partner is ideally suited for the Atari ST. It is easy to learn and provides an excellent introduction into the world of personal publishing. □

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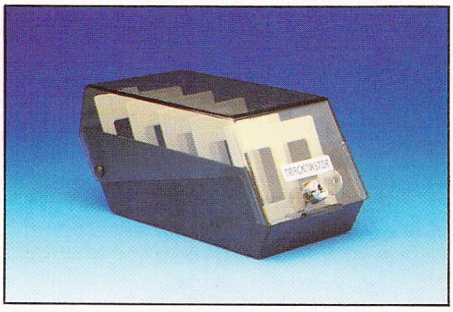

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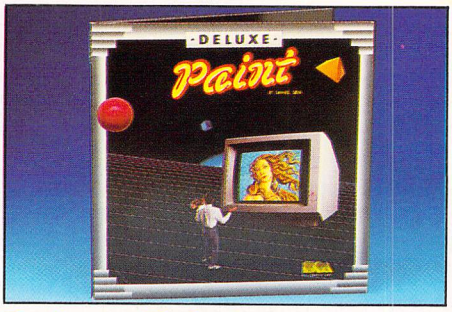
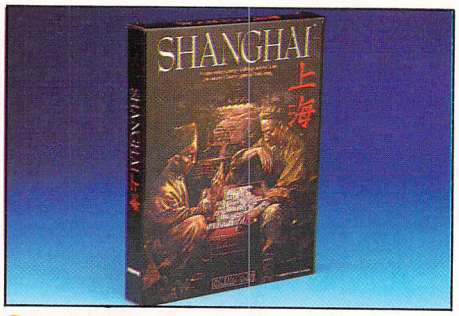


Deluxe Paint
This graphic art and paint package compliments the Amiga's capabilities totally and will add hours of sheer delight to your Amiga activities.
RRP....£90.99



Shanghai
A captivating strategy challenge derived from the ancient Chinese game of Mah Jongg. The exceptional 3D graphics of the Amiga add realism never before experienced on home computers.
RRP....£24.99

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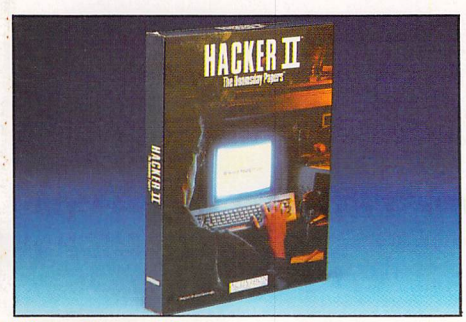
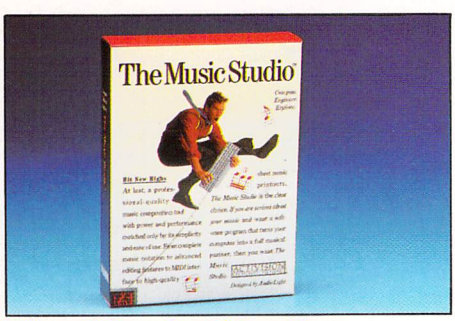


Hacker II

A popular strategy game simulating the infiltration of a high security complex somewhere in Siberia. Exciting and realistic when experienced on the Amiga.

RRP....£24.99



The Music Studio

This piece of software has been especially included in this pack, as it fully exploits the outstanding musical capabilities of the Amiga 500, giving you all the benefits of a professional sound synthesiser. Midi compatable.

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Inquire within

In Part III of his comms series David Atherton examines online databases

THIS month I will be looking at online databases, as along with electronic mail these are one of the main reasons why people use telecommunications.

Online databases are like electronic reference books. They usually consist of text information on a subject or group of subjects, and like a book you get an index to help you find the precise material you are looking for.

Where an online service differs from a reference book is that amendment is quick and easy – it usually involves altering a text file on computer rather than having to reprint a whole volume. This makes it much easier to keep information topical, so these databases are very good for such things as news services.

Connection to an online database is straightforward. Just like electronic mail services, you pay your subscription and are allocated a password and told the phone number, baud rates and so on.

You dial the number, make the connection, type your password, and you're online. You'll almost invariably get a menu and help sections telling you what to do next.

Unlike a book or magazine, the information contained on a database can be enormous. For instance, there are databases which contain complete or substantial texts of newspapers and other publications running back for some years.

The more wordy daily newspapers run to hundreds of thousands of words a week and this amounts to more than an average reference book.

These systems are usually run on mainframe computers with hundreds of Megabytes of storage space, but with advanced micros like the ST, it is possible to run an online database on a desktop computer and we'll discuss this in next month's article on bulletin boards.

With all this information available, you'll need to use an index to find what you are looking for. Some databases have a system called keyword search where you type the name of the item you require. The system will reply with a brief summary of what it has on that subject or keyword.

With most systems, the keyword must be one of those the system knows. A general system might know about France, travel and aircraft, but if you typed in "Flights to Paris" you wouldn't get the details, even though the required information is there. More advanced systems will actually match what you type against all the text on file.

Naturally only the fastest computers can manage this in any sensible timescale, but the feature is extremely powerful.

It is possible say, to search for text containing two given words, which might be unrelated, but could show interesting connections. An investigative journalist might ask a news database for all references to two named individuals, to see if they crop up in stories together.

This last example could be performed on World Reporter, a major news database available on MicroLink.

Specialist technical text databases exist for lawyers, medical practitioners, engineers in most fields, and for general research and on-the-spot information.

These are professional databases and although you don't have to be professional to use them, the connections costs, anything between a £1 and £5 a minute tend to put off casual browsers.

It can be worthwhile though. A television producer once told me he found some essential information in ten minutes on World Reporter which would have possibly taken his researcher several days to uncover.

Some of the systems are available through MicroLink, and a few are also available through Prestel. You dial MicroLink or Prestel as normal and type a special command to access the service.

This keeps billing simple and allows us to access the systems at local call rates, but the time charges are usually the same. However, the majority of professional and specialist online databases are dialled directly, usually on London numbers. Of course, if you're paying £2 a minute for your information, you aren't going to be too worried about the cost of the call.

A database of interest to home users is MicroLink, which I looked at in detail last month. A lot of people use MicroLink purely for the Telecom Gold electronic mail system, but there are many other features of the system.

TheatreLink and FloraLink allow you to book theatre tickets and flowers. The complete British Rail timetable is also there and unlike Prestel, the OnLine Airline Guide, listing all scheduled flights in and out of the UK.

There is a section for computer enthusiasts – including tile software programs for downloading directly into your ST. There are Sales and Wants and a Bulletin Board – the largest in Europe, but more about this next month.

Where MicroLink really scores is its specialised services. Budding desktop publishers may be interested in Wordstream, the ultra-low cost but totally

```
**********************************
          FloraLink
**********************************

     (c) Database Publications

Say it with flowers -- via MicroLink!
Send your order now using this simple
form and fresh flowers or plants will
be delivered to any address in the UK
or Eire.  Send before 12 noon (Monday
to Friday) and they will be delivered
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end of the form takes care of advance
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Please give your credit card details:

   BCD - Barclaycard
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   AMX - Amer. Exp

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     Gateways from MicroLink
**********************************
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 1 :   Mnematics
 2 :   Euronet Diane
 3 :   AIMS Database
 4 :   IDB Online
 5 :   Infocheck
 6 :   Jordan Watch
 7 :   Online Airline Guide
 8 :   World Reporter
 9 :   FinTech - Financial Times Pubs
10 :   Petroleum Monitor
11 :   Lotus
12 :   Kompass


1-12  R(edisplay  Q(uit
Select  :
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professional typesetting service.

For those bits of your production where even Publishing Partner just hasn't got the right font, for a few pounds you can get headlines or even main body text on bromide paper, for pasting down ready to take to your local printer. And I do mean ultra-low cost.

The last job I sent them was a heading and half a page of text – it cost less than £4. TypeNet is a whole range of text services, not just typesetting, but translation, proof-reading, and editing. MicroLink also has online legal and financial advice, and other professional help.

I mentioned above how some specialised services could be accessed through MicroLink. The other services you can connect to are known as Gateway services, as you pass through a Gateway from the MicroLink computer to their own computer.

What actually happens is the MicroLink computer dials a remote computer, and sits there passively sending on what you type, and sending back to you what the other computer issues. There are 12 Gateways on MicroLink at present – one of which will take you all the way to New York – and the number is growing all the time.

Most of these are fairly serious. There's the aforementioned Online Airline Guide and World Reporter. Jordans, FinTech, Kompass and Infocheck all offer company information.

AIMS is an information database on government grants for businesses. Lotus is a database run by the Lotus Corporation, the well known PC software supplier.

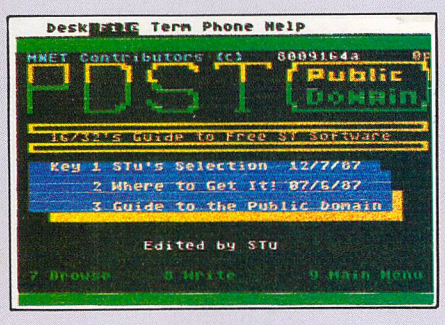
These things may not be of immediate use to you today, but it's good to know they are there and can be accessed at weekend or in the middle of the night, when conventional sources of information are locked away.

VIEWDATA

Prestel uses a display system called viewdata, which has 23 lines of 40 characters plus an extra line at the bottom for entering page numbers.

The characters can be text or graphics, but the latter is very low resolution, two pixels across and three pixels down in each character space giving a total resolution of 80 by 69.

Television teletext services use a similar format. It supports eight colours, which are usually represented as shades of grey for monochrome users, although this depends on your software. Prestel was until recently always transmitted at 1200/75 baud, although different speeds are in the process of being introduced.



The largest database available to the home user in Britain is Prestel. This is a huge service run by British Telecom, and contains material for many different people. The information is in viewdata format and runs to hundreds of thousands of pages.

Of course, because of the huge diversity of information, even a heavy user of the service may only use a fraction of these. For example, there is a complete travel booking section which is primarily intended for the travel trade – you've

probably seen viewdata terminals in travel agents' shops.

Individual Prestel users however, can use this section to book journeys, or even package tours, or just find out train or air departure times. Also there is a large section purely for farmers, and another for lawyers.

These professional areas are often part of a closed user group, meaning you have to pay an additional subscription on top of your standard Prestel charges. The Prestel computer knows which closed user groups you have access to and if you try to select a section you haven't subscribed to, you get a message saying "Private page".

Not all the information sections are aimed at businessmen. For the ordinary man in the street, there is a complete British Rail timetable, details of various other travel services such as National Coaches, several non-computer magazine sections, with general news, crosswords and quizzes, teleshopping with your credit card and so on.

There are government information sections which although a bit weak on detail, are very helpful in giving you the right addresses and phone numbers for contacting various government departments. A complete gazetteer of Britain gives you a potted summary of every reasonable sized town in the land.

A large section of Prestel is devoted to the home micro owner and is known as Micronet. It has a comprehensive news service, with about three or four new stories every day, a letters section, and areas devoted to many micros, known as the Microbases.

The Atari ST Microbase is relatively new, but already contains many interesting items, including hints and tips, games reviews, a section on public domain software (what's around, where to get it and so on), and news on the ever-growing range of ST micros.

There is a sub-section within the ST Microbase run by outside contributors called 16/32, which seems to be expanding even faster than the official Micronet section. At the moment you can't actually download ST software from Micronet, but it is expected that ST programs will be on offer very soon. □

PSS

Packet Switched Stream (PSS) is a British Telecom service which allows you to connect to remote computers at local call rates. This works like a gateway – everything you type is sent by PSS directly to the remote machines, and its output is passed back to you.

MicroLink is run on computers in London, so if you are anywhere else in Britain, you are offered local PSS numbers to use instead. When you dial in, you must first give your PSS account number and then the address of MicroLink. Subscribers are given a group account number and a standard address to use.

Prestel also uses PSS, although you don't see it – you simply dial a local number and Prestel appears. You can also have an open account on PSS where you can dial into hundreds of computers if you know their addresses.

There is a per-minute charge associated with PSS. The system is international, so you can access American and Australian computers for the price of a local call.

The charges go on your PSS bill – although they are nowhere near as high as direct international calls.

Adventures in a world of words

THIS year could well be renamed the Year of Infocom so far as adventurers are concerned.

Infocom shows no signs of flagging in its very high standards of quality or inventiveness, despite releasing more than its usual quota this year.

And here's news of three more: The first promises to break new ground for this company and should win an award for most original title of the year. It is called Nord and Bert Couldn't Make Head or Tail of It and is actually eight short stories with a common theme.

The tales all take place in a weird town called Punster which should give you a clue to the theme – the stories are all concerned with word play. The player's task is to restore order from chaos in Punster by deciphering messages choc-a-block with double meaning and semantic trickery.

Each tale is likely to take you several hours to complete, consisting of a number of devious word puzzles. No mapping is necessary – Nord and Bert is quite unlike anything Infocom has done before.

Running briefly through the tales, Shake A Tower is centred on Spoonerisms (Shake a Tower – Take a Shower) while Buy The Farm has its actions revolving round cliches.

In The Shopping Bizarre, you might discover that a hair is not a hair when it's a hare and in Play Jacks, you'll need to be sharp on all words beginning with "jac" – jackrabbit, jacknife...

When you visit The Manor Of Speaking you'll encounter rooms that have their own personalities, while Act The Part will bedazzle you with jokes so corny you'll think you're in the 1950s.

Eating crow and humble pie may be your forte in Eat Your Words. You'll need to complete this and the other six tales before you can Meet The Mayor in the finale.

It all sounds good family fun. Nord and Bert was written by Jeff O'Neill, he of the thoroughly entertaining Ballyhoo fame. Around about the same time, Plundered Hearts and Beyond Zork will be making their debut. More news of these anon, but what a feast to look forward to.

Now to the latest crop of letters. My thanks to Martin Walsh of Ripon and to Mr E.Ciaffarafa of Bradford for their detailed hints and tips on The Pawn. I shall make good use of them.

A.Walraven from Ballasalla wants some help with the rockfall and the Guru's desired ingredient. The answers can be found in this month's Hints and Tips.

Bureaucracy is troubling many readers, Graham Bell of Kirkby-In-Ashby among them. Trying to get some money for the taxi is a real stinker of a puzzle so look to Hints and Tips for the complete answer to this and another sticky matter.

Incidentally, I've finished Bureaucracy but ended up one point short of the maximum. Has anyone got a complete solution so I can identify what I missed?

In Hitch Hiker's Guide to The Galaxy, Gareth Davies of Coventry would like to know how to get the vector plotter, while John Bainbridge of Faversham would like to know the second word of the Vogon Captain's poem. The problems are connected and I am happy to provide the solution.

Finally, I am unable to assist Mrs S.Linnecor of Leeds who is stuck in Space Quest. She can't identify the two blocks in the left compartment near the spacesuit. Having reached the underground cave she is unable to get to the path above or to open the door at the end. Can anyone help?

Many readers have been wondering about my name, Brillig. If you'd ever read Alice Through the Looking Glass by Lewis Carroll you'd possibly be on the right track. In that book is a poem called The Jabberwock which starts:

"'Twas Brillig, and the slithey toves
Did gyre and gimble in the wabe; All mimsy were the borogroves, And the mome raths outgrabe."

So there you are – even Lewis Carroll wondered about me. Enjoy your adventuring.

HINTS AND TIPS

BUREAUCRACY

Need a cab fare?
Get a withdrawal slip in the bank, fill it in for $75 and give it to the deposit teller, together with the cheque for minus $75. Your bank balance will be credited with it as a positive amount. Now go to the withdrawal window and withdraw $75. Logically crackers, but this is Bureaucracy!

Stickers a puzzle?
Take careful note of the order in which you find the B,C,D and E stickers. It will become important later in the game when you gain possession of an unlabelled program cartridge. So far as I know, there is no A sticker.

THE PAWN

Blocked by a boulder?
Lever it out of the way with a couple of gardening implements tied together with an article of clothing. Essential ingredient missing? Adam's ale, of course. Try melting some cold, white stuff.

Program: The Lurking Horror
Price: £29.99
Supplier: Infocom, c/o Activision, 23 Pond Street, Hampstead, London NW3 2PN.
Tel: 01-431 1101

Keep the lights on

A FIVER to 10 Zorkmids you don't know what I'm thinking of when I say that the letters G.U.E. stand for something special in Infocom's latest adventure? All Zork fans will by now be shouting "Great Underground Empire" and queueing up to claim their five pounds. Well, start coughing up those Zorkmids, because you're wrong.

G.U.E. stands for the George Underwood Edwards Institute of Technology, which happens to be the setting for all sorts of nasty goings-on in The Lurking Horror, Infocom's first interactive horror adventure. It is author Dave Lebling's eighth adventure for Infocom – among his works are Spellbreaker, Enchanter and the Zork trilogy.

You are a student at G.U.E. Tech. and have braved a snow storm to get to the Computer Centre where you aim to catch up on an uncompleted paper.

It is late when you arrive and the storm has turned into a raging blizzard, trapping you inside. A hacker is sitting at a nearby terminal. As odd a character as he appears, at least he's human and will seem the epitome of normality compared with some of the inhabitants you will meet.

Once you've logged in to your terminal and started to access your files, it quickly becomes plain that something very strange is going on. Part of what you read suddenly causes you to plunge into a faint during which you dream a troubled dream.

On awaking, the visions seem more like a dreadful warning of events to come. Exploration of the campus confirms your growing fear. This is indeed a creepy place. Way down in the basement, you find a symbol-bedecked, blood-stained altar near a two foot square iron plate set in the floor.

The plate "looks like it could be slid open", and "A curious feature of the plate is that it has upward projecting dents in it which appear to have been punched from below". Slide open the plate and "A low guttural, growling and snarling issues from the opening." Something terrifying is stirring.

Climbing what you think is a slippery rope in another part of the complex leads to a further shock – wait until you see what it really is and what's on the other end.

Down in a tunnel you will be hard put to keep your nerve when a growing sound of squealing, scittering and scuttering tells you an army of rats is headed your way.

Elsewhere in the tunnel a tangle of cables winding its way along the roof looks ripe for chopping with an axe. You begin cutting them but the inner ones look different – dead white and slimy. Then you notice they are knitting back together again.

To spare your tender sensibilities, I won't tell you what horror is to be found under the peach tree inside the great dome. Nor will I relate what manner of foul creature swoops after you up there.

My lips will remain sealed on the terrifying ordeal and the evil manifestation within the enveloping black cloud in the Alchemy Laboratory. I will speak not of the zombies who "smile, revealing red broken teeth" and who "never stop their deep-voiced, incomprehensible chant".

The Lurking Horror is reminiscent of the ghostly and gruesome tales of M.R.James, H.P.Lovecraft and Stephen King, all rolled up with a leavening of humour.

Being brought up on a steady diet of horror comics, Hammer films and James Herbert novels, I didn't find the adventure particulary scary, but I'm sure a lot of people will find it the stuff from which nightmares are made.

The Lurking Horror is not all gloom, doom and gotcha. A can of Frobozz Magic Floor Wax (and Dessert Topping) makes an appearance and the top of the Great Dome is described as a favourite place for students "to install cows, Volkswagen Beetles, giant birthday candles and other bizarre objects."

The descriptions and puzzles are well up to the high standard expected from Infocom. The command parser and vocabulary, though still way above what most other programs offer in sophistication and breadth, does tend to creak here and there.

When I tried to unlock a padlock, I was asked "With what?" even though the only thing I was carrying was a master key. When I tried to read some posters, the response was "How do you do that with a posters?".

The Lurking Horror breaks new ground for Infocom. I am thoroughly enjoying it and I'm sure you will, too. Play it in the dead of night with only the glow from the screen for illumination for the best effect. But sleep with the lights on afterwards. □

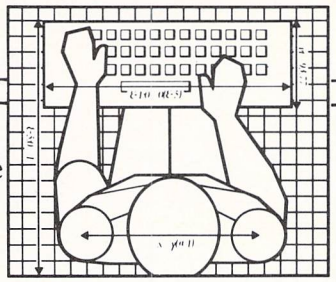
Presentation	***9***
Atmosphere	***8***
Puzzlement	***9***
Value for money	***8***
Overall	***9***

HITCH HIKER'S GUIDE

To get the vector plotter, you must first get the babel fish. Flick the switch and once you've heard and understood the message, listen and ENJOY the Vogon's poetry reading.

The lines of the verse come in a different order from game to game, as does the number of the word from the second verse so be careful. Once you've got the word, you can open the plotter case by typing the word on the keyboard. Be sure to put the word in quotes – TYPE "WORD" ON KEYBOARD.

LATTICE C 3.04



The popular, industry standard Lattice C compiler is now even better! We have introduced new features unique to Lattice C designed to help you take full advantage of the ST's power. The new Lattice C provides all the features you need in a great C compiler package, and it is compatible with Lattice C on the IBM-PC and other 68000 micros. This means easy to use, structured, powerful and portable programming – only with Lattice C.

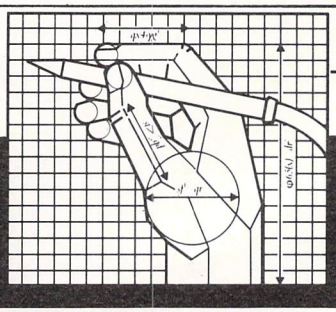
Version 3.04 features

"The Metacomco Lattice C compiler is excellent" ST User

■ High performance Lattice C compiler ■ Complete Kernighan and Ritchie implementation plus extensions ■ Full interface to GEMDOS, BIOS and XBIOS functions with documentation ■ Full access to GEM's VDI, AES and Line A functions with documentation ■ Full double precision floating point arithmetic ■ Optimizations to produce fast, compact code ■ Support for MC 68881 Maths Coprocessor ■ Libraries of over 320 UNIX and utility functions ■ Unique GEM shell command environment ■ Revolutionary Link/Loader for fast development ■ Symbolic Debugger and Disassembler ■ Resource Construction Editor ■ Make utility ■ Full GEM based screen editor with multiple windows ■ Completely new 600 page user manual with examples and tutorials

LATTICE C V3.04 only £99.95

PASCAL 2 NEW VERSION



Attention BASIC programmers! Now you can enjoy learning and using a really powerful structured language on the ST. Pascal 2 is a full development system to write blazingly fast Pascal programs which can use all the technically exciting features of the 68000 and the GEM environment. Pascal 2 is faster, more powerful and more versatile than BASIC, it has more useful features and its just as easy to learn.

PASCAL 2 now includes

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■ Very fast single-pass compiler with numerous extensions to standard Pascal giving unrivalled flexibility and power ■ Compiler extensions include separate compilation; conditional compilation; single and double precision floating point; include; external; random access files; dynamic strings; bitwise integers; binary, decimal, octal and hex integers and character constants; I/O error handling and many more ■ Emphasis on ease of use for beginners and experts.

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The last word

Simon Judge presents a powerful utility you can count on

ONE of the most widely used word processors for the Atari ST must be 1st Word, if for no other reason than that it was once bundled free with the computer. One criticism which can be made of this software is the lack of a word counter, a facility often required when writing reports, articles or reviews.

1st Count is a desk accessory that aims to fill that gap in 1st Word's otherwise excellent facilities. It works by counting the number of words in a saved 1st Word file and as a desk accessory, 1st Count is accessible from within 1st Word itself. This allows a word count to be performed after, for example, a Save and Resume.

Operation is simple: It is invoked by clicking the mouse pointer on the 1st Count option in the desk menu. You are then prompted for a filename via the familiar file selector dialog box. Once a document has been chosen the accessory performs a word count on the selected file.

A word count can only be performed on formatted 1st Word files. That is, ones which have been saved with WP mode on. Ordinary Ascii text files are not accepted. If the file does not exist or is not a formatted 1st Word file you will be told.

I do not propose to explain the inner secrets of Gem and C as you'll find a full description in Ray Jackson's guide to Gem programming. What I will describe is how desk accessories work and how Gem supports them.

When an ST is switched on or reset, it searches the disc for any files having the .ACC filename extension. These are desk accessory programs and up to six can be resident at any one time. It is the responsibility of each accessory program to place itself on the desktop menu using the Gem *menu–register* call. This also returns a number which is later used to identify the accessory.

The accessory must now wait for a message from another program to say that it has been selected from the desktop menu. A message is a special kind of event. Some desk accessories, such as a clock display, enable a window to be left open while the normal application continues.

In this situation, the accessory must detect a mouse click on its accessory window. This click is also a type of event. Other events are keyboard presses and timer interrupts. The latter facility allows you to set up a timer to cause an event every so often.

Luckily Gem handles events for us and it is only necessary to call the *evnt–multi* routine and examine a buffer to extract the type of event.

For the word count program things are even simpler. There are no windows and it is only necessary to detect message events. This is done using the *evnt–mesag* call.

Desk accessories remain operative until the computer is rebooted. This means that the accessory must enter a never ending loop, waiting for events and performing accessory tasks as appropriate.

The first stage in producing 1st Count for yourself is to type in the listing using an editor. Some editors are very crude and if you find the one supplied with your compiler does not use Gem, then I would suggest you use 1st Word. If you do this, do not forget to turn the WP mode off.

To compile the program you may have to click on the compiler program and then type a command line specifying the source filename (filename of what you have just typed in) and the object filename (what you want the resultant file to be called).

Alternatively, Megamax C users simply click on SHELL.PRG and from there on editing, compilation and linking are all controlled via easy to use dialog boxes. With so many compilers about, all I can suggest is that you read the manual accompanying your compiler.

Before the program can be run, the object file generated by the compiler must be linked with other object files that have already been written. Most compilers will again require a command line for the linker program.

It will be necessary to link in the Gem bindings and also an accessory library. This is not the same as the application library which is used for non desk accessory programs. For example with the Developer's kit you must link in *accstart* and with Megamax ACC.L.

Finally, after linking, the resultant program will be a .PRG file. This file extension will have to be changed to .ACC using the Show Info Gem Desktop option. You now have a new Desktop accessory. It should be placed on your 1st Word disc so that it is automatically loaded on booting the ST.

It's so useful you'll wonder how you ever managed without it.

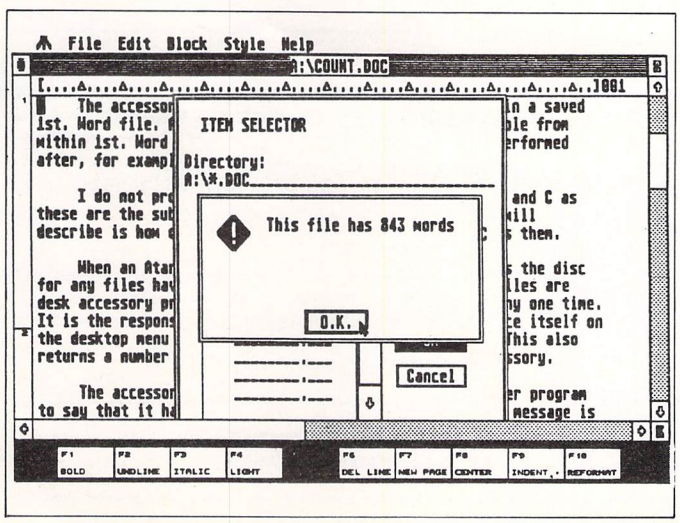

Figure I: Counting the words in a file

```
/*******************************
 * Word Count for 1st Word     *
 *-----------------------------*
 *       by Simon Judge        *
 *    (c) Atari ST User        *
 *******************************/

/*******************************
 * Include files               *
 *******************************/

#include <gemdefs.h> /* GEM declarations */
#include <stdio.h>   /* Standard I/O functions */
#include <string.h>  /* String functions */

/*******************************
 * Contants                    *
 *******************************/

#define TRUE    1 /* Boolean values */
#define FALSE   0
```

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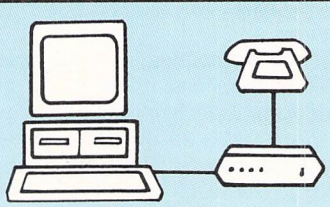
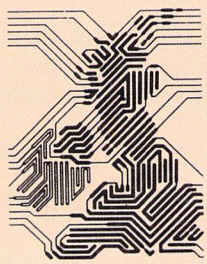


Typical comms packages	
A	*Haba: Miracle WS2000 V21, V23 modem + Kuma K-Comm software (£175)*
B	*Aaronfay: Pace Linnet V21, V23 modem + ST Easitalk software (£201)*
C	*Miracle: Miracle WS4000 V21, V23 modem + FaSTcomm software (£275)*
D	*Silica Shop: Miracle WS4000 V21, V23 modem + PC Intercomm software (£332)*
E	*Aaronfay: Trinitas Phasor V21, V22 modem + ST Datacomm II software (£413)*

All you need – apart from your Atari ST – is a modem, which plugs into your telephone wall socket, plus suitable communications software.

We have provided a list of typical combinations (left), ranging from the very cheapest to ones which can automatically dial the MicroLink telephone number and connect you directly to the service – all you have to do is type in your personal security password.

Whichever equipment you use, you will be able to call MicroLink, open your mailbox, save to disc any messages waiting for you, and disconnect in as little as two minutes.



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ST1

```
#define  tab    9 /* 1st Word Reserved Codes */
#define  line_feed 10
#define  page_break 11
#define  form_feed 12
#define  carriage_return 13
#define  style_change 27
#define  stretch_space 28
#define  indent_space 29
#define  variable_space 30
#define  format_line 31
#define  fixed_space 32

/*******************************
 * External Variables          *
 *******************************/

extern int gl_apid; /* AES Application identification */

/*******************************
 * Global Variables            *
 *******************************/

int phys_handle; /* physical workstation handle */
int vdi_handle;  /* virtual workstation handle */
int msgbuff[8];  /* event message buffer */
int contrl[12];
int intin[128];
int ptsin[128];
int intout[128];
int ptsout[128]; /* storage for bindings */
int work_in[11]; /* Input to GSX parameter array */
int work_out[57]; /* Output from GSX parameter array */
int dummy; /* dummy return variable */
int menu_id; /* accessory identification */

FILE *fp; /* file pointer */

/*******************************
 * Main Routine                *
 *******************************/

main()
{
appl_init(); /* Initialise the AES */
if(gl_apid == -1) exit(1); /* exit if init failed */
phys_handle = graf_handle(&dummy, &dummy, &dummy, &dummy);
menu_id = menu_register(gl_apid, "  1st Count");
do_accessory(); /* Perform the accessory */
}

/*******************************
 * Perform Accessory Tasks     *
 *******************************/

do_accessory()
{
int event;

do
{
event = evnt_mesag(&msgbuff);   /* Wait for message event */
wind_update(BEG_UPDATE);
if ((msgbuff[0] == AC_OPEN) && (msgbuff[4] == menu_id))
{
open_vwork(); /* Open workstation */
word_count(); /* Perform word count */
v_clsvwk(vdi_handle); /* Close workstation */
}
wind_update(END_UPDATE); /* Enable AES user interaction */
} while(TRUE); /* Repeat forever */
```


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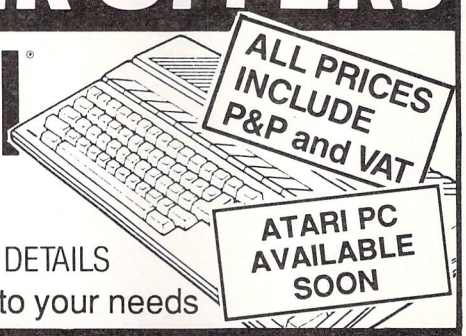

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How to join: See Page 48

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```
}

/*******************************
 * Open Virtual Workstation    *
 *******************************/

open_vwork()
{
int i;

for(i=0; i<10; i++) work_in[i] = 1; /* initialise work array */
work_in[10]=2;
vdi_handle = phys_handle;
v_opnvwk(work_in, &vdi_handle, work_out);
if (!vdi_handle) exit(1); /* exit if call failed */
}

/*******************************
 * Do the Word Count           *
 *******************************/

word_count()
{
int fs_iexbutton;
char fs_iinpath[30], fs_iinsel[30], filename [60],
message[50], number[8];

strcpy(fs_iinpath, "A:\*.DOC");  /* set pathname */
strcpy(fs_iinsel, "");   /* set default filename */
fsel_input(&fs_iinpath, &fs_iinsel, &fs_iexbutton);
if (fs_iexbutton)                /* if correct button pressed */
{
strcpy(filename, fs_iinpath);
strcpy(rindex(filename, '\\') + 1, fs_iinsel);
fp = fopen(filename, "r");     /* open file for reading */
if (fp == NULL)                /* if fopen unsuccessful */
{
strcpy(message, "[1][");     /* create alert */
strcat(message, filename);
strcat(message, " cannot be found.");
strcat(message, "][Exit]");
form_alert(1, message);      /* display alert */
}
else        /* fopen was successful */
{
skip_over_ruler(&error); /* skip over 1st. Word ruler */
if (error) /* if not a 1st Word file, indicate so*/
form_alert(1, "[1][This is not a FORMATTED|1st. Word file.]
[Exit]");
else      /* if it is a 1st. Word file */
{
strcpy(message, "[1][This file has "); /* create alert message */
sprintf(number, "%u", count());
strcat(message, number); /* include word count */
strcat(message, " words][ O.K. ]");
form_alert(1, message);  /* display alert */
}
fclose(fp); /* close file */
}
}
}

/*******************************
 * Skip over 1st. Word ruler   *
 *******************************/

skip_over_ruler(error) int *error;
{
int ch;

*error = (getc(fp) != format_line); /* check for format code */
while ((ch != ']') && (ch != EOF)) ch = getc(fp);
}

/*******************************
 * Get count                   *
 *******************************/

count()
{
int finish;
int temp_count = 0;


do
{
skip_space(&finish); /* jump over 'space' */
if (!finish) /* if not end of file */
{
skip_word(&finish); /* skip word */
temp_count = temp_count + 1; /* increment count */
}
} while (!finish); /* while not end of file */
return temp_count; /* function returns word count */
}

/*******************************
 * Skip space between words    *
 *******************************/

skip_space(finish) int *finish;
{
int ch;

ch = getc(fp); /* get character */

/* if it is a control code and not end of the file */
while (isctrlcode(ch) && !feof(fp))
{
/* if page break then read over next data character */
if   (((ch == page_break) || (ch == style_change))
     && (!feof(fp))) ch = getc(fp);
ch = getc(fp); /* get a character */
}
*finish = (feof(fp)); /* end of file ? */
}
```

This is one of hundreds of programs now available FREE for downloading on

MicroLink

```
/*******************************
 * Skip over word              *
 *******************************/

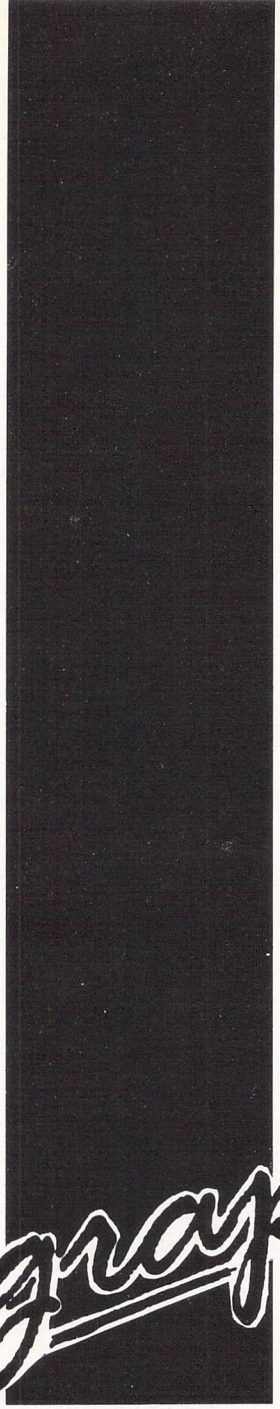
skip_word(finish) int *finish;
{
int ch;

ch = getc(fp); /* get character */

/* if it is not a control code and not end of the file */
while (!isctrlcode(ch) && !feof(fp))
    {
    /* if style change then read over next data character */
    if ((ch == style_change) && (!feof(fp))) ch = getc(fp);
    ch = getc(fp);   /* get character */
    }
  *finish = (feof(fp));
  }

 /*******************************
  * Function to test if character *
  * is a control code           *
  *******************************/

int isctrlcode(ch) int ch;
  {
  return ((ch == tab)||(ch == page_break)||(ch == style_change)||
         (ch == stretch_space)||(ch == indent_space)||
         (ch == variable_space)||(ch == fixed_space)||
         (ch == line_feed)||(ch == form_feed)||
         (ch == carriage_return));
  }
```



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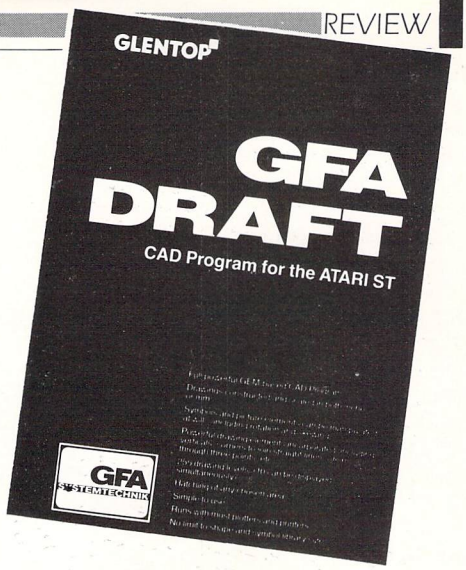
Taking the right line



Alan Goldsbro examines GFA Draft and draws his own conclusions

THERE are times when art programs such as Degas are simply inadequate for a particular task and a full blown Computer Aided Design (CAD) application is either too expensive to buy or too difficult to use without professional help.

GFA Draft attempts to strike a happy medium. It is a powerful Gem based drafting program, not dissimilar from the other drawing packages available for the ST, but has the added features of automatic scaling, user definable symbols stored independently from drawings, rotation and skewing of drawings and symbols, 255 drawing levels and comprehensive printer and plotter output routines.

There are so many splendid features contained within the package, two menu bars are needed. The first holds six pull down menus and the second has another five. Some of the options are simple toggles, others have a range of further commands or options encapsulated.

The maximum amount of drawing area available is a vast 658mm by 658mm, not quite A3 size paper, but adequate enough for most people's needs. The actual work area is a window 153mm wide by 88mm high. Moving around the whole picture is achieved by either using the slider bars or double clicking on the screen.

Four types of line are available: Solid, short and long dashes and dotted. None of the styles are definable although the line width can be altered from 0.3mm to 4.5mm in steps of 0.3mm.

Lines can be locked together (snap to nearest) and by using the squaring command, small errors in placing the line exactly vertically or horizontally are ignored. Additional features are break line (separate joins) and trim line (cut off overhang).

Many special commands are contained in the window menu. A window can be opened and dragged over any object and various functions applied to it. Copying, moving, deleting, rotating, skewing, stretching, compressing are just some of the possibilities.

You can zoom in and out on any object in the window by a factor of between 0.01 and 9.99. Factors less than 1.00 reduce the contents while factors greater than 1.00 enlarge them.

Symbols are drawings created then windowed and saved to disc for later use. There are five folders of ready made symbols stored on the accessory disc which can be included in any drawing. A handy feature enables you to assign a function key to load a symbol instantly.

Complex graphics functions are held in the options menu. Selections here include basic commands for drawing rectangles, circles and ellipses.

Special commands include the circle and ellipse segment procedures and drawing a curve by plotting three points and letting the computer calculate the arc.

Corners can be rounded off between 1mm and 99mm, perpendicular lines can be pulled from existing ones to form right angles or any angle of your choice.

Hatching is achieved by selecting the type of line, the angle of display and the width between each line, cross hatching can also be defined by the same method.

Construction lines (little lines projecting from the drawing) are easily drawn. Between these, you can automatically place dimension lines complete with selectable arrowhead and actual dimensions.

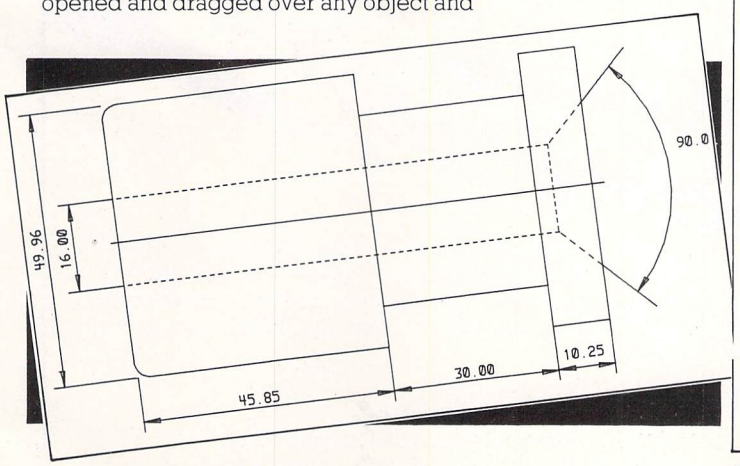
The final menu on the first bar looks after the drawing itself. Three of these relate to zooming, moving and deleting the drawing. Setting the scale is undertaken from this menu and the range is from 1:1 to 1:1000. The drawing can be rotated in 90 degree steps.

Grids ranging from two to 16 spaces help you position articles and symbols. Up to 255 drawing levels can be selected, but only 10 can be displayed on screen at any one time.

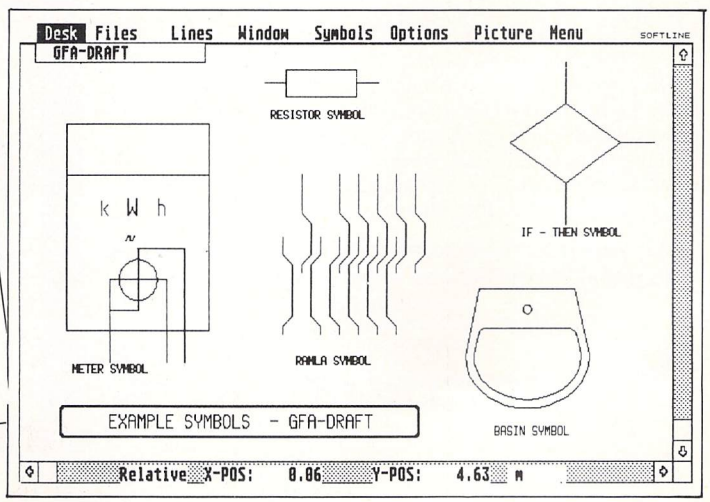
Three types of coordinates are available. The default is absolute and these are shown relative to the whole drawing, the next is relative and these are seen relative to the last clicked point, finally distance is shown as the actual length of the line. The cursor position on the drawing is shown at the bottom of the screen.

Moving on to the second menu bar you are presented with comprehensive printer and plotter routines. Paper sizes can be entered to determine the position of the drawing. If required it can be rotated through 90 degrees at the printing stage. In order to position it in the optimum place on the paper an offset from the left hand edge can be specified.

Lines can be printed either at their actual thickness or in the standard thin lines as shown on the screen. The output ▷



Creating scale drawings



Some of the symbols provided

◁ can be enlarged or reduced in size, the zoom factor can be reduced to quarter size or increased to four times the original. If you have a colour printer or plotter, each drawing level can be produced in a different colour.

The actual print density range is from draft (a single pass of the printhead) through double (two passes) to triple (three passes). The quality of this last option is superb giving curves a really smooth look.

If the drawing is larger than your paper, the software will automatically wait for you to insert a fresh sheet of paper into the printer before continuing with the output. There isn't a density option for the plotter routine.

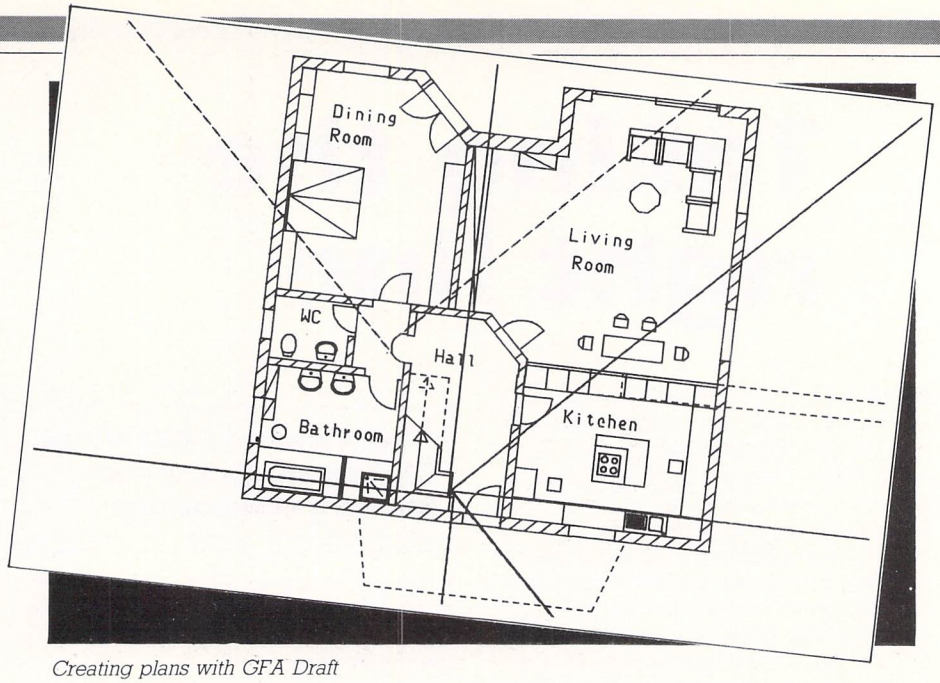
The preset menu toggles the cursor from a crosswire which stretches across the complete screen to a small cross. It can be moved by the mouse and cursor keys plus preset positions can be jumped to by pressing Alternate key plus a cursor key.

There are four character sets stored on disc but only two can be held in memory at once. Text can be increased or decreased in size for any drawing regardless of scale. To make it fit in, it can be rotated and reflected – producing a mirror image.

You can erase objects using the Backspace and Delete keys, while Undo will re-display the last thing deleted. Large scale erasing is achieved by dragging a window over the area and deleting the contents.

There are further combinations of erasure which refer to text or lines only. This is handy when you wish to delete some text overlaying an object, but leave the object itself intact.

Overall GFA-Draft is an excellent program. It can take some time to get into the swing of things, but once you begin to master it you'll find that designing complex objects such as electronics diagrams and house plans are not as difficult as first envisaged.



Creating plans with GFA Draft

Product: GFA-Draft
Price: £99.95
Supplier: GLENTOP Press, Standfast House, Bath Place, Barnet, Herts. EN5 5XE
Tel: 01-441 4130 □

Super Directory

Super Directory is a powerful but easy to use disk cataloguing program which runs under the GEM operating system. It allows you to keep track of all your floppy and hard disk files in a very convenient format.

Super Directory has the capacity to add a remark of up to 25 characters to each disk file entry. The remark can be used to identify what each file contains, or what its function is.

***Super Directory* features many useful commands:**

Find: Makes it easy to locate files in your collection. Finds the next occurence of matching records using the Search masks. *Super Directory* is also capable of full use of wildcards and dummy characters.

Load: Loads specified data file from disk to memory.

Print: Sends all matching records to the printer instead of the screen.

Disk: Finds the next disk in the data file. Allows you to step through records by disk number.

Path: Allows you to step through your data files by pathname.

Sort: You can sort records by category, disk number, extension, filename, pathname or remark.

Editor: Allows user to edit records.

And More! End hours of headaches caused by the tedious search through your file collection.

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RSD

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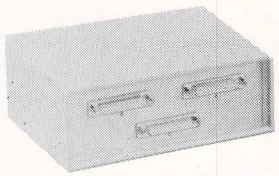

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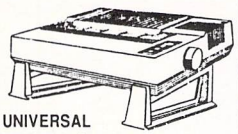

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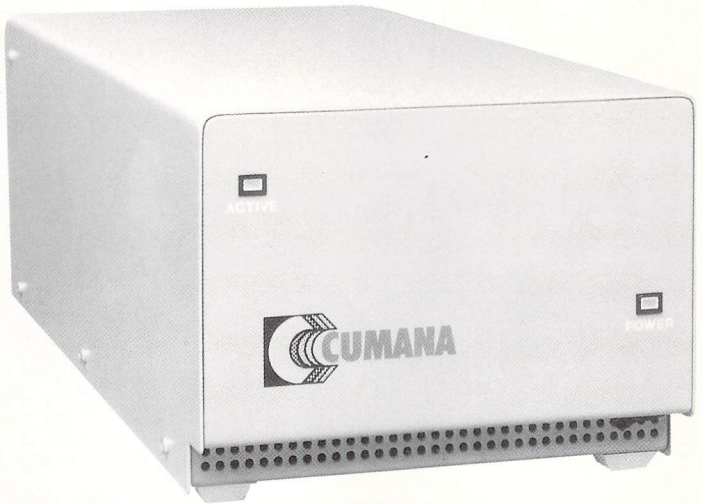

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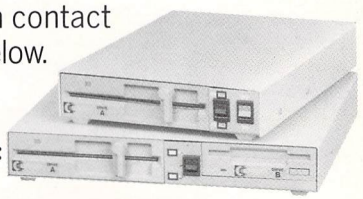

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STuff

By Timothy Purves & J. Weaver Jr.

Factory Programming and MichTron, Inc. are pleased to announce the release of STuff for the Atari ST computers. STuff is a package of 21 different utility programs for all ST users, from the novice to the professional programmer. The programs included are:

512K – "locks out" system RAM to run memory-sensitive programs.

AUTODATE – sets the system date and time without a clock card.

AUTOFOLD – changes the execution order of AUTO folder programs

AUTOGEM – autoboots a selected GEM program from the Desktop

CAPSLOCK – avoids accidental activation of the CapsLock key

FC – compares binary data files, displaying the differences

FDEL – deletes files with no chance of unauthorised recovery

FILELOCK – encrypts and decrypts disk files for maximum security

GREP – searches text files for selected character strings

HARDAUTO – runs AUTO folder programs from the hard drive

HEADER – displays technical information about program files

HEX – displays binary data and program files in hexadecimal

HIGH – allows other AUTO folder programs to run in medium rez mode

KEYCODE – displays keyboard scan and ASCII codes for selected keys

KEYCOMBO – sets up 4 "hot keys" for screen, printer and reset functions

ONEHAND – allows one-handed use of Alternate, Control and Shift keys

RESET – flushes memory completely whenever the system is rebooted

STSELECT – selectively enables AUTO folder programs and desk accessories

TOUCH – sets the date and time of selected files

UNHIDE – sets or resets disk file attribute flags

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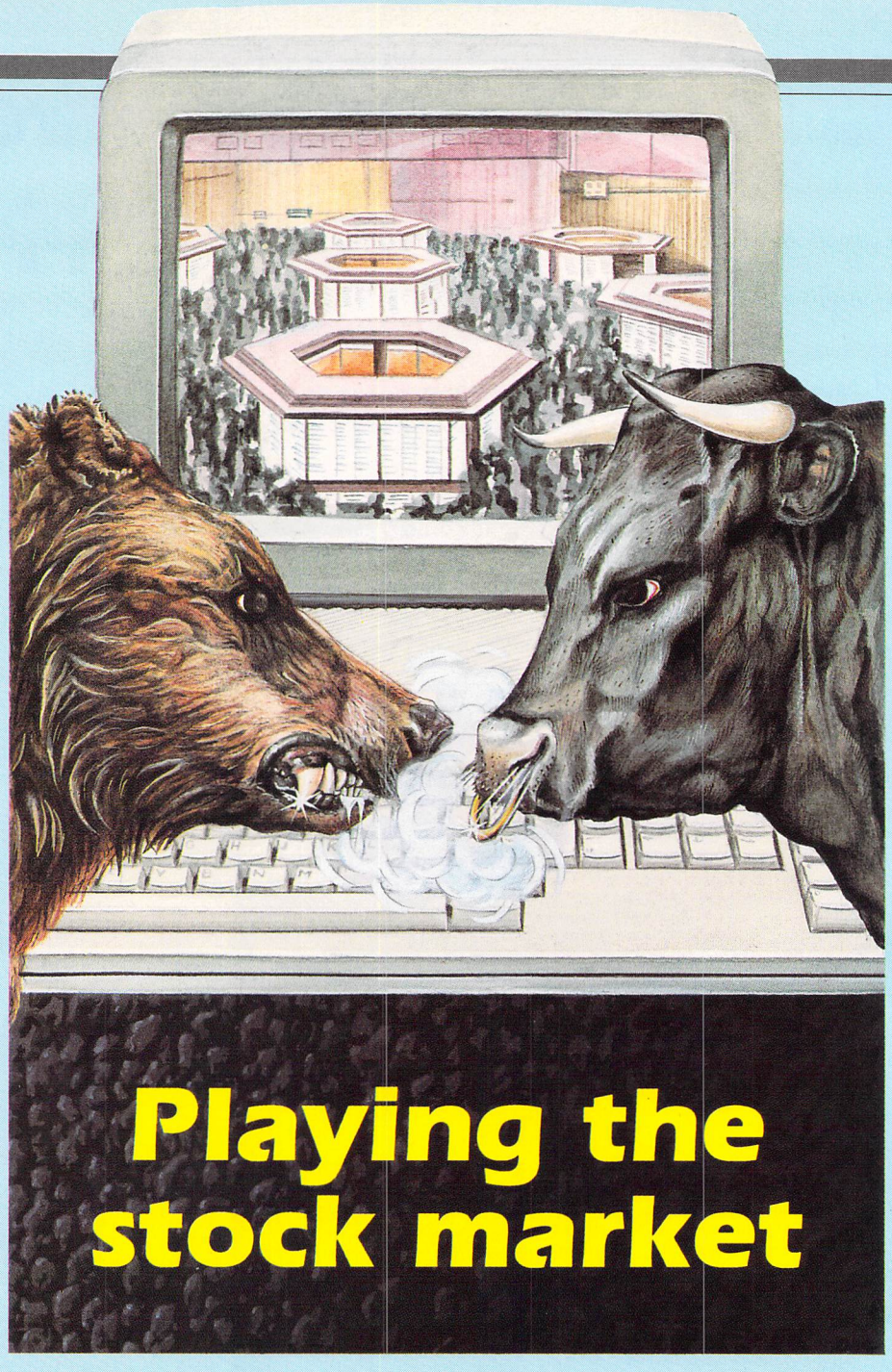


Playing the stock market

Guide your investments past bulls and bears with Miles Hitchen's Portfolio Manager

HAVING won a fortune with last month's pools predictor program, you may well want to store some of your nestegg away for your old age.

If you decide to do this by investing on the stock market, you will need to keep track of your shares and bonds so you can buy and sell at the most advantageous prices.

Portfolio is a simple database which manages the information you enter into it in such a way as to give you the statistics you require – when you need them.

It is another example of random access files being used to create a very simple, yet flexible filing system. The program has been written in Fast Basic and makes the most of the ST's Gem environment. A high resolution monitor is required to view the display.

After typing in and saving the program, run it and enter in the details of your existing shares – name of stock, purchase date, price and so on. A file called PORTFOL.DAT will be created and this will be used to hold the details of all your current and future investments.

Data entry is quite simple: Dates are entered over examples to show the correct format – in fact for the current date all you need do is press Return three times.

Your records can be scrolled up and down using the cursor keys. The topmost record displayed is always the current transaction and when you choose Sell or Analyse from the menu, it is this record that will be used.

Table I shows the record structure of the file. Each one is 42 bytes long and you can see from this how the space is allocated.

Portfolio is a very useful application of random access filing. It can be used as it stands, but there's also plenty of scope for improvement. Here are some suggestions:

When comparing the investment performance against the fixed interest rate, no account is made of taxes. The results can be adjusted by having a menu option to input your current rate of tax. Another option could be added to work out your capital gains for any year requested.

In this program, simple interest is used rather than compound. You may like to incorporate an option to select between the two types.

Some general additions you may like to add are an error correction facility, error trapped input to allow only variables in the desired range to be entered and a file selection routine to allow different portfolio's to be stored.

This program forms a strong foundation on which to build. The beauty of the database is that it can be structured to match your exact requirements.

Variable	Function	Length
n$	Name of security	14
n(0)	Purchase date	4
n(1)	Sale date	4
n(2)	Number purchased	4
n(3)	Purchase price in pence	4
n(4)	Sale price in pence	4
n(5)	Debit in pounds	4
n(6)	Credit in pounds	4

Table I: File format.

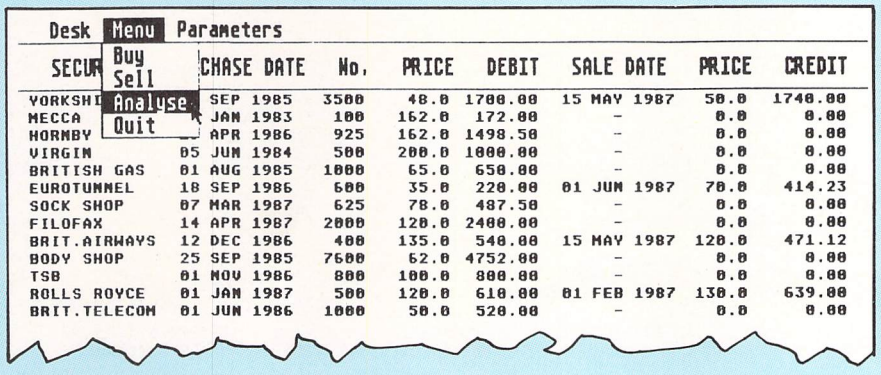


Figure I: Select analyse option

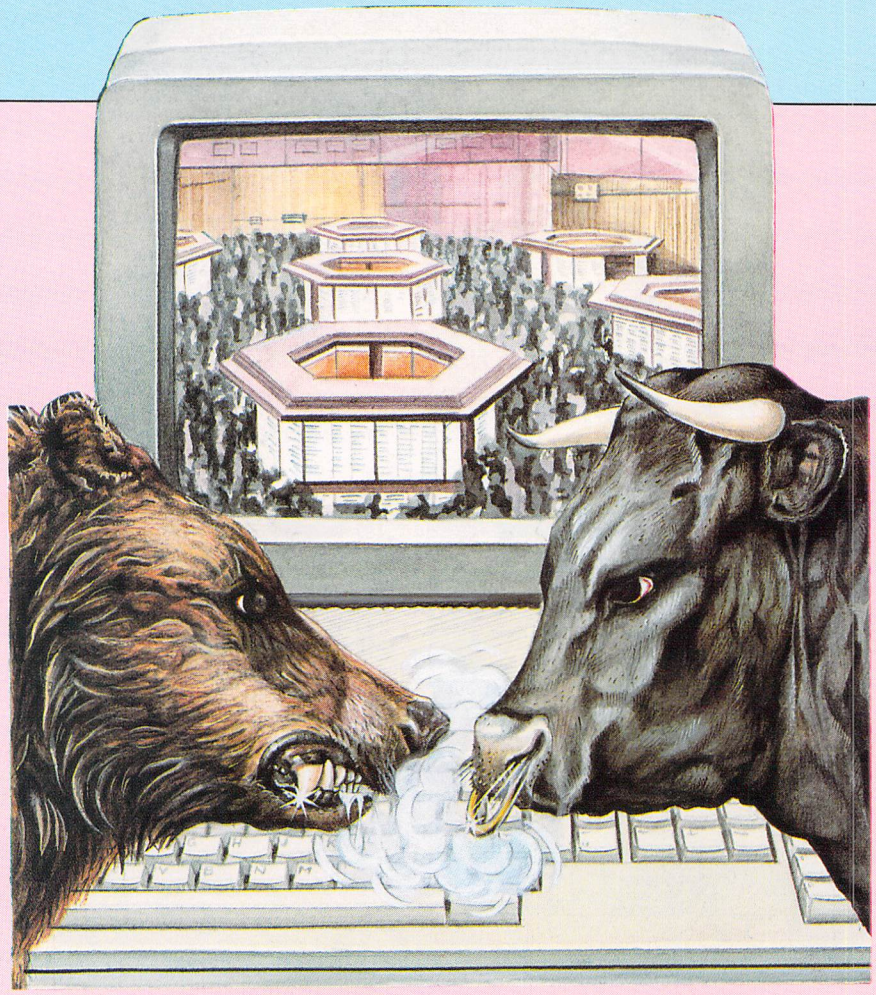
VARIABLES

p&()	Parameter buffer
m&()	Message buffer
t&()	Desktop object tree
m$	Menu installation string.
n$	Name of security
lenrec	Length of each record
date&	Encoded date

PROCEDURES

init	Initialise.
event	Wait for an event
menu	Perform a menu event
put	Write record to file
printrec	Read record from file
calc	Analyse current record
scroll	Scroll record down

```
  10 REM Portfolio Manager
  20 REM by Miles Hitcham
  30 REM (c) Atari ST User
  40 REM Written in Fast Basic
  50 REM
  60 REM Do NOT enter line numbers
  70 REM
  80 PROCinit
  90 q=0
 100 REPEAT
 110 PROCevent
 120 UNTIL q
 130 CLOSE#file
 140 END
 150
 160 DEF PROCinit
 170 CLOSEWIND OUTHANDLE:DELETEWIND O
UTHANDLE:CLOSEWIND IMMHANDLE:DELETEWIN
D IMMHANDLE
 180 FOR k=1 TO 10:CLOSEWIND SEGHANDL
E(k):DELETEWIND SEGHANDLE(k):NEXT
 190 RELEASEMOUSE
 200 DIM p&(22),m&(15),t&(11),n(6),d&
(13,1),m$(12)
 210 RESTORE d1
 220 FOR k=0 TO 15:READ p&(k):NEXT
 230 d1:DATA %110011,1,1,1,0,0,0,0,0,
0,0,0,0,0,0,1000,0
 240 m$="[  About Portfolio ][ Menu |
 Buy \ Sell \ Analyse \ Quit ]"
 250 m$=m$+"[ Parameters | Present  D
ate = 06 MAY 1987 \ Interest Rate = 7%
 ]"
 260 BEGINUPDATE:MENU m$:ENDUPDATE
 270 sw=SCREENWIDTH:sh=SCREENHEIGHT:G
RAFRECT 0,0,sw,sh:TXTRECT 0,0,sw,sh
 280 GETWINDWORK 0,xd,yd,wd,hd
 290 RESTORE d2
 300 FOR k=0 TO 11:READ t&(k):NEXT
 310 SETDESK @t&(0),0
 320 d2:DATA -1,-1,-1,20,0,0,0,%00010
00110000111,xd,yd,wd,hd
 330 DRAWOBJECT @t&(0),0,10,xd,yd,wd,
hd
 340 PROCinitdate
 350 file=OPENUP "PORTFOL.DAT":lenrec
=42:recs=EXT#file/lenrec
 360 rate=7:pdate&=14371:c=recs
 370 HIDEMOUSE
 380 TXTSIZE 13
 390 TXTXPOS=25:TXTYPOS=27:PRINT"SECU
RITY   PURCHASE DATE   No.   PRICE   D
EBIT   SALE DATE   PRICE   CREDIT"
 400 TXTSIZE 6
 410 LINE 0,50 TO 639,50
 420 FOR r=c TO c-27 STEP -1
 430 IF r>0 THEN PROCprintrec(r,42+12
*(1+c-r))
 440 NEXT
 450 SHOWMOUSE
 460 ENDPROC
 470
 480 DEF PROCevent
 490 WAITEVENT @p&(0),@m&(0)
 500 BEGINUPDATE
 510 w=p&(16)
 520 IF w AND 1 THEN
 530 SWITCH p&(21)>>8
 540 CASE 80
 550 IF c<recs THEN PROCscroll(12):PR
OCprintrec(c,54)
 560 CASE 72
 570 IF c>1 THEN PROCscroll(-12)
 580 IF c-27>0 THEN PROCprintrec(c-27
,378)
 590 ENDSWITCH
 600 ENDIF
 610 IF p&(16) AND 16 AND m&(0)=10 TH
EN PROCmenu(m&(3),m&(4))
 620 ENDUPDATE
 630 ENDPROC
 640
 650 DEF PROCmenu(t,i)
 660 HIDEMOUSE
 670 SWITCH i
 680 CASE 13:k=ALERT("[0][      PORTF
OLIO| |A Stockmarket Program| |Written
 By  M.Hitcham| |][OK]",1)
 690 CASE 22:PROCbuy
 700 CASE 23:PROCsell
 710 CASE 24:PROCcalc
 720 CASE 25:q=1
 730 CASE 39
 740 GRAB 0,0,sw,sh:CLS
 750 PRINT TAB(23,24)"Present Date ="
 760 PROCindate(308,192,pdate&):pdate
&=date&
 770 CHANGEITEM i," Present  Date = "
+FORMAT$(d,"DDX")+LEFT$(m$(m),3)+" "+S
TR$(yr)+" "
 780 PUT 0,0,3
 790 CASE 40
 800 GRAB 0,0,sw,sh:CLS
 810 PRINT TAB(23,24)"Interest Rate(%
) = ";
 820 INPUT rate
 830 CHANGEITEM i," Interest Rate = "
+STR$(rate)+"% "
 840 PUT 0,0,3
 850 ENDSWITCH
 860 INVERTTITLE t,1
 870 SHOWMOUSE
 880 ENDPROC
 890
 900 DEF PROCput(r)
 910 PTR#file=r*42-42
 920 PUTREC#file,n$ ON 14
 930 FOR k=0 TO 6:PUTREC#file,n(k):NE
XT
 940 PROCprintrec(c,54)
 950 ENDPROC
 960
 970 DEF PROCprintrec(r,y)
 980 PTR#file=42*r-42:GETREC#file,n$
 990 FOR k=0 TO 6:GETREC#file,n(k):NE
XT
1000 TXTXPOS=0:TXTYPOS=y:PRINT " ";n$
;STRING$(12-LEN(n$)," ");
1010 PROCdecode(n(0)):PROCprintdate(1
21,y)
1020 TXTXPOS=213:PRINT FORMAT$(n(2),"
ZZZZZDXX");
1030 TXTXPOS=277:PRINT FORMAT$(n(3),"
ZZZD.D^X");
1040 TXTXPOS=328:PRINT FORMAT$(n(5),"
ZZZZD.DD^X");
1050 IF n(1)<>0 THEN PROCdecode(n(1))
:PROCprintdate(409,y) ELSE TXTXPOS=448
:PRINT "-";
1060 TXTXPOS=501:PRINT FORMAT$(n(4),"
ZZZD.D^X");
1070 TXTXPOS=560:PRINT FORMAT$(n(6),"
ZZZZD.DD");
1080 ENDPROC
1090
1100 DEF PROCbuy
1110 PROCscroll(12)
1120 TXTXPOS=0:TXTYPOS=54:INPUT n$
1130 PROCindate(121,54,1000):n(0)=dat
e&
1140 TXTXPOS=227:INPUT n(2)
1150 TXTXPOS=278:TXTYPOS=54:INPUT n(3
)
1160 TXTXPOS=338:TXTYPOS=54:INPUT n(5
)
1170 n(1)=0:n(4)=0:n(6)=0
1180 recs=recs+1
1190 PROCput(recs)
1200 ENDPROC
1210
1220 DEF PROCsell
1230 PROCprintrec(c,54)
```



```
 1240 PROCindate(409,54,pdate&):PROCco
de:n(1)=date&
 1250 TXTXPOS=501:INPUT n(4)
 1260 TXTXPOS=560:TXTYPOS=54:INPUT n(6
)
 1270 PROCput(c)
 1280 ENDPROC
 1290
 1300 DEF PROCcalc
 1310 PROCprintrec(c,54)
 1320 IF n(4)=0 THEN
 1330 TXTXPOS=501:INPUT n(4)
 1340 sd=FNdeal:prof=n(2)*n(4)-n(5)*10
0-sd*100
 1350 ELSE
 1360 sd=0.01*n(2)*n(4)-n(6):prof=100*
(n(6)-n(5))
 1370 ENDIF
 1380 IF n(1)=0 THEN ds=pdate&-n(0) EL
SE ds=n(1)-n(0)
 1390 IF n(3)*n(4)*n(5)*n(2)=0 THEN k=
ALERT("[1][DIVISION BY ZERO][OK]",1):E
NDPROC
 1400 bd=n(5)-0.01*n(2)*n(3)
 1410 GRAB 0,0,sw,sh:CLS
 1420 TXTRECT 160,180,500,300
 1430 f1$="sZZZZD.DD^< POUNDS >":f2$="
ZZZD.D^X<%>"
 1440 PRINT"SECURITY: ";n$'
 1450 PRINT"PROFIT      = ";FORMAT$(0.0
1*prof,f1$);FORMAT$(prof/n(5),f2$)'
 1460 PRINT"FIXED RATE = ";FORMAT$(0.0
1*(ds/365)*rate*n(5),f1$);FORMAT$(rate
*ds/365,f2$)'
 1470 PRINT"BUY  COSTS = ";FORMAT$(bd,
f1$);FORMAT$((10000*bd/(n(2)*n(3))),f2
$)'
 1480 PRINT"SELL COSTS = ";FORMAT$(sd,
f1$);FORMAT$((10000*sd/(n(2)*n(4))),f2
$)
 1490 k=INP(2)
 1500 TXTRECT 0,0,sw,sh
 1510 PUT 0,0,3
 1520 PROCprintrec(c,54)
 1530 ENDPROC
 1540
 1550 DEF PROCscroll(n)
 1560 TXTRECT 0,53,640,336:TXTSCROLL 0
,n:TXTRECT 0,0,sw,sh
 1570 c=c+SGN(n)
 1580 ENDPROC
 1590
 1600 DEF FNdeal
 1610 z=n(2)*n(4)/100
 1620 IF z<250 THEN k=8
 1630 IF z>=250 AND z<=666 THEN k=10
 1640 IF z>666 AND z<=7000 THEN k=0.01
5*z
 1650 IF z>7000 THEN k=5E-3*z
 1660 =1.15*k
 1670
 1680 DEF PROCprintdate(x,y)
 1690 TXTYPOS=y:TXTXPOS=x-8:PRINT STRI
NG$(9," ");:TXTXPOS=x:PRINT FORMAT$(d,
"DD");
 1700 TXTXPOS=x+23:PRINT LEFT$(m$(m),3
);:TXTXPOS=x+54:PRINT STR$(yr);
 1710 ENDPROC
 1720
 1730 DEF PROCinday(x,y)
 1740 REPEAT
 1750 PROCprintdate(x,y)
 1760 TXTYPOS=y:TXTXPOS=x-8:INPUT d$
 1770 UNTIL VAL(d$)<>0 OR d$=""
 1780 IF d$<>"" THEN d=VAL(d$)
 1790 ENDPROC
 1800
 1810 DEF PROCinmonth(x,y,default)
 1820 inmonth:
 1830 m=default
 1840 TXTYPOS=y:TXTXPOS=x:PRINT LEFT$(
m$(m),3)
 1850 TXTYPOS=y:TXTXPOS=x-8:INPUT m$
 1860 IF m$="" THEN ENDPROC
 1870 IF LEN(m$)<3 THEN GOTO inmonth
 1880 m=0
 1890 nextmonth:
 1900 m=m+1
 1910 match=1
 1920 FOR k=1 TO LEN(m$)
 1930 IF (ASC(MID$(m$,k,1))<>ASC(MID$(
m$(m),k,1)) AND ASC(MID$(m$,k,1))<>ASC
(MID$(m$(m),k,1))+32) THEN match=0
 1940 NEXT
 1950 IF match=1 THEN ENDPROC
 1960 IF m<12 THEN GOTO nextmonth ELSE
 GOTO inmonth
 1970 ENDPROC
 1980
 1990 DEF PROCindate(x,y,default&)
 2000 indate:
 2010 date&=default&
 2020 PROCdecode(date&)
 2030 PROCinday(x,y):PROCprintdate(x,y
)
 2040 PROCinmonth(x+23,y,m):PROCprintd
ate(x,y)
 2050 TXTYPOS=y:TXTXPOS=x+46:INPUT yr$
 2060 IF yr$<>"" THEN yr=VAL(yr$)
 2070 PROCprintdate(x,y)
 2080 IF yr>2037 OR yr<1948 THEN GOTO
indate
 2090 IF yr=4*INT(yr/4) THEN lyr=1 ELS
E lyr=0
 2100 IF d>d&(m+1,lyr)-d&(m,lyr) THEN
GOTO indate
 2110 PROCcode:PROCprintdate(x,y)
 2120 ENDPROC
 2130
 2140 DEF PROCinitdate
 2150 RESTORE d3
 2160 FOR k=1 TO 13
 2170 READ d&(k,0)
 2180 IF k>2 THEN d&(k,1)=d&(k,0)+1 EL
SE d&(k,1)=d&(k,0)
 2190 NEXT
 2200 FOR k=1 TO 12:READ m$(k):NEXT
 2210 d3:DATA 0,31,59,90,120,151,181,2
12,243,273,304,334,365
 2220 DATA "JANUARY","FEBUARY","MARCH"
,"APRIL","MAY","JUNE","JULY","AUGUST",
"SEPTEMBER","OCTOBER","NOVEMBER","DECE
MBER"
 2230 ENDPROC
 2240
 2250 DEF PROCcode
 2260 IF yr=4*INT(yr/4) THEN lyr=1 ELS
E lyr=0
 2270 ds=d&(m,lyr)+d
 2280 date&=365*(yr-1948-INT((yr-1948)
/4+0.9))+366*(INT((yr-1948)/4+0.9))+ds
 2290 ENDPROC
 2300
 2310 DEF PROCdecode(date&)
 2320 lyrs=INT((date&+1094)/1461)
 2330 yrs=INT((date&-366*lyrs-1)/365):
IF yrs>3*lyrs THEN yrs=yrs-1
 2340 ds=date&-366*lyrs-365*yrs:yr=194
8+yrs+lyrs
 2350 IF yr=4*INT(yr/4) THEN lyr=1 ELS
E lyr=0
 2360 FOR k=1 TO 12
 2370 IF ds<=d&(k+1,lyr) THEN m=k:k=12
 2380 NEXT
 2390 d=ds-d&(m,lyr)
 2400 ENDPROC
```

DESKTOP PUBLISHING
WITH PUBLISHING PARTNER™ ON THE ATARI ST

ATARI ST SOFTWARE

1 WHAT IS DESKTOP PUBLISHING?

Desktop Publishing is a method by which documents can be produced using a computer, software and a printer. These documents are near professional appearance and cost only a fraction of the price which you might otherwise pay to a designer, artwork studio and printer. Because the 'middle men' are eliminated from the production process, desktop publishing allows the user to retain total control over his or her documents, making last minute updates without panic and without incurring extra charges for 'rush' work.

2 WHAT CAN I USE IT FOR?

As we all make use of the printed word in one way or another in our daily lives, the applications for Desktop Publishing are all around us. If you belong to a club or society or if you run your own business, the possibilities are endless! Our list of example applications will give you some other ideas.

- Advertisements
- Application Forms
- Brochures
- Business Contracts
- Charts & Tables
- Club Certificates
- Club Newsletters
- Dance Tickets
- Distribution Leaflets
- Fayre Programmes
- Invitation Cards
- Invoices
- Labels
- Menus
- Office Forms
- Order Forms
- O/head Transparencies
- Personal Cards
- Personal Letterheads
- Presentations
- Price Lists
- Special Offer Leaflets
- Technical Sheets
- Work Estimates

3 PUBLISHING PARTNER

Publishing Partner, from SoftLogik Corp™, includes all of the features which you would expect in a good Desktop Publishing package. It combines word processing, page layout and graphics facilities all in one program, allowing you to create 'stunning' documents on your Atari ST. First you can do a rough page design and start adding blocks of copy. See how it fits. See how it looks. See how it flows onto the next page. Make some changes. Try a different type style, or a different size, or some borders, some shapes, or even some pictures. Because Publishing Partner incorporates WYSIWYG (What You See Is What You Get), you'll see instantly if your new idea works or not. The computer's screen will show you just how the page will look when it prints - no more guesswork. You can adjust fonts, character sizes and even character spacing, anytime and anywhere on the page. Watch an ordinary letter transform into a professional looking piece right before your eyes, as you experiment with mixing graphics and text. And, when you want to see a 'hard copy' of your masterpiece, just send it to any one of the printers which the program supports (the list is growing all the time).

SoftLogik Corp™

SoftLogik Corp™ was set up in the USA by Shawn Fogle and Deron Kazmaier to produce quality desktop publishing software with uncompromising power and features. Publishing Partner was developed after 1½ years of research, working with typesetters and printers and the results achieved are outstanding.

4 SIMPLE, POWERFUL, AFFORDABLE

Printing and publishing is a fairly complex business which takes years of training and experience to master. You wouldn't think so with Publishing Partner, which takes full advantage of the ST's user friendly GEM environment. It is so user friendly and easy to understand, most people find they can produce their first document without even opening the fully comprehensive 159 page manual which accompanies the program. Using the mouse to manipulate the self explanatory pull down menus and windows, you can be up and running in no time, creating a variety of documents quickly and easily. In addition, the flexibility of Publishing Partner allows you to choose between mouse or keyboard operation, whichever suits your personal preference. Although simple to use, Publishing Partner is by no means a simple program. Quite the contrary. Behind the user friendliness of GEM, lies a most complex and powerful publishing tool. The combination of Publishing Partner and Atari's powerful low-cost ST computers has brought an affordable alternative to the desktop publishing systems currently available from Atari's competitors.

5 THOUSANDS OF TYPE STYLES

This is no exaggeration. Unlike most other desktop publishing software packages, which offer you 2 or 3 different fonts, Publishing Partner gives you true flexibility of over 4,000 type styles per font. Publishing Partner offers you 14 variations of each font:

BACKSLANT	**MIRROR**	**STRIKE THROUGH**
BOLD	**OUTLINE**	**TALL**
DOUBLE U/L	**REVERSED**	**UNDERLINE**
ITALICS	**SHADOW**	**UPSIDE DOWN**
LIGHT		**WIDE**

And you can 'mix and match' any number and combination of styles to your own requirements. The total number of possible permutations is over 4,000. And that's not all, each style can be used in any one of 216 sizes in one point increments from 1 point to 216 points! All this is achievable on an unexpanded 520ST with just 512K RAM! Other competing packages require 1024K RAM just to get the larger sizes above 72 point and still can't match all of the variations available.

Publishing Partner is a trade mark of SoftLogik Corp™.

6 WORD PROCESSING

Publishing Partner contains the power and features that you would expect to find on a dedicated word processing package. In addition it includes facilities which a professional typesetting machine would offer. For example the program can cope with 216 different type sizes, with over 4,000 style variations of each one. The following are some of the facilities you will find within the capabilities of Publishing Partner:

* Adjust margins for any column
* Change block to uppercase or lowercase
* Change margin indents
* Character spacing from -128 to +127
* Copy text to and from the buffer
* GEM based
* Import and export files
* Insert and delete pages
* Justifies right/left/centred as you type
* Justifies to the character/word
* Kerning from -128 to +127
* Line spacing/leading in ½ points from -64 to +57
* Link columns together
* Macros
* Manual Hyphenation
* Merge files together
* Optional grid & ruler display
* Over 4,000 type style variations of each font
* Page numbering
* Pica, Inches or Centimetre measuring system
* Print to paper vertically or horizontally
* Read & merge any ASCII file
* Search and replace
* Tabs for charts/tables
* Unlimited headers & footers
* User definable page size
* User variable superscript/subscript characters

7 PAGE LAYOUT

Whatever you require, custom logos, unique borders, unusual letterheads etc. Publishing Partner is your solution. After all, it was specially designed by professionals who realize that there's more to your computer than just typing letters.

* Accurate to 3 decimal places
* Adjust character size from 1 to 216 points
* Auto text flow between columns
* Change columns on finished page
* Display 15%-1500% of original size
* Display actual size
* Display multiple pages/rulers/text routing
* Layout multiple columns
* Print to disk
* Set auto text routing
* Snap to guides
* Superimpose text on tint or tint on text

8 GRAPHICS

Not only can you load any Degas, N-Vision, Neochrome or digitized pictures into your Publishing Partner files, you can also enlarge or reduce them for an exact fit. Or, you can copy just a section of a picture and then paste it into your document as many times as you want. You can still go back and resize it at any time or crop it to delete unwanted areas.

* 3 types of line ends, square/rounded/pointed
* 7 types of line which are all editable.
* 7 weight lines ranging from ½pt to 6pt
* 40 fill patterns each with a border option making a total of 80 fill options
* Ability to produce separations for 2 colours
* Copy graphics to and from clipboard
* Cut, paste, copy or crop graphics
* Import graphics from third party graphic programs such as Degas, Neochrome, N-Vision or any art program that produces compatible ASCII files
* Select colours to use and print with
* Toolbox features include: Circles, ellipses, boxes, rounded corner boxes, horizontal/vertical lines, diagonal lines, polygons and free hand drawing

9 OUTSTANDING OUTPUT

Publishing Partner is a unique program with a large variety of printer drivers for both laser and dot matrix printers. Dot matrix is supported in both 80 column and 132 column mode, so you could even produce a tabloid width newspaper (11½" wide) on a wide body printer. Drivers are also available for the new technology 24 pin dot matrix printers which can give a fine resolution of 360×360 compared with laser printers at 300×300. The current drivers (included FREE with the program) are as follows with new ones being written on a weekly basis:

9 PIN DOT MATRIX (Various Res)

- Atari SMM804
- Blue Chip M120/10
- Cal Abco Legend 880
- C Itoh Prowriter
- Mannesman Spirit-80
- NEC 8023
- Panasonic KXP
- Star Gemini & SG

9 PIN DOT MATRIX (240×216 Res)

- Citizen MSP
- Epson RX/FX/EX
- Mannesman Tally MT
- Star NX/SD

18 PIN DOT MATRIX (240×288 Res)

- Okidata Microline 292
- Okidata Microline 293

24 PIN DOT MATRIX (360×180 Res)

- C Itoh C-715
- Epson LQ
- Epson SQ
- Toshiba P321

24 PIN DOT MATRIX (360×360 Res)

- NEC P6/P7
- NEC XL new series

LASER PRINTERS (300×300 Res)

- Centronics PP-8 in Epson or H.P. Laserjet mode 1½Mb RAM
- Any other H.P. Laserjet compatible with 1½Mb RAM
- QMS PS800 or Apple LaserWriter - Postscript
- Any other Postscript compatible printer

SEEING IS BELIEVING

We have already told you how powerful Publishing Partner is and how easy it is to use. However, the recipients of your finished work will only be able to gauge the package by the end results of your work. The true test of any Desktop Publishing software is in the output it produces and it is here that Publishing Partner excels. With its graphics capabilities and the thousands of type styles it produces, there is no end to the design possibilities which you can create. And, with drivers for a variety of printers, including Postscript at no extra charge, you can be sure that you will be able to output in the quality your work deserves. The output quality is truly remarkable. But don't just take our word for it. Before you go any further with your enquiries into Desktop Publishing, return the coupon below for samples of Publishing Partner's output on a variety of printers. We will also send you details and prices of each printer as well as further information on Publishing Partner and the Atari range of ST computers. We don't expect you to take our word for it. We want you to see for yourself how Publishing Partner outshines the competition. So, complete and return the coupon today. Remember, SEEING IS BELIEVING!

OFFICIAL UK VERSION

The official UK version of Publishing Partner has a pound (£) sign as a standard part of its character set. Other versions have also been imported unofficially from the USA and have a dollar ($) sign instead of a £ sign. These versions will not be supported by the UK distributors or their dealers. The UK version also contains clip art, different fonts and a full range of printer drivers. Ensure that you buy the official UK version, not an unofficial import with incorrect characters.

£139.00

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Publishing Partner is available from Atari ST Dealers throughout the UK. If your local dealer does not have Publishing Partner in stock, it can be obtained by mail order (Postage & Packaging free) from:

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DTP

Flight of fancy

In Part 3 of his wireframe graphics series Charlie Dancey presents a simple flight simulator

FOR the final part of this series on wireframe graphics I have produced a flight simulator shell written in Fast Basic. It may not be quite up to the standard of Sublogic's excellent flight simulator, but it does demonstrate some very powerful programming techniques.

The program allows you to fly around a very simple landscape and calculates the view through your windscreen as you go. I have used the numeric keypad as a sort of imaginary joystick which controls the aircraft as shown in Figure I.

No attempt has been made to simulate the behaviour of a real aircraft – there is enough to type in already. Of course, once the program has been entered and saved on a disc you can add routines to make it behave more or less how you want. The landscape is redefinable just like the images in the last two articles of this series.

Speed of execution is of the essence in this program because of the vast number of calculations performed between screen updates. I have used a few go-faster tricks which may be of general interest. The first is the HIDEMOUSE command.

Hiding the mouse makes a considerable difference to the speed of all graphics operations in Fast Basic. Also, integer variables have been used wherever possible, and the main section of the program has been written as one continuous section of code, rather than breaking it up into procedures or subroutines.

By way of a more subtle trick, you will notice in the listing the variables *zero%, one%* and *two%* appear frequently. The names of these describe their contents, the fact is that Fast Basic can read *two%* faster than it can read the number 2.

The display is handled as it was in previous programs in this series, two screens are set up in ram and the program flips from one to the other, always drawing on the hidden screen. The PUT command is used as a fast way of clearing screens between drawings.

This is a fairly complex program, so if you have not read the previous articles, which started in the August 1987 issue of *Atari ST User*, I would advise you to do so before attempting to work your way through the next few paragraphs.

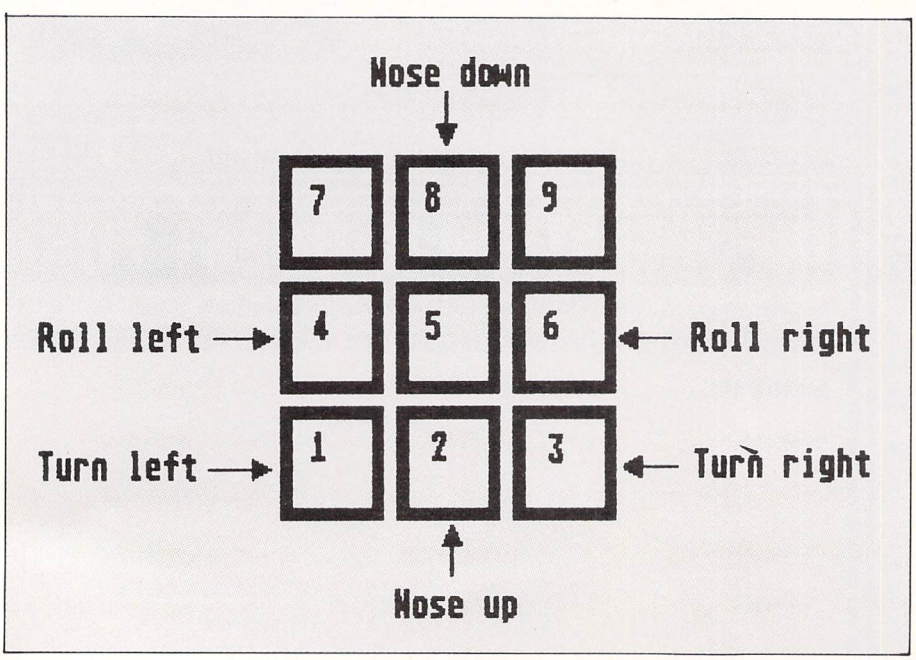

Figure I: Control keys on the numeric keypad

The imaginary aircraft is considered to have its own coordinate system as shown in Figure II. There is also a true or world coordinate system centred on some arbitrary point. At any given moment the aircraft is located at a particular point in the true coordinate system, the X Y and Z coordinates of this point are stored in the array *pos%()*.

There is also a relationship between the orientations of the two different coordinate systems which must be known in order to calculate the view from the cockpit window. This information is stored in a 3 by 3 matrix which I have called the core.

This describes the orientation of the true coordinate system in terms of the aircraft coordinate system. This is a little hard to understand. Imagine you are flying along and you pull the stick back, the plane will rotate so the nose goes up, but from your point of view the world outside seems to rotate in the opposite direction, it is this relative rotation that is stored in the matrix *core#()*.

To put it another way, as far as the computer is concerned the plane stays still and the world rotates around it. The reason for using this system is that it is an easy matter to keep track of complex sequences of rotation. Every time the user changes the attitude of the plane the opposite rotation is added to the core matrix. The program can thus handle any sequence of loops, rolls or turns without losing its bearings.

The landscape is made up of points and lines as usual, each point has its coordinates stored in the array *tc%(A,B)* where *A* is the point number index and *B* indicates an X, Y or Z coordinate depending on whether it is set to 0, 1 or 2.

The main body of the program is contained in the:

```
REPEAT
.
.
.
UNTIL forever%
```

loop. This executes until the Escape key is pressed or the pilot hits the ground.

The first operation in this loop is to translate the true coordinates of the landscape into the aircraft's frame of

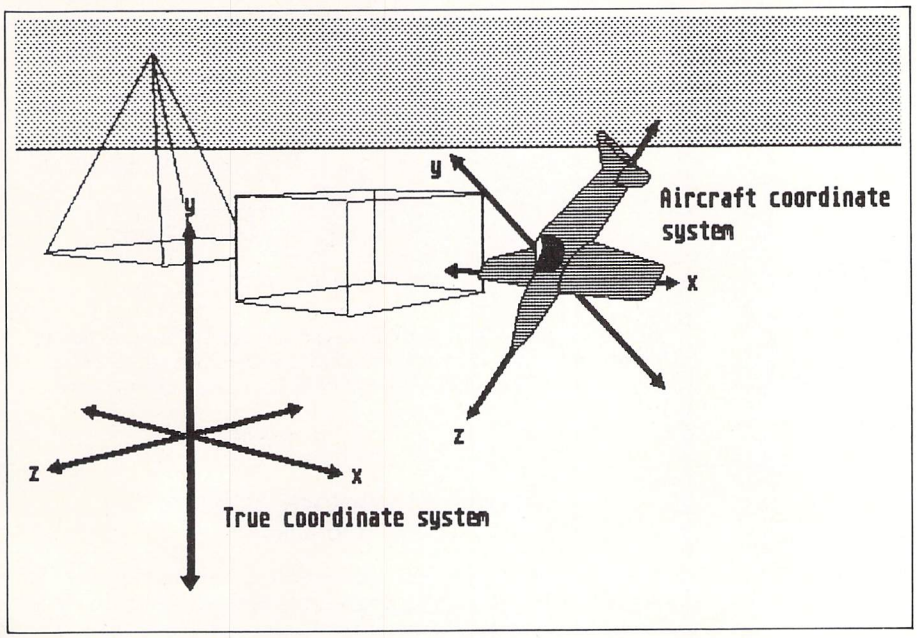

Figure II: Relative coordinates

reference by converting them into our coordinates, stored in the array *oc%()*.

This is done by subtracting the aircraft's current position from each of the point coordinates in *tc%()*. Next the landscape has to be rotated to suit the current orientation of the aircraft, to do this each coordinate set is inverse-transformed by the core matrix.

The coordinates resulting from the inverse transformation are passed to a short routine which checks each point to see whether it is more than a certain distance in front of the viewer. There is a flag for each point in the byte array *vis#()* which is set either to TRUE or FALSE depending on the result of this operation.

The flags are used to prevent the program drawing to points that are behind, or very close, to the viewer, effectively this prevents the inside-out effects that were possible in last month's program.

Also, to optimise speed, no perspective calculation is performed on any points failing the test. You will notice the perspective routine (the conversion of XYZ to AB coordinates) is a simplified version. Previously I have used two variables, *viewdist%* and *viewdepth%*, for this.

The program uses only *screen%*, which is the equivalent of *viewdist%*. Comparing the routine with last month's program you can see that if:

```
viewdepth% = — (screen%)
```

we can eliminate it entirely from the listing since it cancels out.

At last the screen coordinates, now stored in the familiar *a%()* and *b%()* arrays, are used to draw the landscape on the screen, and the finished display is flipped into view. The remainder of the main REPEAT ... UNTIL loop deals with updating the viewer's position and orientation.

This section begins by checking to see if the viewer is on or below ground level by looking at the value of *pos%(1)*, the viewer's current altitude or Y coordinate. If you hit the ground the program stops with an appropriate message.

Next the keyboard is checked and if one of the control keys is being pressed the core matrix is rotated to simulate rotation of the imaginary aircraft.

This is done by multiplying the core matrix by one of six possible 3 by 3 control matrices stored in the form of a lookup table in the array *control(A,B,C)*. The index *A* determines which matrix is to be used, depending on which key was pressed. Now that was easy to say, but no doubt hard to follow so let me explain further.

Last month, I explained how the orientation of a coordinate system could be expressed as a 3 by 3 matrix, each column is a unit vector describing the orientation of one of the axes. This is what the core matrix is, a set of three X,Y and Z coordinate sets.

In order to rotate the core matrix itself we imagine it is a set of three points in space and we rotate each of them by the same amount and in the same way using one of the control matrices.

The control matrices are predefined for speed and will perform pitch, roll and yaw in set increments. You can adjust these by changing the value of the variable *angle* in the listing. This operation is very similar to the rotation technique used in Part 1 of this series.

The position of the viewer now has to be updated. The heading of the aircraft is stored in the array *hdg()* as a vector relative to the aircraft's own coordinate system. Normally the aircraft moves only along its Z axis so only the Z value, *hdg(2)*, is set in this listing.

If you want to program a helicopter you will need to use the Y value, *hdg(1)*, for vertical take-offs and landings.

The heading is converted into a true coordinate by multiplying it with the core matrix and storing the results in the array *vec()*. This new vector is the aircraft's heading in the world coordinate system. To update our position we just add the vector to the previous recorded position.

At this point the program loops back through the whole sequence again, leaving just one piece of code to explain.

I found while writing this program, that it was useful to have a horizon line on the screen. This is like any other line in the program and is defined by its start and end points.

The trouble is these points have to be recalculated every time the plane moves. This is done near the start of the main loop. The start and end points are set as number zero and one, so if you redefine the landscape remember to leave these alone.

The program has been designed to allow for expansion: You could easily implement an altimeter by checking the value of *pos%(1)* on each cycle, more control keys could be added to adjust the speed of the aircraft and an artificial horizon might be useful.

More ambitious programmers could dig out their 3D glasses (free with the August 1987 issue of *Atari ST User*) and modify the program to work with them. The display would have to be drawn twice on a black background. First a red image would be drawn from a viewpoint to the left of the current position, then a blue image from a viewpoint to the right.

It would be tempting to add a large and detailed landscape to the listing, but you will find as the amount of data increases the program becomes painfully slow. The only answer to this is machine code, so if you are thinking of learning to program the 68000 this is a project to get you started. ▷

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```
  10 \ Flight simulator shell
  20 \ By Charlie Dancey, July 1987
  30 \ (c) Atari ST User
  40 \ Needs 64k to run
  50
  60 PROCset_up
  70
  80 \Main program loop
  90 REPEAT
 100 \Coordinates converted to our te
rms
 110 FOR i%=two% TO np%
 120 oc%(i%,zero%)=tc%(i%,zero%)-pos%
(zero%)
 130 oc%(i%,one%)=tc%(i%,one%)-pos%(o
ne%)
 140 oc%(i%,two%)=tc%(i%,two%)-pos%(t
wo%)
 150 NEXT
 160
 170 \Horizon calculation
 180 x=vec(zero%)
 190 z=vec(two%)
 200 oc%(zero%,zero%)=x+z
 210 oc%(zero%,one%)=zero%
 220 oc%(zero%,two%)=z-x
 230 oc%(one%,zero%)=x-z
 240 oc%(one%,one%)=zero%
 250 oc%(one%,two%)=z+x
 260
 270 \Inverse transformation
 280 FOR i%=zero% TO np%
 290 x%=core#(zero%,zero%)*oc%(i%,zer
o%)+core#(one%,zero%)*oc%(i%,one%)+cor
e#(two%,zero%)*oc%(i%,two%)
 300 y%=core#(zero%,one%)*oc%(i%,zero
%)+core#(one%,one%)*oc%(i%,one%)+core#
(two%,one%)*oc%(i%,two%)
 310 z%=core#(zero%,two%)*oc%(i%,zero
%)+core#(one%,two%)*oc%(i%,one%)+core#
(two%,two%)*oc%(i%,two%)
 320
 330 \Visibility check and perspectiv
e
 340 IF z%<min%  THEN
 350 vis!(i%)=TRUE
 360 a%(i%)=oa%+screen%*x%/(-z%)
 370 b%(i%)=ob%+screen%*y%/(z%)
 380 ELSE
 390 vis!(i%)=FALSE
 400 ENDIF
 410 NEXT
 420
 430 \Fast CLS
 440 PUT zero%,zero%,zero%
 450
 460 \Draw image
 470 FOR i%= one% TO nl%
 480 IF vis!(st%(i%))*vis!(end%(i%))
THEN
 490 LINE a%(st%(i%)),b%(st%(i%)) TO
a%(end%(i%)),b%(end%(i%))
 500 ENDIF
 510 NEXT
 520
 530 SWAP writescreen,showscreen
 540 LOGBASE=writescreen
 550 PHYSBASE=showscreen
 560
 570 IF pos%(one%)<one% THEN GOSUB gr
ound
 580
 590 SWITCH INKEY$
 600 CASE "8":choice%=zero%
 610 CASE "2":choice%=one%
 620 CASE "6":choice%=two%
 630 CASE "4":choice%=3
 640 CASE "3":choice%=4
 650 CASE "1":choice%=5
 660 DEFAULT:choice%=-1
 670 ENDSWITCH
 680
 690 \Clear Keyboard Buffer
 700 REPEAT:k$=INKEY$:UNTIL k$=""
 710
 720 IF choice%>-1 THEN
 730
 740 \Rotate Core Matrix
 750 FOR i%=zero% TO two%
 760 FOR j%=zero% TO two%
 770 temp#(i%,j%)=zero%
 780 FOR step%=zero% TO two%
 790 temp#(i%,j%)=temp#(i%,j%)+contro
l(choice%,step%,j%)*core#(i%,step%)
 800 NEXT,,
 810
 820 FOR i%=zero% TO two%
 830 FOR j%=zero% TO two%
 840 core#(i%,j%)=temp#(i%,j%)
 850 NEXT,
 860 ENDIF
 870
 880 \Calculate Motion Vector
 890 hdg(2)=-speed%
 900 FOR j%=zero% TO two%
 910 vec(j%)=core#(j%,zero%)*hdg(zero
%)+core#(j%,one%)*hdg(one%)+core#(j%,t
wo%)*hdg(two%)
 920 NEXT
 930
 940 \Update Position
 950 FOR j%=zero% TO two%
 960 pos%(j%)=pos%(j%)+vec(j%)
 970 NEXT
 980 UNTIL forever%
 990
1000 END
1010 \ ----------------------------
1020 ground:
1030 LOGBASE =screenone%
1040 PHYSBASE=screenone%
1050 PRINT "GROUNDED!!!!!"
1060
1070 \Clear Buffer
1080 REPEAT:k$=INKEY$:UNTIL k$=""
1090
1100 \Wait for a keypress
1110 REPEAT:k$=INKEY$:UNTIL k$>""
1120 END
1130 RETURN
1140
1150 DEF PROCset_up
1160 HIDEMOUSE
1170
1180 \Set up the two screens
1190 gxb=GRAFXBASE
1200 gyb=GRAFYBASE
1210 gw=GRAFWIDTH
1220 gh=GRAFHEIGHT
1230 oa%=gw/2
1240 ob%=gh/2
1250 screenone%=PHYSBASE
1260 GRAFRECT 0,0,SCREENWIDTH,SCREENH
EIGHT
1270 GRAB 0,0,SCREENWIDTH,SCREENHEIGH
T
1280 RESERVE screen,33000
1290 screentwo%=(screen+256)AND$FFFF0
0
1300 LOGBASE  =screentwo%
1310 PUT 0,0,3
1320 LOGBASE  =screenone%
1330 PHYSBASE =screentwo%
1340 GRAFRECT gxb,gyb,gw,gh
1350 GRAB 0,0,gw,gh:\for faster CLS l
ater.
1360 writescreen=LOGBASE
1370 showscreen=PHYSBASE
1380
1390 \Dimension arrays
1400 RESTORE points
1410 READ np%
1420 RESTORE lines
1430 READ nl%
1440
1450 DIM tc%(np%,2),oc%(np%,2)
1460 DIM core#(2,2),temp#(2,2)
1470 DIM pos%(2),hdg(2),vec(2)
1480 DIM a%(np%),b%(np%)
1490 DIM vis!(np%)
1500 DIM st%(nl%),end%(nl%)
1510
1520 \initial position
1530 pos%(2)=10000:pos%(1)=1000
1540
1550 min%=-15:\for visibility check
1560 screen%=500:\for perspective rou
tine
1570 speed%=100
1580
1590 points:
1600 DATA 39
1610
1620 DATA 0,0,0,0,0,0
1630 DATA 100,0,0
1640 DATA 100,0,-900
1650 DATA 0,0,-900
1660 DATA 0,0,-1100
1670 DATA 300,0,-1100
1680 DATA 300,0,-900
1690 DATA 200,0,-900
1700 DATA 200,0,0
1710
1720 DATA -100,0,0
1730 DATA -100,0,-700
1740 DATA -300,0,-700
1750 DATA -300,0,-900
1760 DATA -100,0,-900
1770 DATA -100,0,-1100
1780 DATA -400,0,-1100
1790 DATA -400,0,-400
1800 DATA -200,0,-400
1810 DATA -200,0,-200
1820 DATA -400,0,-200
1830 DATA -400,0,0
1840
1850 DATA 600,0,1000
1860 DATA 600,0,-10000
1870 DATA -600,0,-10000
1880 DATA -600,0,1000
1890
1900 DATA 5000,0,-5000
1910 DATA 6000,0,-5000
1920 DATA 6000,0,-6000
1930 DATA 5000,0,-6000
1940 DATA 5500,2000,-5500
1950
1960 DATA -1000,0,-5000
1970 DATA -1000,0,-5500
1980 DATA -1500,0,-5500
1990 DATA -1500,0,-5000
2000 DATA -1000,900,-5000
2010 DATA -1000,900,-5500
2020 DATA -1500,900,-5500
2030 DATA -1500,900,-5000
```

```
 2040
 2050 lines:
 2060 DATA 45
 2070
 2080 DATA 0,1,2,3,3,4,4,5,5,6,6,7,7,8
,8,9,9,2
 2090 DATA 10,11,11,12,12,13,13,14,14,
15,15,16
 2100 DATA 16,17,17,18,18,19,19,20,20,
21,21,10
 2110 DATA 22,23,23,24,24,25,25,22
 2120 DATA 26,27,27,28,28,29,29,26
 2130 DATA 26,30,27,30,28,30,29,30
 2140 DATA 31,32,32,33,33,34,34,31
 2150 DATA 35,36,36,37,37,38,38,35
 2160 DATA 31,35,32,36,33,37,34,38
 2170
 2180 RESTORE points
 2190 READ np%
 2200 FOR i%=0 TO np%
 2210 FOR j%=0 TO 2
 2220 READ tc%(i%,j%)
 2230 NEXT,
 2240
 2250 RESTORE lines
 2260 READ nl%
 2270 FOR i%=0 TO nl%
 2280 READ st%(i%),end%(i%)
 2290 NEXT
 2300
 2310 core_matrix:
 2320 DATA 1,0,0
 2330 DATA 0,1,0
 2340 DATA 0,0,1
 2350
 2360 RESTORE core_matrix
 2370 FOR j%= 0 TO 2
 2380 FOR i% = 0 TO 2
 2390 READ core#(i%,j%)
 2400 NEXT,
 2410
 2420 DIM control(5,2,2)
 2430 \note angle in radians
 2440 angle=0.1
 2450 C=COS angle
 2460 S=SIN angle
 2470
 2480 control_matrices:
 2490
 2500 DATA 1,0,0
 2510 DATA 0,C,-S
 2520 DATA 0,S,C
 2530
 2540 DATA 1,0,0
 2550 DATA 0,C,S
 2560 DATA 0,-S,C
 2570
 2580 DATA C,-S,0
 2590 DATA S,C,0
 2600 DATA 0,0,1
 2610
 2620 DATA C,S,0
 2630 DATA -S,C,0
 2640 DATA 0,0,1
 2650
 2660 DATA C,0,S
 2670 DATA 0,1,0
 2680 DATA -S,0,C
 2690
 2700 DATA C,0,-S
 2710 DATA 0,1,0
 2720 DATA S,0,C
 2730
 2740 RESTORE control_matrices
 2750 FOR n%=0 TO 5
 2760 FOR j%=0 TO 2
 2770 FOR i%= 0 TO 2
 2780 READ control(n%,i%,j%)
 2790 NEXT,,
 2800
 2810 \Now some variables for speed pu
rposes
 2820 zero%=0
 2830 one%=1
 2840 two%=2
 2850 forever%=0
 2860
 2870 ENDPROC
```


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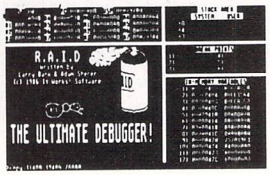

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The STuff of dreams?

Peter Hartley sorts through the STuff in the AUTO folder

MICRODEAL, that prolific publisher of software for the ST, has added yet another set of utilities – called STuff – to its range.

This is a suite of 21 programs of varying levels of usefulness. Some are intended to be run from an AUTO folder while others can be called up as required.

Many programs are available which, when included in an AUTO folder, cause the system to stop and prompt for the current date and time. Autodate works slightly differently in that it stores these parameters on disc each time the ST is switched on or reset. If you want to alter the clock settings during a re-boot, you can do so using the cursor keys and space bar.

The order in which programs in an AUTO folder are executed is determined by Autofold. STselect allows you to specify which files in the AUTO folder are run and which desk accessories are installed. This utility must be the first AUTO file run and its position can be set using Autofold.

Hardauto is a must if you have a hard drive. Quite a lot of time can be wasted at start up waiting for accessories and auto-run programs to be loaded. Once this utility has been executed, all further files can be read from the hard disc thus saving a considerable amount of time.

Autogem is probably of more use to a hard disc user. If you normally enter one particular application at switch on, but occasionally want to do something else first, this routine will help.

When record mode is selected, it will remember all mouse activity until a program is loaded. At start up, provided the mouse is not moved for at least three seconds, it will replay those movements and load the file.

If the selected program is not required, all you need to do is move the mouse as soon as the Desktop appears to abort Autogem.

FC enables you to compare one file with another. Fdel performs a security deletion of the selected file. Instead of merely setting an inactive marker in the directory, the entire file is erased along with its associated directory entry.

Filelock stores files in encrypted format and up to three passwords can be used for extra security. To restore a file to its orginal state, enter the passwords and select decryption.

Header displays information about files while Hex enables them to be displayed as a hex dump. Grep searches for Ascii strings in files

Touch sets a file's time and date stamp, while Unhide changes the attributes of system or hidden files. Verify speeds up disc write times by switching off the operating system's automatic write verify function.

Keycode shows the 16 bit scan and Ascii values for any key pressed. Capslock will lock the CapsLock key in its current position unless Alternate is pressed at the same time.

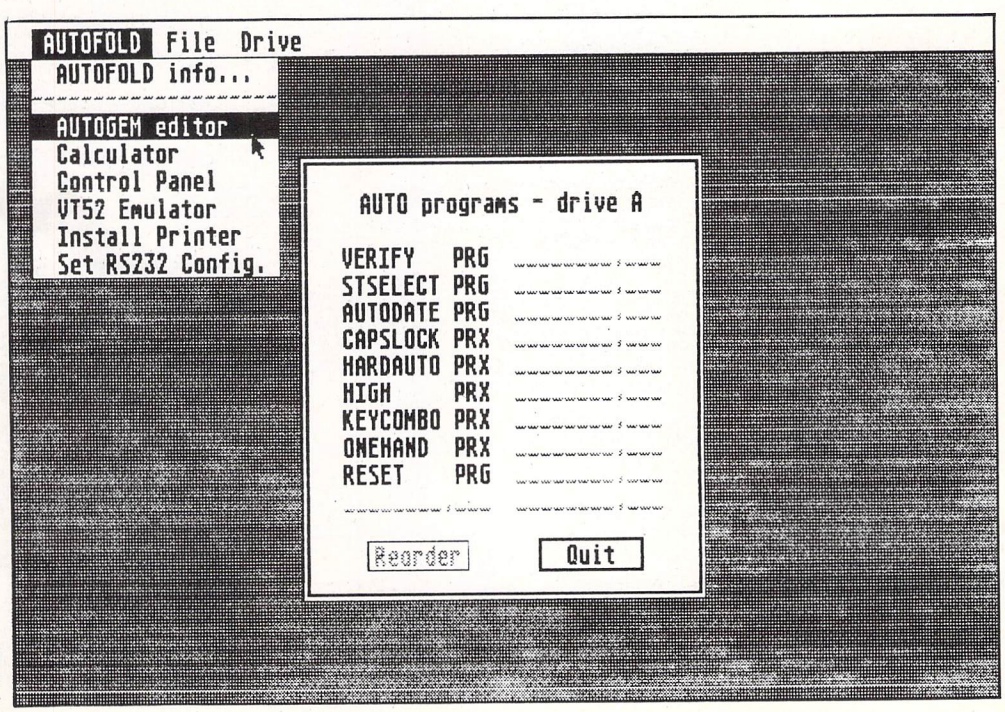
Onehand turns your shift, control and alternate keys into toggle switches. Press once to select the feature and once more to return to normal.

Keycombo enables you to send a form feed to your printer, blank the monitor screen and perform a warm or cold boot – all from the keyboard.

Reset converts a warm boot into a cold start thus clearing all of ram. High switches from low resolution to medium without having to recourse to Set Options from the Desktop and 512K turns your 1040ST or Mega ST in to a 520.

This mixed bag of utilities is sold on one single sided disc and a detailed 65 page manual is included. I had to think hard to find a use for some of the programs, but others are very worthwhile. □

Product: STuff
Price: £24.95
Supplier: Microdeal, 41 Truro Road, St. Austell, Cornwall. PL25 5JE



Selecting the order of programs in the Auto folder

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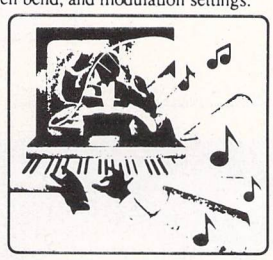

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The *SuperConductor* main menu displays the names of the ten songs currently held in memory and gives access to the System Exclusive data transfer mode. This versatile feature allows MIDI synthesizer voices and data to be transfered and saved on disk. The simplified data storage method allows the System Exclusive data to be edited using a word processor.

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NEWSLETTER

Spreading the word

IN the centenary year of the international language Esperanto, a new branch – or Grupo to be exact – has been formed in London, and MicroLink is its chosen electronic route to the rest of the world.

About 52 million people worldwide – 8 million in Europe – speak the amalgam of Anglo-Saxon and Latinate tongues invented in 1887 by Polish doctor Ludovic Zamenhov.

The Sud-Londona Esperanto-Grupo has been going for five months.

Secretary Gregory Porilo said: "We believe the time is ripe for a revival of interest in Esperanto. Not just because of its centenary, but also because it has been accepted as a subject for the new GCSE exams and is now the EEC's official language for basic translation.

"The South London branch of Esperanto is using MicroLink to further spread the word about the benefits of learning the language".

Typesetting over the line

LOW-COST, professional quality typesetting for everything from business cards to magazines is now available electronically on MicroLink.

Wordstream provides a 24-hours-a-day, seven-days-a-week service for companies and individuals who want to control their own printing and save on costs.

All subscribers need do is key in the text on their micro and send it via MicroLink's electronic mail system. It is switched electronically to Wordstream in Bournemouth who typeset the material and return the finished product by first class post or special delivery.

Text for typesetting can be prepared on an ordinary word processor by inserting special codes to specify typefaces, sizes and measures. Then it is transmitted to the Wordstream mailbox on MicroLink.

Special software automatically checks the text file to ensure that codes are correct, and initiates processing immediately. Within 30 minutes a bromide repro for plate-making or camera is produced for despatch to the customer.

The service offers 155 typefaces from 4.5 to 72 point. The range includes expanded, condensed and italic type, variable letterfit, accents and fractions, and paper-saving multi column text.

Payment is by the foot length of repro and Wordstream registration is free on MicroLink.

SPEEDING THE FACTS

NEARLY 30 of Scotland's largest local authorities and six local government trades unions are communicating electronically via MicroLink.

The Scottish Local Government Information Unit was set up two years ago as an information research and publicity service for the organisations.

"We feed facts and figures in easily digestible format to well over 1,000 key elected officials and administrators", said the Unit's director Archie Fairley.

"In addition we are a source of local government information.

"MicroLink telex and electronic mail facilities will help us move all this information a lot faster than before".

Aid to trade

MICROLINK technology is helping improve trade links between Britain and the Third World.

Latest overseas businessman to take advantage of fast, efficient telex and electronic mail facilities is S.S.Wijayasinha.

He is managing director of Bureau-Matic, based in Abidjan, capital of the Ivory Coast, a former French colony in West Africa.

"My company imports computer accessories from various suppliers in the UK, but existing communications are not satisfactory", he said.

"Letters can take up to three weeks to arrive and the telephone service is very erratic.

"I plan to use MicroLink for all my international communications from now on because I know I can depend on its speed and reliability".

New Open University Club

LIKE many of the Open University's 70,000 plus students, electronics engineer Jim Hatton often feels a sense of isolation.

"I can't get to evening classes every week, I have little or no contact with other OU students, and though the instructors are very helpful they are also very busy and I dislike bombarding them with letters and phone calls", he said. Jim's solution – for himself and other part-time students in the same situation – has been to form an Open University Club on MicroLink where people can communicate electronically about their courses.

"At a recent summer school I discovered that a lot of people like me can't get to the tutorials", he said. "But lots of us have micros and modems, so the technology for exchanging ideas and opinions is there to be tapped.

"The Open University has a policy of encouraging self help groups where students can discuss problems and gain a greater understanding of their courses.

"I'm hoping that OU instructors will also log on to the Open University Club on MicroLink so that students can benefit from their input too".

YOUR chance to join MicroLink – Page 48

Lightwave

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SCRAP BOOK

IN this month's Scrapbook you'll find a whole host of hints, tips and cheats for the arcade games Arkanoid and Hades Nebula.

Ian Brown and Robert Weir of Liverpool have sent us the following type-in cheats for Arkanoid: When the program has loaded, but before the title screen changes, hold down the Shift key and type in DEATHSTAR followed by a carriage return. Note that you won't be able to see what you type in.

The game will still play normally but if you press the S key you will be immediately transported to the next screen. This feature enables you to practice any screen.

When you have lost all your lives and are at the high score table (even if you don't have a high score), you can type in PAJ in capital letters to return to the screen where you lost your last life.

If you are wondering where these cheats came from, PAJ are the initials of the game's author Peter A Johnson and Deathstar is the title of a superb game he wrote for the BBC Micro and Acorn Electron. Thanks also to the many other people who have sent in the same tips.

If you are still experiencing problems with some of the more difficult screens, Robert and Ian have provided an infinite lives cheat utility.

Type in and save Program I on a blank disc. When run, a file called HEXENTRY.TOS will be created and saved. This is a hex loader program for entering the pokes and modifying the game.

Now we are ready to create our modified Arkanoid game. From Desktop, double click on HEXENTRY.TOS. The screen will clear and the first address shown in Listing I, 00000000, will be displayed. Enter the hex numbers – the next address will automatically be displayed and you don't need to press Return at any time.

When all the numbers in Listing I have been entered, press L and enter the end address of the file plus one – in this instance 000000F0. After this you will be asked for a file name, save it as ARK_CHT.PRG on the same disc as the hex loader.

Switch off your ST and re-boot without any Desktop accessories or extra disc drives. Double click on ARK_CHT.PRG and when prompted to place disc B in drive A, place your Arkanoid disc in the default drive, press Return and wait for the game to load. If you are given any further prompts, just press Return.

If you have made any typing mistakes, reset the computer and load HEXENTRY.TOS. Instead of typing in all the data again, load your original cheat file by pressing L and enter the name you saved it as.

By pressing P the printer will be enabled and an X will allow you to examine the contents of your file. To exit examine mode, press Control+C while the display is scrolling.

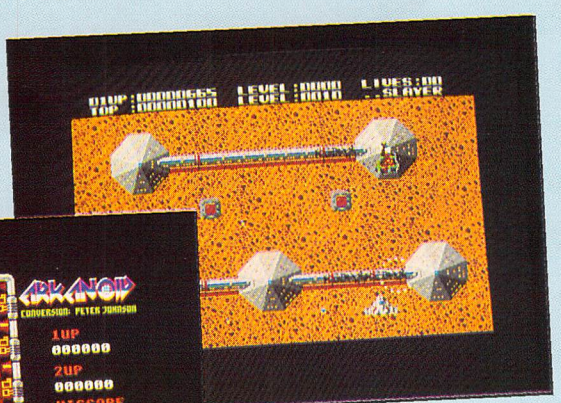
Pressing minus (–) will enable you to move backwards one step at a time, any mistakes can be rectified and the file re-saved. Use M to jump to a specific memory address.

When you have located and corrected all mistakes save the cheat program and continue as before. You should now have infinite lives.

SCRAPBOOK is a regular feature consisting of short, simple programs sent in by our readers. It's a place where we can publish all of the interesting little routines that don't end up in our regular features but are too good for us not to share with other readers.

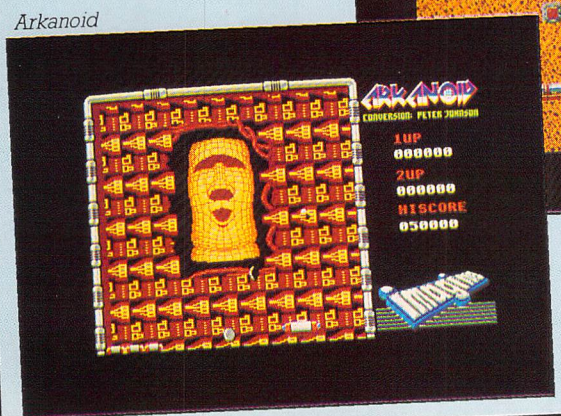
If you have a short program which you think other readers would find useful, send it to:

Scrapbook, Atari ST User,
Europa House, 68 Chester Road,
Hazel Grove, Stockport SK7 5NY.



Hades Nebula

Arkanoid



NEXUS made us promise not to reveal the cheat mode for Hades Nebula, which provides infinite lives. However, we had our fingers crossed under the table at the time, so boot the disc and play through the game as normal.

When you get to the rather novel method of entering your name for the high score table (the spinning wheel), enter MONITOR. – including the full stop.

When you restart the game you will find that you have five spacecraft, and this will not decrease no matter how many times you get blown up. We found it impossible to get on to the higher levels without this cheat.

Program I

```
10 REM ****************************
20 REM *BASIC PROGRAM TO CONSTRUCT*
30 REM *         HEXENTRY.PRG     *
40 REM * By Ian Brown & Rob Weir  *
50 REM *      (c) Atari ST User   *
60 REM *     Written in ST Basic  *
70 REM ****************************
80 RESTORE
90 DIM Z%(610)
100 Y=VARPTR(Z%(0))
110 DEF SEG=Y
120 LET TOT=0
130 FOR A=0 TO 1216
140 READ B$:X=VAL("&H"+B$):POKE
A,X:TOT=TOT+X
150 NEXT A
160 IF TOT<>74815 THEN ?"CHECKSUM
ERROR":STOP
170 BSAVE "HEXENTRY.TOS",Y,1220
180 STOP
190 DATA 60,1A,00,00,04,80,00,00,00,00
,00,00,00,00,00,00
200 DATA 00,00,00,00,00,00,00,00,00,00
,00,00,60,00,01,30
210 DATA 2A,00,3F,3C,00,01,4E,41,54,4F
,B0,3C,00,61,6D,04
220 DATA 04,00,00,20,1A,00,20,05,B0,3C
,00,30,65,16,B0,3C
230 DATA 00,3A,65,16,B0,3C,00,41,65,0A
,B0,3C,00,47,65,06
240 DATA 00,7C,00,01,4E,75,04,00,00,07
,04,00,00,30,4E,75
250 DATA 2F,07,61,BC,65,0E,E9,18,1E,00
,61,B4,65,06,D0,07
260 DATA 2E,1F,4E,75,2E,1F,00,7C,00,01
,4E,75,61,E2,65,04
270 DATA E1,58,61,DC,4E,75,61,F4,65,04
,48,40,61,EE,4E,75
280 DATA 2F,00,E8,18,61,02,20,1F,2F,00
,02,00,00,0F,0C,00
290 DATA 00,0A,65,04,06,00,00,07,06,00
,00,30,4A,39,00,00
300 DATA 02,70,6A,00,00,10,3F,00,3F,00
,3F,3C,00,05,4E,41
310 DATA 58,4F,30,1F,3F,00,3F,3C,00,02
,4E,41,58,4F,20,1F
320 DATA 4E,75,2F,00,E1,58,61,B8,E1,58
,61,B4,20,1F,4E,75
330 DATA 48,40,61,EE,48,40,61,EA,4E,75
,2F,3C,00,00,01,00
340 DATA 3F,3C,00,09,4E,41,5C,4F,4A,39
,00,00,02,70,6A,00
350 DATA 00,1A,3F,3C,00,0D,3F,3C,00,05
,4E,41,58,8F,3F,3C
360 DATA 00,0A,3F,3C,00,05,4E,41,58,8F
,4E,75,0D,0A,00,00
370 DATA 3F,3C,00,20,3F,3C,00,02,4E,41
,58,4F,4A,39,00,00
380 DATA 02,70,6A,00,00,12,2F,00,3F,3C
,00,20,3F,3C,00,05
390 DATA 4E,41,58,8F,20,1F,4E,75,1B,76
,1B,45,00,00,2F,3C
400 DATA 00,00,01,2C,3F,3C,00,09,4E,41
,5C,4F,42,79,00,00
410 DATA 02,70,42,A7,3F,3C,00,20,4E,41
,5C,4F,23,C0,00,00
420 DATA 04,76,7E,00,7C,01,2C,7C,00,00
,04,7E,61,00,FF,6C
430 DATA 20,07,61,00,FF,5C,61,98,10,16
,61,00,FF,04,61,90
440 DATA 61,00,FE,CE,65,08,1C,80,52,4E
,52,87,60,DE,0C,00
450 DATA 00,20,67,00,FF,F4,0C,00,00,0D
,67,EC,0C,00,00,2D
460 DATA 66,0E,BD,FC,00,00,04,7E,67,C2
,53,4E,53,47,60,BC
470 DATA 0C,00,00,4C,67,00,00,F8,0C,00
,00,53,67,00,01,FC
480 DATA 0C,00,00,4D,67,00,02,84,0C,00
,00,58,67,30,0C,00
490 DATA 00,50,67,0E,3F,3C,00,07,3F,3C
,00,02,4E,41,58,4F
500 DATA 60,8A,0A,79,FF,FF,00,00,02,70
,2F,00,3F,3C,00,0D
510 DATA 3F,3C,00,05,4E,41,58,8F,20,1F
,60,00,FF,70,48,E7
520 DATA FF,FE,3C,3C,00,18,61,00,FE,D2
,20,07,61,00,FE,C2
530 DATA 61,00,FE,FE,3A,3C,00,0F,10,1E
,52,87,61,00,FE,62
540 DATA 61,00,FE,EE,51,CD,FF,F2,3F,3C
,00,FF,3F,3C,00,06
550 DATA 4E,41,58,4F,4A,80,67,1E,B0,3C
,00,20,67,32,B0,3C
560 DATA 00,31,66,12,3F,3C,00,FF,3F,3C
,00,06,4E,41,58,4F
570 DATA B0,3C,00,32,66,EE,51,CE,FF,AE
,3F,3C,00,FF,3F,3C
580 DATA 00,06,4E,41,58,4F,4A,80,67,F0
,B0,3C,00,20,66,92
590 DATA 61,00,FE,68,4C,DF,7F,FF,60,00
,FE,F2,00,00,00,00
600 DATA 0D,0A,45,4E,54,45,52,20,46,49
,4C,45,20,4E,41,4D
610 DATA 45,20,3A,20,00,00,14,00,00,00
,00,00,00,00,00,00
620 DATA 00,00,00,00,00,00,00,00,00,00
,00,00,00,00,61,00
630 DATA FE,2A,2F,3C,00,00,02,74,3F,3C
,00,09,4E,41,5C,4F
640 DATA 2F,3C,00,00,02,8A,3F,3C,00,0A
,4E,41,5C,4F,3F,3C
650 DATA 00,00,2F,3C,00,00,02,8C,3F,3C
,00,3D,4E,41,50,4F
660 DATA 4A,80,6B,00,00,2E,3F,00,2F,3C
,00,00,04,7E,2F,3C
670 DATA 00,0F,FF,FF,3F,00,3F,3C,00,3F
,4E,41,DF,FC,00,00
680 DATA 00,0C,4A,80,6B,00,00,1E,3F,3C
,00,3E,4E,41,60,00
690 DATA FE,5C,2F,3C,00,00,03,28,3F,3C
,00,09,4E,41,5C,4F
700 DATA 60,00,FE,4A,2F,39,00,00,03,42
,3F,3C,00,09,4E,41
710 DATA 5C,4F,60,D4,0D,0A,45,52,52,4F
,52,20,49,4E,20,4F
720 DATA 50,45,4E,49,4E,47,20,46,49,4C
,45,07,00,00,0D,0A
730 DATA 45,52,52,4F,52,20,49,4E,20,52
,45,41,44,49,4E,47
740 DATA 20,46,49,4C,45,07,07,00,0D,0A
,45,4E,54,45,52,20
750 DATA 45,4E,44,20,41,44,44,52,45,53
,53,20,4F,46,20,46
760 DATA 49,4C,45,20,28,49,4E,20,4C,4F
,4E,47,57,4F,52,44
770 DATA 20,46,4F,52,4D,41,54,29,3A,20
,00,00,0D,0A,45,4E
780 DATA 54,45,52,20,46,49,4C,45,20,4E
,41,4D,45,20,46,4F
790 DATA 52,20,53,41,56,45,20,3A,20,00
,61,00,FD,1E,2F,3C
800 DATA 00,00,03,5C,3F,3C,00,09,4E,41
,5C,4F,61,00,FC,A8
810 DATA 65,00,FE,02,2A,00,2F,3C,00,00
,03,90,3F,3C,00,09
820 DATA 4E,41,5C,4F,2F,3C,00,00,02,8A
,3F,3C,00,0A,4E,41
830 DATA 5C,4F,42,67,2F,3C,00,00,02,8C
,3F,3C,00,3C,4E,41
840 DATA 50,4F,4A,80,6B,00,FF,0C,3F,00
,2F,3C,00,00,04,7E
850 DATA 2F,05,3F,00,3F,3C,00,40,4E,41
,DF,FC,00,00,00,0C
860 DATA 4A,80,6A,00,FE,E4,2F,3C,00,00
,04,24,60,00,FE,FC
870 DATA 0D,0A,45,52,52,4F,52,20,49,4E
,20,57,52,49,54,49
880 DATA 4E,47,20,46,49,4C,45,00,00,00
,61,00,FC,8E,2F,3C
890 DATA 00,00,04,66,3F,3C,00,09,4E,41
,5C,4F,61,00,FC,18
900 DATA 65,00,FD,72,2E,00,2C,7C,00,00
,04,7E,DD,C7,60,00
910 DATA FC,FC,4D,4F,44,49,46,59,20,57
,48,45,52,45,20,3F
920 DATA 20,00,00,00,00,00,00,00,00,00
,00,00,00,00,00,92
930 DATA 3E,0E,34,22,0E,10,0A,3C,42,CE
,0E,12,16,2A,12,9A
940 DATA 18,0E,10,16,1C,28,18,00,00,00
,00,00,00,00,00,00
950 DATA 00,00
```

Listing I

```
Address     Hex bytes

00000000    60 1A 00 00 00 C4 00 00
            00 00 00 00 00 00 00 00
00000010    00 00 00 00 00 00 00 00
            00 00 00 00 A0 0A 4F F9
00000020    00 07 7F FE 3F 3C 00 02
            48 79 00 00 00 A8 3F 3C
00000030    00 3D 4E 41 48 79 00 02
            7F DE 48 79 00 00 80 00
00000040    3F 00 3F 3C 00 3F 4E 41
            3F 3C 00 00 48 79 00 07
00000050    80 00 48 79 00 07 80 00
            3F 3C 00 05 4E 4E 48 79
00000060    00 02 7F E0 3F 3C 00 06
            4E 4E 41 F9 00 02 80 00
00000070    43 F9 00 07 80 00 20 3C
            00 00 7C 00 22 D8 51 C8
00000080    FF FC 3F 3C 00 02 48 79
            00 00 00 B6 3F 3C 00 3D
00000090    4E 41 48 79 00 03 00 00
            48 79 00 04 00 00 3F 00
000000A0    3F 3C 00 3F 4E 41 4F F9
            00 07 7F FE 23 FC 4E 71
000000B0    4E 71 00 03 34 2E 33 FC
            4E 71 00 03 34 32 4E F9
000000C0    00 03 00 00 42 3A 41 52
            4B 4C 50 49 43 2E 50 49
000000D0    31 00 42 3A 41 52 4B 43
            4F 44 45 2E 49 4D 47 00
000000E0    00 00 00 0E 5E 00 00 00
            00 00 00 00 00 00 00 00
```

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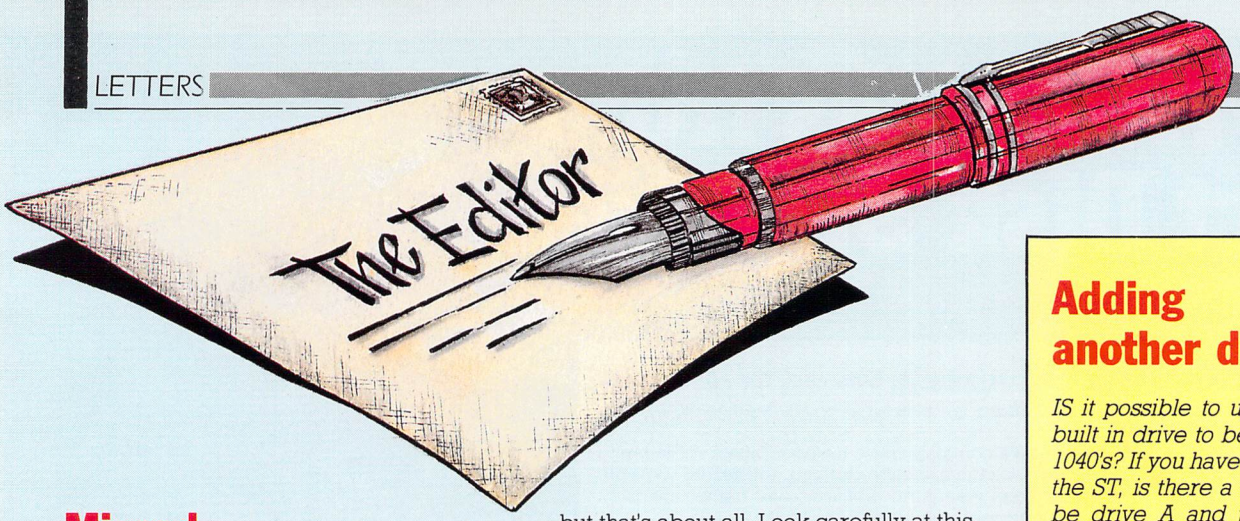

Missed the buzz

I OWN an Atari 1040ST with a colour monitor and I have started to learn programming. To help teach myself, I have been typing in some of the programs in Scrapbook. When I entered the Buzzword Generator from the July 1987 issue of Atari ST User *I came across an error in line 80. I entered:*

```
CLEARW2:FULLW 2
```

and an error message said there was "No such variable". When I altered the line to:

```
CLEARW 2:FULLW 2
```

the error message was "Bad Clear".

Could you please tell me how I can get round this problem? – **J.F. Steel, Hounslow, Middx.**

● Unfortunately, a space was missed out of the listing between the W of CLEARW and the number 2. The line should read the same as your second example. For you to get a Bad Clear error, we can only assume you have corrected one error and replaced it with another.

Check the typing of line 80 again – you will probably find that you have added a space between the R and W of CLEARW.

Vive le difference

I AM planning to buy an Atari ST sometime next year, but unfortunately I don't know the difference between a 520STM and a 520STFM.

Please could you explain this for me and also advise me on the what is the best deal to be had at the moment – **Daniel Bartlett, Ilkeston, Derbyshire.**

● A 520ST with both a floppy disc drive and a modulator has the suffix FM added to the name as with the 520STFM. If there is no disc drive it is simply a 520STM – a 520ST with a modulator. A 1040ST is actually a 1040STF – it has a built in floppy drive but no modulator.

If you look at the advertisements in this issue of *Atari ST User* you will find that prices do not vary very much between dealers for new Atari machines.

There may be some difference in extras given with them – mainly software – but that's about all. Look carefully at this software and decide which most suits your needs.

You could try your local computer club for second-hand machines, but then you don't have the benefit of a warranty, so if anything goes wrong you are on your own.

Elite on the ST?

AS a potential STFM buyer, I was wondering if you could enlighten me on a couple of points.

First, are there any plans to release an ST version of Acornsoft's Elite, originally written for the BBC Micro? This has to be the ultimate game of all time and I feel sure that the ST would take the game even further with lots of new features left out on other micros due to the lack of speed and memory.

If there are plans, then when is it to be released? If there are no plans, then I urge all other ST owners to write to Acornsoft, Superior Software and Firebird and request an ST version of this classic.

Secondly, are there any plans for a conversion of the Graphic Adventure Creator, The Quill or the PAW?

Again, I feel these programs would become something special on the ST and would be the first to queue for them. – **S.Cunningham, Alum Rock, Birmingham.**

● There aren't any plans to convert these titles for the ST. In general the quality of programs that are available for the ST are much better than for the BBC Micro. Starglider and Star Trek are in the same vein as Elite, but are faster, have digitised sound and speech, are more colourful, and have better graphics.

Sporting chance

I AM thinking of changing my present computer for an Atari 520STFM. I will be using the micro for playing games and also for programming in Basic.

Is the Atari good for arcade games and sports programs? I have been told it is. Can I use a domestic TV to view the programs? Thank you for a great mag. – **M. Gregory, Yardley Wood, Birmingham.**

● Nothing we can say will adequately describe the superb graphics and sound of an Atari ST. Your local Atari dealer will be only too happy to give you a working demonstration.

The 520STFM will work with a domestic television, but you should bear in mind that there will be some degradation of picture quality when compared to a colour monitor.

Adding another drive

IS it possible to upgrade the 520STFM's built in drive to be double sided like the 1040's? If you have a second drive fitted to the ST, is there a way of configuring it to be drive A and the internal one to be drive B?

How much does it cost to upgrade the 520ST's memory to one megabyte, and which is the best company to do it?

Finally, my faithful ST is connected to a Philips 8533 colour monitor by way of the the monitor's Euro connector. When the background isn't black I get very faint lines down the screen similar to those the 8 bit Ataris were prone to when using the modulator.

However the picture is perfect for the last inch or so of the screen. I think it may be a fault with the computer but I am not sure. Have any of your readers had a similar problem and if so is it possible to cure it?

Keep up the good work, your magazine is by far the best ST magazine around. – **Clive S. Hodgeson, Killingworth, Newcastle-upon-Tyne.**

● A double sided drive will fit in the position occupied by the standard, single sided drive without any modifications.

Doctor on call

I UNDERSTAND that Atari is about to release, or has already released, a new version of ST Basic. Could you let me know when it will be available to ordinary mortals and from where?

Everyone seems to have gone ga-ga about Fast Basic. I would like to see it compared for speed and available facilities to GFA Basic so that I can put my money on the winner.

Still on the subject of Basics for the ST, have you seen or used the LDW Basic compiler? A review would be nice.

And finally, do you accept programs written in 68000 assembly language? I

Making your external drive default to drive A is not easy, as the floppy disc controller (FDC) is itself controlled by the operating system. Making it think drive A is the external drive would involve rewiring the disc drive ports – not something we can recommend.

In theory all that needs to be done to upgrade your ram to one megabyte is to fit 16 ram chips and 16 capacitors (this applies to the 520 STFM – the 520STM needs to have the extra ram piggy backed over the existing chips).

In practice problems can occur. The printed circuit board may have line faults in the location where the extra memory has to go. This would have caused it to be rejected for use as a 1040ST, but leaves it perfectly usable as a 520.

Unless you have 100 per cent confidence in your abilities as an electronics engineer, it would be prudent to send the whole machine to a dealer for fitting and testing. Ladbroke Computing, 13 Ormskirk Road, Preston, Lancashire, will perform a complete service for £70 including post and packing.

We have seen problems with video displays as you describe. In all cases we found it to be caused by having the monitor too close to another video device – either a TV set or another monitor. Separating the two will cure the distortion.

have written a rather nice sprite demonstration using line-A routines as well as a sprite designer in ST Basic. – **Dr. S. Cherian, Farwaniah Hospital, Kuwait.**

● First of all, Metacomco have written a new version of ST Basic. However, it isn't quite ready yet and the release date hasn't been fixed. We'll review it as soon as we can get hold of a copy.

GFA and LDW Basics were reviewed in the June 1987 issue of *Atari ST User* and benchmark comparisons were made with Fast Basic and ST Basic.

We are happy to receive programs written in any language. All we ask is that they be less than 10K, have complete documentation – not in REM statements but in the form of an article – are all your own work and that you give us permission to publish them.

High resistance works wonders

IN answer to Ron Thorlgy's letter in Mailbag, August 1987, I have a Centronics 739 printer that worked fine on my Video Genie, but would not work on my new 520ST.

I assumed it was a fault on the ST, but it was fine in the shop. After some investigation I found that the ST was not able to drive the strobe signal low enough.

Inside the printer was a 300 ohm resistor holding the strobe high. Changing this to 1k solved the problem.

It may be that all Centronics printers expect a strong strobe signal which the ST cannot provide. If so, Ron Thorlgy may be able to solve his problem in the same way. – **Steve Holloway, Clapham Park, London.**

What the hex is it all about?

I WANT to learn 68000 assembly language, but I haven't had any experience of machine code on any micro. I own an Atari 520STFM, Abacus' Assempro and have sent off for their book, ST Machine Language.

Do I have to know hexadecimal, binary and so on or do the assembly language mnemonics replace these? What is the best way to learn machine code?

I don't want to program in C, GFA or Fast Basic – it has to be assembly language. I am reading your articles on machine code, but I still need further help. – **Paul Butt, Clapham, London.**

● The ST is a complex micro and a thorough grounding in a high level language is essential before attempting to learn machine code. Fast Basic is particularly good as it has a built-in assembler and you can mix machine code and Basic quite easily.

The book you have ordered combined with Stephen Hill's assembly language course should provide you with enough information to get you started.

You do need to understand hexadecimal and binary numbers, but you don't need to know the values of the assembly language opcodes. Have any readers come across a particularly good text for beginners?

No sound on Swiss TV

FIRSTLY may I tell you how magnificent your magazine is – it's certainly the best when dealing with product reviews. However, I think you should increase the size of your adventure column.

The main reason for my letter is to ask your advice on a problem I have with sound from my TV set. The Swiss television system differs from the UK PAL standard in the way sound signals are received. This means my Swiss television set is unable to receive sound signals from my Atari ST with its British standard modulator.

I have got around this problem by passing the sound to my STM125 monitor and the vision to my TV set. Will this cause any harm to my monitor or TV set?

If it is harmful, could you suggest an alternative way to achieve the same results. I hope you can help me get round this extremely annoying problem. – **Michael Winch, Geneva, Switzerland.**

● When a video display is running without a video signal being present it is said to be freewheeling. All this means is that no syncronisation pulses are being received to keep the cathode ray guns under control. This can cause damage, especially to the extra high tension circuits if the condition continues for long periods.

As it appears you have patched a wire to pin 1 (the audio out pin) to run to your monitor, it would be just as easy to feed it into an audio amplifier such as can be found in a stacker system or some tape cassette recorders – take the ground connection from pin 13. You may also find the sound quality is greatly improved.

No damage will be caused to your television set by not having a sound signal present.

Fast Basic Star signs

MR. ROBERT'S letter in Mailbag, July 1987, helped me to find a solution to a problem I had with downloading characters to a Star NL10 printer using ST Basic and the LPRINT instruction.

Every time a column total of 10 occurred in the definition of the character, the printer assumed it was a line feed instruction. Using Fast Basic's OUT function this problem was overcome. For instance:

```
OUT 0,27,58,0,0,0,27,38,0,33,33
FOR n%=0 TO 11
READ x%
OUT 0,x%
NEXT n%
OUT 0,10,0,27,37,1,0,33,0,27,37,0,0
DATA 139,10,0,50,72,2,64,2,72,50,0,10
```

will download the zodiac sign Libra into character 33 of the Star's ram without any spurious line feeds.

Fast Basic also saves all the tedious CHR$(n) commands needed with ST Basic. – **Paul R. Kinnear, Queens Cross, Aberdeen.**

WE welcome letters from readers – about your experiences using the Atari ST, about tips you would like to pass on to other users . . . and about what you would like to see in future issues.

The address to write to is:

Mailbox
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Europa House
68 Chester Road
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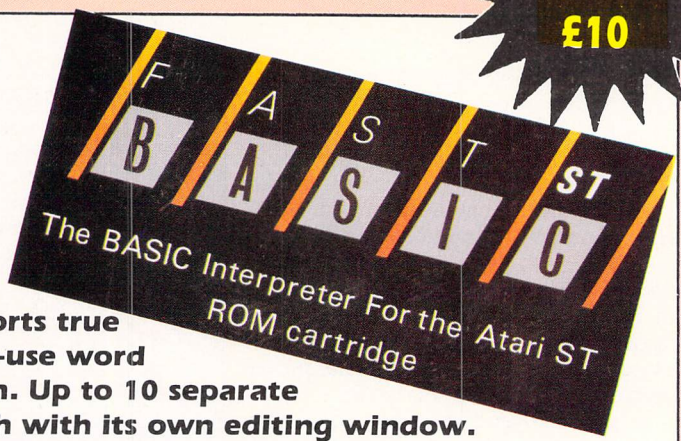

Fast St Basic is a totally new implementation of Basic for the entire Atari ST range. Running faster than almost all other languages, it supports true structured programming. And it has an easy-to-use word processor-like editor that makes full use of Gem. Up to 10 separate programs can be held in memory at once – each with its own editing window. There's even a built-in 68000 assembler to let you harness the power of your ST at machine level. And if you order through *Atari ST User* you'll save £10!

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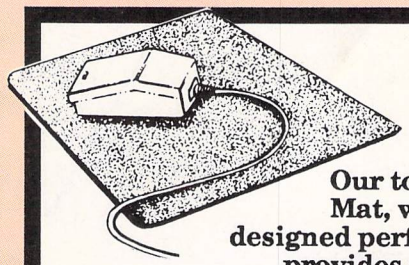

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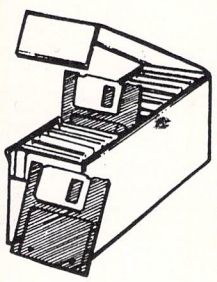

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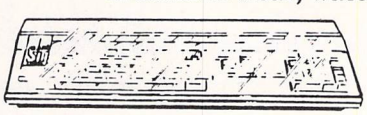

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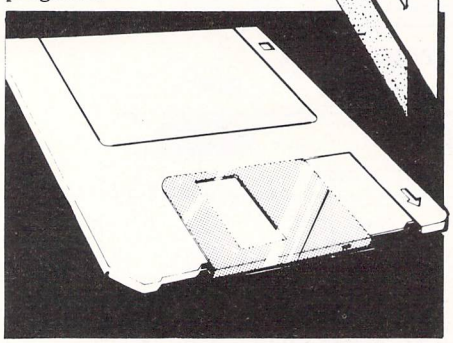
SOFTWARE FOR THE ATARI ST

ST Doctor

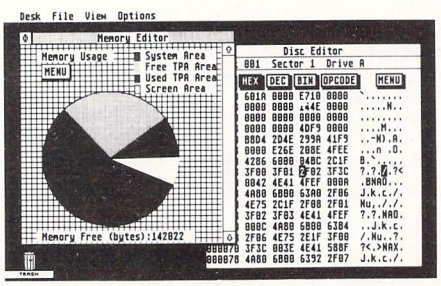
ST DISC

The utility disc for the Atari ST.
ST-Doctor is a Window-based desk accessory, available at any time whilst using other application programs.



Main features include:

- Complete scrolling window-based memory editor, allowing any area of ST memory to be examined in ASCII, Hex, Decimal, Binary or Disassembly listing. Associated features include Copy memory block, Print block, Save block, Fill block, Search, and a pie chart showing memory usage.



- Disc Editor: Similar editor to above, plus load/save file or sector, Advanced formatting, Search disc, Recover deleted file, show file size, show free disc space, etc…
- Key recorder: A unique 'function key definer', this allows up to ten sequences of key-strokes to be assigned to any keys.
- Supplied with fully illustrated instruction manual.

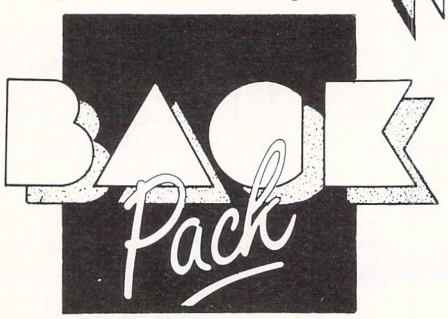
> *REVIEW*
>
> *ST Doctor has to be described as one of the best, if not, THE best, low level programmer's utility.*
>
> ST WORLD

Price £19.95 incl VAT.

Back-Pack

ST CARTRIDGE

A cartridge-based pack of general purpose utilities for every ST owner. When plugged into the cartridge port of any ST, all Back-Pack facilities are available whilst using GEM compatible applications and, because it resides in ROM, it occupies no valuable RAM space.



Scientific calculator
More comprehensive than most real calculators, this offers all the usual features such as Sin, Cos, Tan, Log, π, X^Y, X√Y, 1/X, a memory store, etc. However, it also has programmer's features such as operation in Hex, Binary and Octal, plus logical operations. The result can easily be transferred into the current application.

Price: £49.00 incl.

Clock and alarms
Analogue/digital clock showing time and date. Two time zones, four separate repeatable alarm settings, etc.

Diary
A comprehensive diary allowing categorised entries on any day of the year. Simple controls make it easy to move forward or backward one day, month, or year.

Note Pad
Thirty selectable pages of any information can be stored in the note pad with cursor controlled editing and the ability to transfer information back to the current application or accessory in use.

Typewriter
A simple utility allowing direct output to a printer at any time.

Printer Buffer
Uses memory to 'queue' output for the printer, leaving the computer ready to use, whilst Back-Pack feeds the printer when it is ready.

Address book
A computerised database of names, addresses and telephone numbers, allowing fast 'search' facilities to locate any entry.

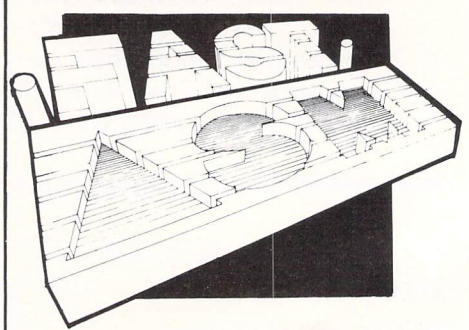
Ramdisc
Uses an area of memory, of specified size, to act as an extremely fast disc drive. A startup disc is easily configured to copy any list of files into the Ramdisc automatically.

FAST ASM

ST DISC

Fast ASM is an ultra fast assembler, it provides a user friendly environment for both writing and assembling 68000 programs.

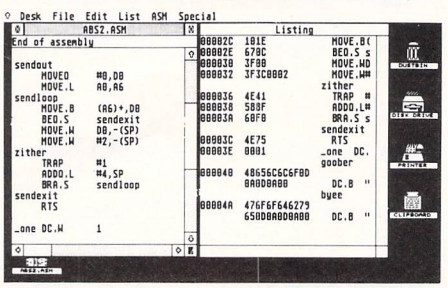
> *REVIEW*
>
> *It is an excellent assembler, and at £19.95, sensational value for money too. I wouldn't SWAP it for anything!*
>
> ST WORLD



Main features include:

- Assembles up to 50000 lines per minute
- Program files are compatible with Fast Basic
- Able to run assembled programs without leaving assembler
- Provides fully relocatable PRG files
- Allows up to 10 source files in memory at one time
- Powerful GEM-based editor with mouse controlled cut, copy and paste facilities

> *REVIEW*
>
> *Fast ASM is a very pleasant assembler to use, and at 50,000 lines per minute, it certainly is fast. The environment is good, thanks to an outstanding editor.*
>
> ST WORLD



- Detailed source and object code listings
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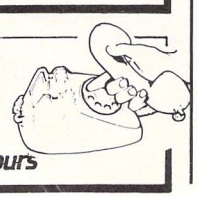

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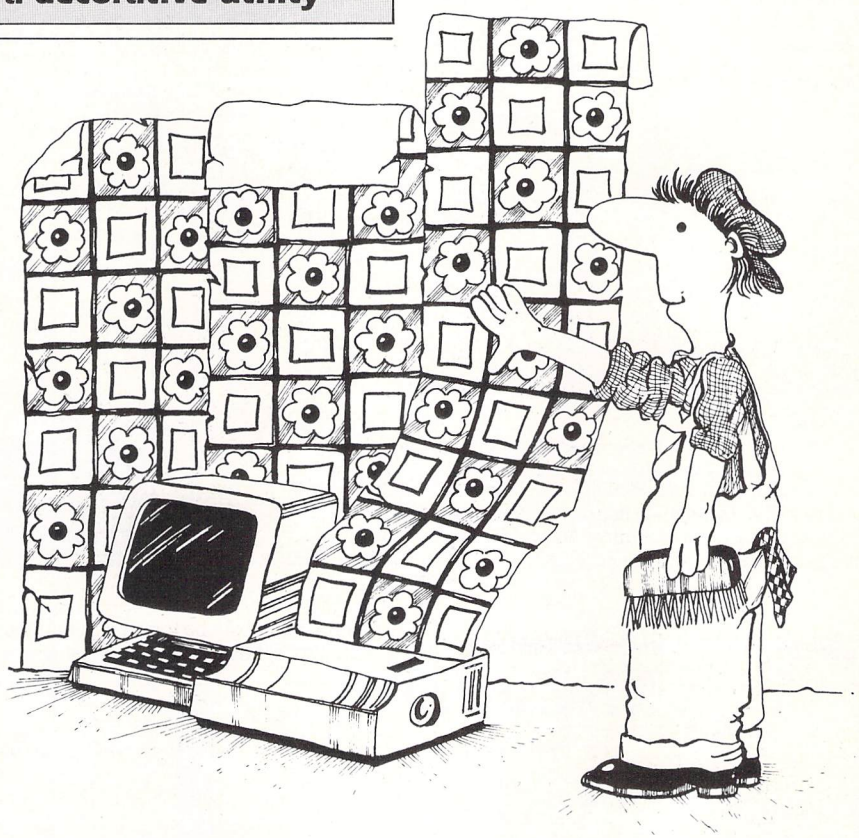
The big cover-up

Barry Wood presents a decorative utility



I WONDER how many Atari ST owners when buying their micro said to their wives, "It'll even help with the housework dear"? Since then they will probably have spent many hours trying to justify that statement.

Well now you can with this extremely useful utility to help you calculate how many rolls of wallpaper you will need when you decorate a room. As an extra bonus, the program also contains some useful routines to use in your own programs, like alert boxes, different text styles and window titles.

When the program is run the screen display is drawn and then you are asked for some essential data – room dimensions, roll length and width and whether your measurements are in metric or imperial units.

When entering the dimensions you should bear in mind that room height is the distance between skirting board and ceiling. The length of the wall is the total distance around the room including windows and doors – this is to allow for any wastage.

Most rolls sold these days are precut to 10m x 520mm (33ft x 20.5in), but it would be wise to ask your supplier for the exact sizes of the pattern you intend to buy.

When the calculations have been made, the result will be displayed in a 3D representation of a room. Please note that the number of rolls is only approximate.

```
10 REM Wallpaper Calculator
20 REM by Barry Wood
30 REM (c) Atari ST User
40 REM Written in GFA Basic
50 REM
60 REM Do NOT enter line numbers
70 GOSUB set_screen
80 WHILE again<>2
90 GOSUB get_info
100 GOSUB show_info
110 GOSUB draw_room
120 GOSUB any_more
130 WEND
140 END
150 PROCEDURE set_screen
160 TITLEW 2,"Computing In Action"
170 CLEARW 2
180 FULLW 2
190 DEFTEXT  ,16,0,32
200 TEXT 20,30,"WALLPAPER CALCULATOR"
210 DEFTEXT ,4,0,13
220 TEXT 380,30," by Barry Wood"
230 RETURN
240 PROCEDURE get_info
250 DEFTEXT ,0,0,6
260 GOSUB clear_text
270 PRINT AT(1,6);"Will you be working
 in "
280 range=0
290 WHILE range<>1 AND range<>2
300 INPUT "1. Metric  or  2. Decimal "
;range
310 WEND
320 IF range=1 THEN
330 m$="Metres"
340 ELSE
350 m$="Feet"
360 ENDIF
370 GOSUB clear_text
380 PRINT AT(1,6);space$
390 PRINT "Please Enter all measuremen
ts in ";m$
400 INPUT "Enter Height of wall ";h
410 INPUT "Enter total width of walls
";d
420 INPUT "Enter length of roll ";l
430 INPUT "Enter width of roll ";w
440 IF d*h*w*l=0 THEN
450 GOSUB message_box
460 RUN
470 ENDIF
480 rolls=(d/w)/(l/h)
490 IF INT(t)<>t THEN
500 t=INT(t)+1
510 ENDIF
520 RETURN
530 PROCEDURE show_info
540 GOSUB clear_text
550 PRINT AT(25,18);"Number of Rolls R
equired is ";rolls
560 RETURN
570 PROCEDURE any_more
580 ALERT 0,"Run Again?|",1,"Yes|No",a
gain
590 RETURN
600 PROCEDURE clear_text
610 space$="
                                        "
620 REM space$ is 40 spaces
630 FOR n=5 TO 16
640 PRINT AT(1,n);space$
650 NEXT n
660 RETURN
670 PROCEDURE message_box
680 mess$="This program does|  NOT cat
er for|tents or caravans"
690 ALERT 3,mess$,1," O K ",getin
700 RETURN
710 PROCEDURE draw_room
720 GOSUB clear_text
730 LINE 40,40,250,56
740 LINE 380,56,590,40
750 LINE 40,126,250,110
760 LINE 380,110,590,126
770 LINE 40,40,40,126
780 LINE 120,46,120,120
790 LINE 200,52,200,114
800 LINE 590,40,590,126
810 LINE 510,46,510,120
820 LINE 430,52,430,114
830 RETURN
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by Timothy Purves

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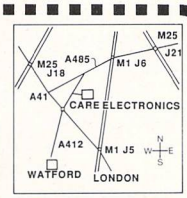

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CBS	15	Postronix	40,41
Centec Electronic Systems	65	Precision Software	9
Chips	7,82	Psygnosis	84
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Computerware	70	Silver Dragon	54
Comtec Systems	62	Softville	82
Cumana	55	Software Express	4
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Desktop Publishing Show	19	Storm	14
Direct Disk Supplies	73	Stort Soft	15
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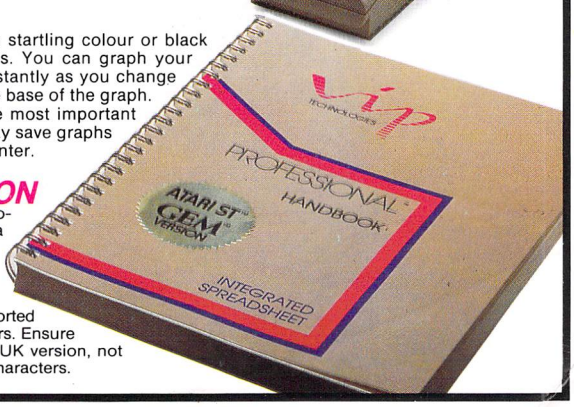

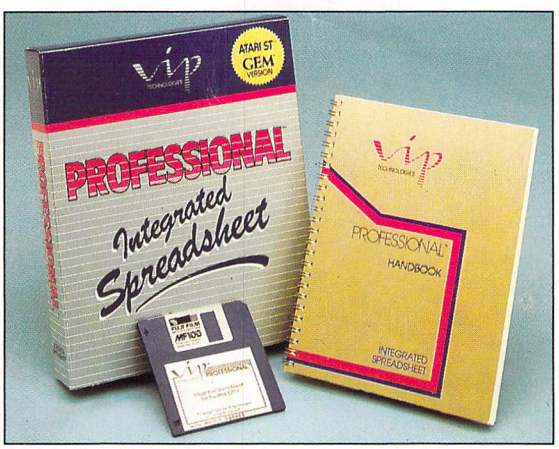

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All comparisons made to Lotus 1-2-3™ are to version 1A. E&OE

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