ATARI ST USER

The top-selling Atari ST magazine

Volume 3
Number 9
November 1988
£1.75

CLASSROOM INVADER

Could the ST be the ultimate teaching tool?

REVIEWS

MicroLink modem plus K-Comm II, Swiftcalc, Mark Williams C, Data Manager Professional, Super Sequencer ST, Master Tracks Junior

TYPE-IN

Mouse-driven trivia shell for multiple-choice tests

GAMES

Better Dead Than Alien, Spitfire 40, Platoon, Killdozers, Bombjack, Bermuda Project, Fire and Forget, Revenge II, Chubby Gristle, Space Harrier and much more!

FEATURES

Piracy and the ST, plus Vektor Grafix interview

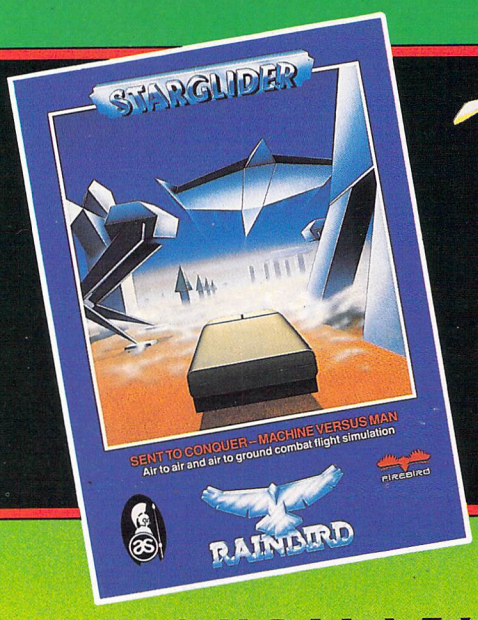
Curing hardware faults ... using loops in Basic ... colour mixing with the ST's palette ... working your way through adventures ...

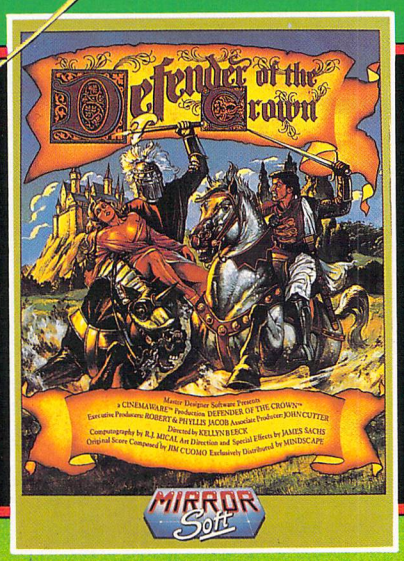
they're all in the latest pages of our massive guide to the Atari ST

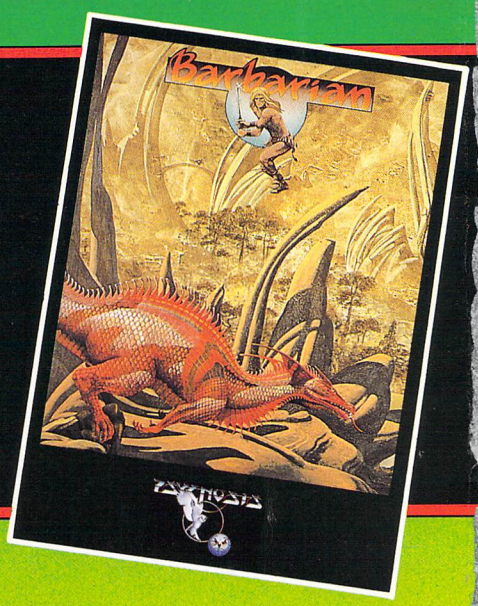
Canada $4.95

T'R'I'A'D

VOLUME · 1







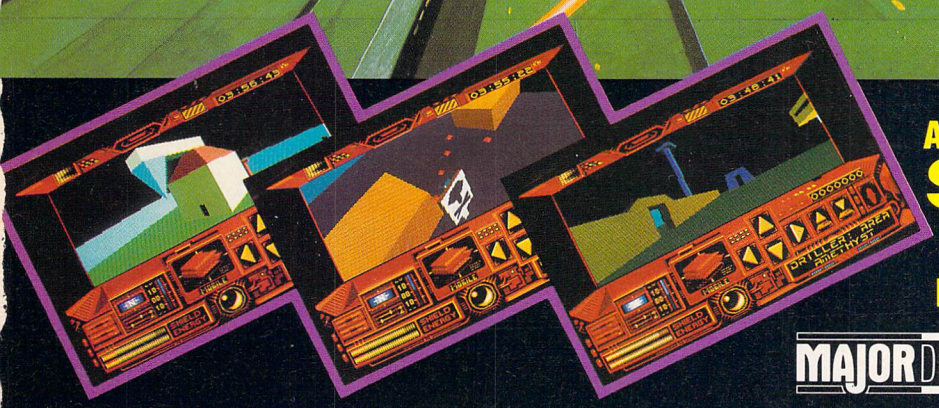
A COMPILATION OF THE THREE CLASSIC 16 BIT HITS FOR THE ATARI ST & AMIGA

£29.99

DRILLER

INTRODUCING

FREESCAPE™



A WHOLE NEW WORLD

SOLID 3D

LIKE NEVER BEFORE

ATARI ST & AMIGA £24.95

MAJOR DEVELOPMENTS MAJOR DEVELOPMENTS

Mitral – An abandoned Moon – An unstable Moon about to blow – A defence system set on automatic – Lasers that don't miss – Scanners that hunt you out. *Mitral is MASSIVE . . .*

©1988 INCENTIVE SOFTWARE LTD. ALL RIGHTS RESERVED. FREESCAPE™ IS A TRADEMARK OF INCENTIVE SOFTWARE LTD.

THE DRILLER EXPERIENCE – IN SENSATIONAL FREESCAPE™ 3D – A MISSION OF A LIFETIME!

incentive SOFTWARE LTD ZEPHYR ONE, CALLEVA PARK, ALDERMASTON, BERKSHIRE RG7 4QW (07356) 77288

Vol. 3 No. 4 November 1988

Managing Editor
Derek Meakin

Group Editor
Alan McLachlan

Features Editor
Roland Waddilove

Production Editor
Peter Glover

Editorial Assistant
Nic Outterside

Advertisement Manager
John Snowden

Advertisement Sales
Gail Blincow

Reviews Coordinator
Pam Turnbull

Promotions Editor
Christopher Payne

Promotions Coordinator
Robin Nixon

News Editor
Mike Cowley

Tel: 0625 878888 (All depts)
0625 879940 (Subs)

Telex: 9312188888 DB
Telecom Gold: 72:MAG001
Prestel Mailbox: 614568383
Fax: 0625 879966

Published by:
Database Publications Ltd,
Europa House, Adlington Park,
Adlington, Macclesfield SK10 4NP.

ABC 28,424 January-June 1988
ISSN 0952-3006

Subscription rates for
12 issues, post free:
£19 UK
£27 Europe (incl. Eire)
£42 Overseas (airmail)

Writing for Atari ST User: Articles and programs relating to the Atari ST are welcome. Articles should preferably be typed or computer-printed, using double spacing. Unsolicited manuscripts, discs etc, should be accompanied by a self addressed stamped envelope, otherwise their return cannot be guaranteed. Unless agreed otherwise, material is accepted on an all rights basis.

© 1988 Database Publications Ltd. No material may be reproduced in whole or in part without writen permission. While every care is taken, the publishers cannot be held legally responsible for any errors in articles or listings.

Atari ST User is an independent publication and Atari Corp (UK) Ltd are not responsible for any of the articles they contain or for any of the opinions expressed.

News trade distribution: Europress Sales and Distribution Limited, Unit 1, Burgess Road, Ivyhouse Lane, Hastings, East Sussex TN35 4NR. Tel: 0424 430422.

Database Publications is a division of Europress Ltd

FEATURES

News

All the latest stories and events from the expanding world of the Atari ST.
7

PC Show

A full report on the Earl's Court extravaganza: The latest products and the promises of things to come.
12

Education

Nic Outterside investigates the growth of the ST in British education and unearths quite a few surprises.
37

Brillig

Fresh from an encounter with Sinbad the sailor our adventure wizard helps intrepid ST wayfarers everywhere.
45

Vektor Grafix

Pam Turnbull treks across the wild Pennines to report on the company that created The Empire Strikes Back.
49

Piracy

This survey of protection methods reveals the intellectual battle between buccaneer and programmer and suggests a solution to the problem.
80

Shades

The fascinating interactive online fantasy world at the end of your phone.
85

MORE FOR YOUR BINDER . . .

Part 4 of The Complete Atari ST. **This increasingly popular illustrated pull-out, which comes free with *Atari ST User*, is rapidly building up into the definitive guide to the working and uses of this powerful micro.**

Continuing this month with:

- **Mixing colours and hues on the ST's palette.**
- **The differing plots of text adventures.**
- **Loops and repeating yourself within ST Basic.**
- **Finding and curing common hardware faults.**

CONTENTS

Midi

All the latest news on the ST music scene plus reviews of some bargain basement Midi software packages.

92

Gallery

The cat and the canary is the theme of our picture gallery this month.

104

Mailbag

The recent postal strike didn't stop our carrier pigeons. Here's a further selection of the brightest and best letters from our ever-bulging mailbag.

108

REVIEWS

B Spell

Nic Outterside puts the microscope on a useful speech sythesised spelling program aimed at the younger child.

21

Software

Better Dead Than Alien, The Great Giani Sisters, Space Harrier, Starfleet One, Fire and Forget, Platoon, Bermuda Project, Killdozers, Bombjack, Chubby Gristle, Revenge II, Beyond the Ice Palace ... and more.

22

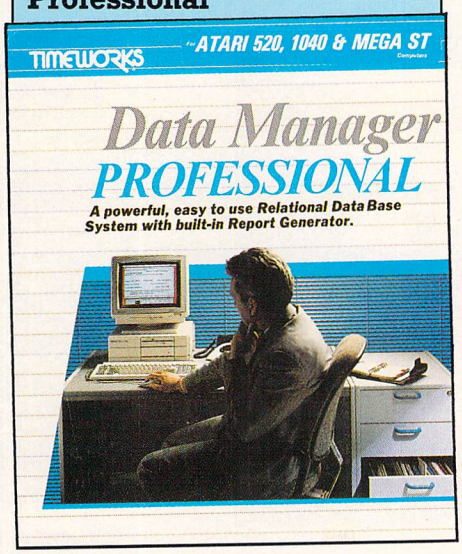
ATARI STAR USER GAME

Elite

It's here at last! Five years after its launch Elite arrives for the ST. We give it a thorough testing and find whether the wait was worthwhile.

22

Data Manager Professional



David Davenport gives an in-depth assessment of this powerful relational database manager from Timeworks.

52

Mark Williams C

We test the latest upgrade of this high-speed programming language.

59

Swiftcalc

Our business correspondent looks at a powerful and flexible spreadsheet package released from Timeworks.

76

MicroLink modem

We examine this user-friendly communications package which also includes Kuma's K-Comm II software.

97

GFA Basic

The latest upgrade to ST Basic's popular alternative is put to the test.

100

LISTING

Trivia

A shell for a superb mouse-driven trivia quiz, which can be utilised for education or entertainment purposes.

113

SupraDrive

Atari ST Hard Disk Systems

- High performance hard disk drives for Atari ST and Mega ST computers
- DMA and SCSI connectors for daisy-chaining additional devices
- Battery backed-up real-time clock
- 20, 30, 45, 60, 120, and 198MB capacities
- Includes these useful utilities:
  - Format software that allows dividing the drive into as many as 12 partitions
  - Autobooting direct from the hard disk
  - Backup and caching software
- Built-in fan

NEW!

SupraDrive FD-10

10MB Removable Floppy

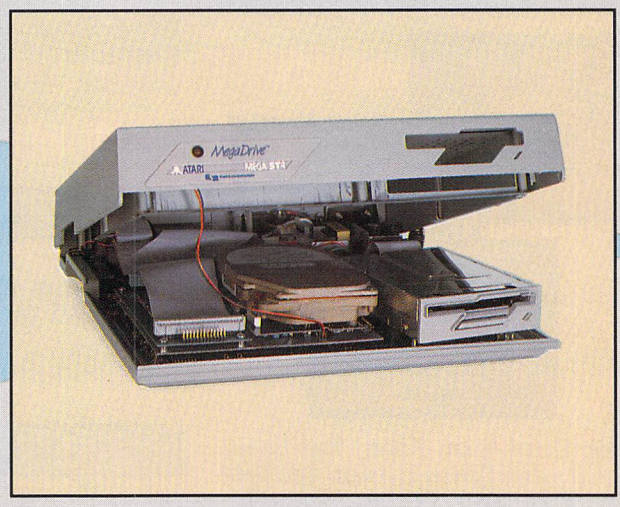
- Uses 10MB removable floppy disks for unlimited storage
- Fast transfer speed and disk access (80ms average access time)
- Reads IBM 360K and 1.2MB floppy disks
- Connects to Atari ST DMA port
- Built-in SCSI and DMA connectors
- Battery backed-up real-time clock
- Useful as primary storage and for hard disk backups and archival data storage

NEW!

MegaDrive

Internal Hard Disk System

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

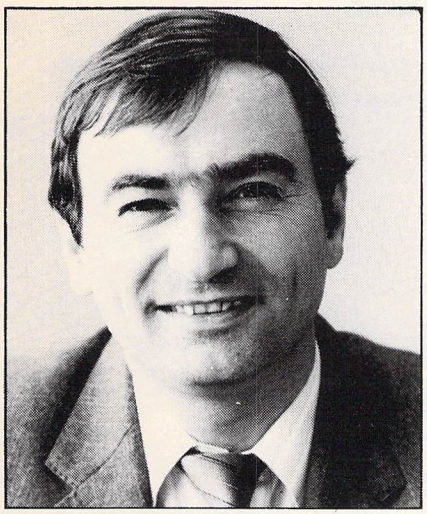


Available at your local dealer, or call:

Frontier Software

PO Box 113, Harrogate
North Yorkshire HG2 OBE
(0423) 67140/530577

Atari airlift to meet demand for Christmas



Bob Gleadow: Sales are doubled

ATARI has organised an extraordinary airlift to help meet the demand for STs at Christmas.

Managing director Bob Gleadow revealed his plans to *Atari ST User* in an exclusive interview during the PC Show.

"We've doubled our hardware sales over last year", he said. "And we're currently selling more than 10,000 STs a month.

"It's obviously going to be a record Christmas for us. We're not sure we can satisfy the orders entirely – but we're determined to come close.

"Rather than trust to luck we are making special arrangements to meet demand from the Christmas market. This includes bringing in 4,000 machines by air in addition to our normal supplies".

Gleadow gave *Atari ST User* a personally conducted tour of Atari World – the biggest single exhibit at the PC Show.

Its large and noisy games arcade, music centre and extensive business system displays were crowded throughout the show.

More good news from Gleadow on the ST front was that the 520STFM will cost only £299 while stocks last.

And the machine will be bundled with more than £450 worth of entertainment and business software – 21 top games and the Organiser suite from Triangle Publishing – in an ST Super Pack at a cost of only £399.

Price of the 1040ST – £499 – won't change, but a TV modulator is now included as standard.

At the top end of Atari's range, the Inmos T800-20 based transputer workstation was on view with a price tag below £5,000. Supplies will start to flow in December.

For a full report on the ST scene at the PC Show turn to Page 12.

Modems have American touch

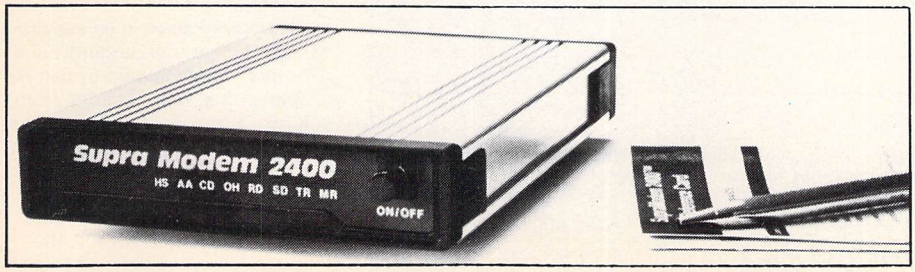
COMMUNICATIONS hardware with an American accent is on offer from Frontier Software – UK distributor of the Supra range of products.

The latest addition to the range is a European version of the SupraModem 2400, one of the most popular modems available in the States. The 2400 offers asynchronous operation at 300, 1200 and 2400 baud, auto answer and dial (pulse or tone) and has a programmable volume speaker for monitoring call progress.

Other features include facilities to store phone numbers and user configurations easily. Price £199.95.

Also available from Frontier (0423 67140) is a new 120Mb hard disc drive for the Atari ST range.

The SupraDrive, priced at £1,699.95, completes the Supra range of drives – 20Mb, 30Mb 60Mb and 195Mb models have been available for some time.



Treasure hunt marks launch of big adventure

ATARI users have been invited to take part in a treasure hunt to find the secret hiding place of a £5,000 replica of the legendary Holy Grail.

The nationwide quest has been organised by Mandarin Software (0625 878888) to mark the launch of Lancelot – a graphic adventure game based on the legend of King Arthur.

Hand-crafted from sterling silver, and gilded inside with 22 carat gold, the 7in high goblet is encrusted with semi-precious stones. It is hidden at a secret location somewhere in the UK.

To find the prize, entrants will have to survive a two-stage contest based on clues contained in the new three-adventure Lancelot package.

Contest creator and Arthurian expert Pete Austin said: "All people need to do is study the Lancelot game carefully and the clues – plus their answers – will become obvious". Price £19.95.

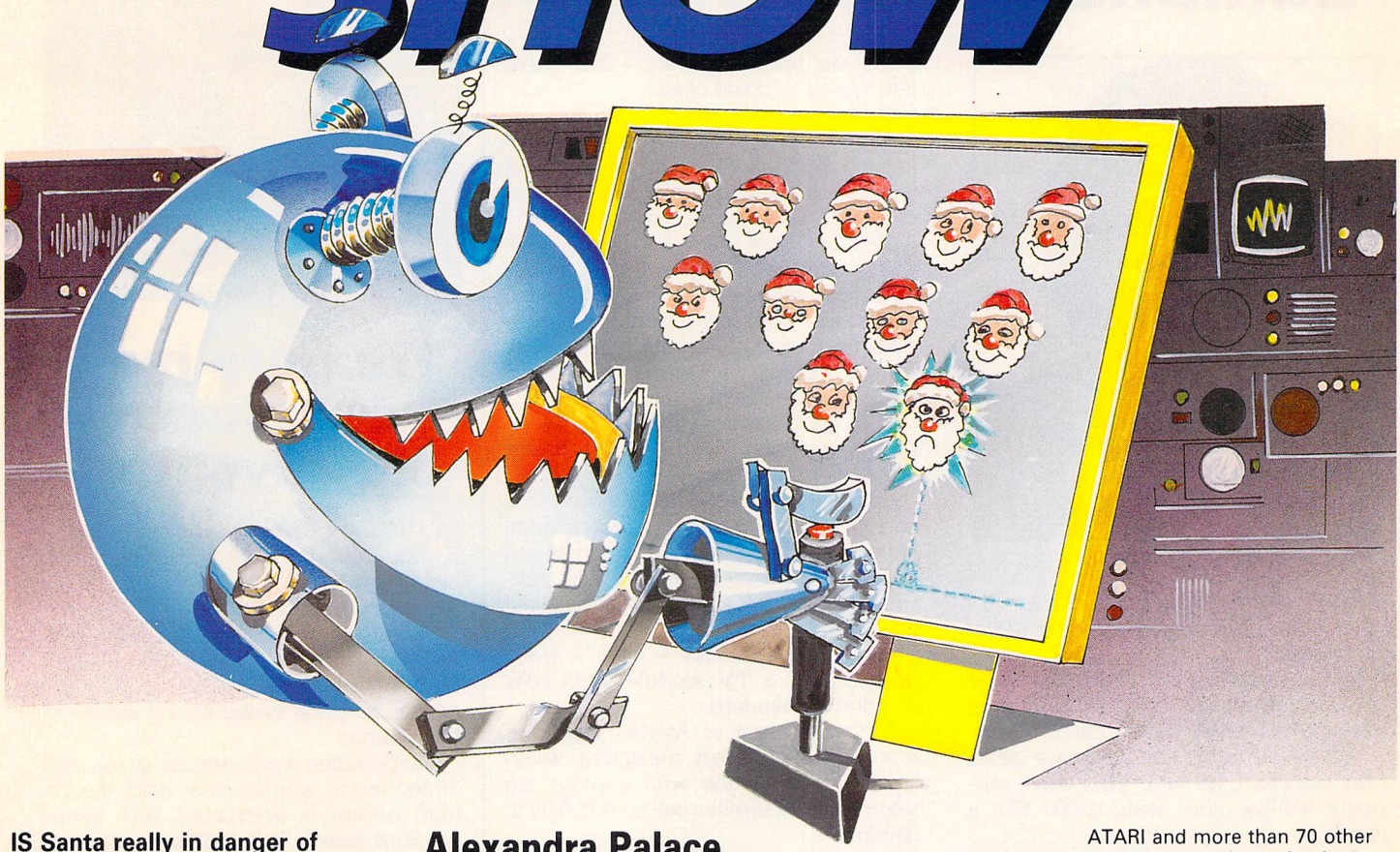
Virgin moves into 16 bit

THE Virgin Publishing empire continues to expand into the 16 bit sector.

Following the acquisition of a controlling stake in Mastertronic – and therefore Melbourne House – it has signed an agreement with Sega Enterprises of Japan.

The three-year deal allows Virgin (01-727 8070) to market Sega's Videogame hardware and software products in the UK, France and Germany.

ATARI CHRISTMAS SHOW



IS Santa really in danger of being zapped this year?

That question won't be answered until the Atari Christmas Show, when all that's new in software scenarios comes to light.

The theme for the show is Atari in entertainment – and that means games, games and more games for you to see and try!

- ★ Join Ocean, US Gold, Tynesoft and Mastertronic in a specially constructed workshop new to the show. Get their expert advice on your own games every morning – with 'hints and tips' sessions from the leading software houses' programming specialists every afternoon.
- ★ Play Double Dragon from Mastertronic in our Big Game Contest – highest score wins a major prize.

And there's even more!

- ★ A spectacular Atari Games Arcade.
- ★ The latest chart entries to try before you buy.
- ★ The chance to choose your Christmas presents from hundreds of bargain offers.

Alexandra Palace, Wood Green, London N22
November 25-27, 1988
Fri-Sat 10am-6pm; Sun 10am-4pm

ATARI CHRISTMAS SHOW **ADVANCE TICKET ORDER**

SAVE £1

Post to: Database Exhibitions, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

Please supply:

☐ **Adult tickets at £4 (save £1)** £ .....

☐ **Under-16s tickets at £2.50 (save £1)** £.....

TOTAL £.....

☐ **Cheque enclosed made payable to Database Exhibitions**

☐ **Please debit my credit card account:** ☐ **Access** ☐ **Visa**

																Expiry date: /

Name _____

Address _____

_____ **Signed** _____

Admission at door:
£5 (Adults) £3.50(Under-16s)

Advance ticket orders must be received before November 16

Phone Orders: Ring Show Hotline 0625 879920
Prestel Orders: Key *89 then 614568383
Microlink/Telecom Gold Orders Mailbox 72: MAG001

Please quote credit card number and full address A591

DATABASE EXHIBITIONS

ATARI and more than 70 other exhibitors are determined to make this the most fascinating show ever held.

No matter which Atari machine you use – or whether your interests lie in entertainment or more serious computer activities – you'll find just what you are looking for. Plus a few exciting things you didn't even know existed.

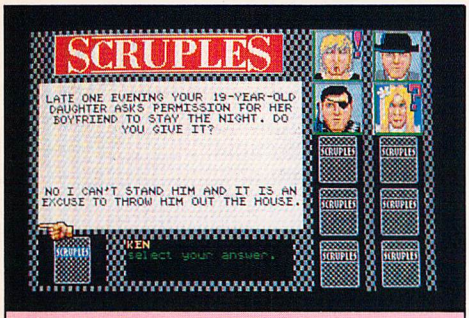
All the leading companies in the Atari market will be out in force to demonstrate the latest breakthroughs – from the most startling of software through to the most innovative of add-ons.

It all adds up to a cracking start to your best Christmas ever.

HOW TO GET THERE

Alexandra Palace is so easy to reach by car, rail, underground or bus. It has its own British Rail station, just nine minutes from King's Cross, and there's a free bus service shuttling between the station and show every 10 minutes.

● If you're travelling by road, Alexandra Palace is only 15 minutes from Junction 25 on the M25. Car parking is free.



Scruples: The prize for 50 runners-up

Winner heads for America's city of dreams

NEW York, America's "city of dreams", has been the goal for many millions of Europeans during the last 200 years, and from the number of entries the June/July competition in *Atari ST User* attracted, it still fires the imagination.

The first prize in the £4,000 competition was a flight for two to New York, plus three nights in the New York Hilton and £200 spending money. That goes to G.M. Dew of Bridgewater, Somerset, whose entry was the first correct one out of the sack.

Thousands of other readers also correctly answered the eight questions concerning New York, and there were also 110 runners up prizes to be won.

Each of the following will be receiving a copy of Virgin's Scruples for the ST:

M. Bublik, Hazel Grove; J. Elson, Boscastle; P. Coates, Rufford; U. Shimrun, Holland; I. Milne, West Germany; I. Pearce, Leicester; J. Ball, Walkley; A. Curwen, Aberystwyth; T. Stallard, Tamworth; C. Tucker, London; I. Etheridge, Leeds; I. Nourse, Ebbw Vale; A. Ekers, York; M. Leary, Heathfield; J. Fleck, Plymouth; C. Fox, Swansea; N. Scott, London; M. Smith, London; R. McKimmie, London; O. Hansen, Denmark; L. Ocesca, Ilford; K. Vancutsem, Beaconsfield; M. Hall, Consett; C. James, Chatteris; D. Wilton, Worksop; B. van der Pol, The Netherlands; M. Dack, Norwich; J. Austin, Bolton; J. Brewis, Banbury; V. Haynes, Colby; S. Cotter, Wrexham; R. Brown, Richmond; B. Wollerton, Lincoln;R. Bilboe, East Malling; D. Einig, Maghull; G. Francis, Winchester; M. Cole, Nottingham; G. Cameron, London; P. Weiss, London; P. Byrne, Dublin; D. Hodgson, Shildon; M. Makesoone, The Netherlands; J. Kiely, Dublin; C. Neale, Blackpool; S. Skjelvan, Norway; I. Riley, Burton-on-Trent; J. Harris, Richmond; T. Zatko, Maidstone; and E. Stephens, Newton Abbot.

Fifty copies of Scrabble De Luxe will be winging their way to: J. Singer, West Germany; K. Dear, Shirley; P. Lynggaard, Denmark; B. Chan, Burnley; N. Landat, Huyton; L. O'Neil, Orrell; M. Saunders, Prescot; M. Toogood, Waterlooville; S. Dawkins, Rutland; W. Maarse, The Netherlands; N. Todd, Poole; Ormond, Dyfed; J. Northan, Middlesborough; U. Johnson, Sweden; G. Watson, Poole; E. Brovig, Norway; L. Zatko, Maidstone; M. Michel, Jersey; S. Walker, Milton Keynes; J. Stanforth, Muenchen; R. Moris, Lancing; R. Lindsay, Glasgow; J. Walton, Gosport; N. Mathias, Dereham; P. Lee, Pinner; M. Douglas, Northampton; S. Raper, Bath; K. McGready, Catterick; M. Anwar, Walthamstow; M. Lewis, Peebles; P. Temple, Maastricht; D. Goulsbra, Horley; M. Kinloch, Tadley; D. Stanford, Kinross; N. Physick, Gravesend; K. Pugh, Hinckley; P. Knight, Ashton; H. Faris, Yugoslavia; N. Hay, Bristol; S. Maxwell, St Helier; J. Taylor, St Ives; J. Howard, Birchwood; J. Hooley, Long Eaton; W. Hayes, Banbridge; P. Davies, Liverpool; K. Lloyd, Caernarfon; R. Byrne, Clapham; D. Boyes, Rufforth; M. West, Loughborough; and J. Golding, Hitchin.

And another 10 people will each receive a copy of the original Scrabble Board Game: R. Jennings, Stanway; K. Creasey, Leicester; J. Wilton, Chichester; T. Johnson, Bingley; C. Donohue, Woolton; J. Noche, London; C. Briggs, Woking; S. Halliwell, Rochdale; K. Andersom, Edinburgh; and P. Stimson, Bedfordshire.

ST DESIGNS WILL COVER YOUR WALL

A YOUNG freelance designer working from a studio in London's Docklands has taken the Atari ST into the world of textile design.

Using an Atari 520ST colour system and Mirrorsoft's Art Director, Martin Brown spent six months building a portfolio of original fabric and wallpaper designs.

The hard work paid off – the designs have been favourably received by major companies, even though many of them use computerised design systems costing a great deal more than an ST.

Art Director was particularly appropriate for the creative work, offering as it does the ability to duplicate patterns of any size and use those patterns as paintbrushes, and to select subtle gradations of colour. Available from Mirrorsoft (01-377 4837) Art Director is now bundled with its sister program Film Director at the special reduced price of £49.99.

Atari gets organised with games Christmas Pack

NEWCOMERS to the Atari ST will have a chance to get themselves organised at the same time as they're enjoying a Chistmas diet of games.

For included in Atari's special Christmas Pack currently bundled with the ST is Triangle's personal productivity package, ST-Organiser – the only non-games software selected.

It's a notable coup for Triangle ((01-436 5536) and follows the company's success with PC-Organiser which is bundled with Amstrad's portable PPC.

The ST-Organiser is a fully integrated package running under Gem and comprises a word processor, spreadsheet, cardfile, diary/alarm and autodialling.

The software is also available to existing Atari ST users, priced at £49.95, and Triangle promises that other business-oriented products are in the pipeline.

Top slot for new ST Basic

ONLY seven days after its recent launch, STOS – The Games Creator burst into the Gallup Top 10 chart at number one.

The new Basic language for the ST, which is marketed under the Mandarin label, dislodged Firebird's Virus from premier position in the hotly contested Atari ST sector.

"We anticipated that STOS would be a runaway bestseller – but not quite as quickly as this", commented Mandarin's Chris Payne.

Developed by French programming team Jawx International of Paris, STOS went on public display for the first time at the Personal Computer Show.

Competing against the cream of the latest software wave, it was reported to be one of the hottest selling products.

"There was nothing else to touch it", said Mike Jones of Software Express, one of several companies to feature STOS on their stands.

"Everyone who arrived seemed to have heard of it. It's a fantastic package and the price is right. I only wish it was my product".

Similar sentiments were echoed by John Hambly of SDL, the biggest distributor in the Atari market. "We bought a lot and sold a lot", he said.

Already a number of software houses are using STOS to create the next generation of games. Leading French company

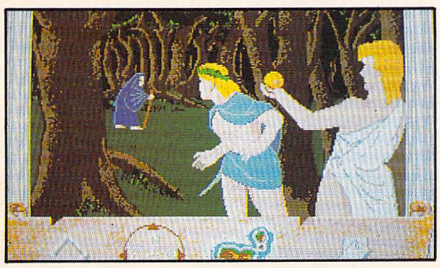
Turn to Page 10 ▶

◀ *From Page 9*

Ubi Soft is using it to develop its latest mega title – Skate Ball – and has two further STOS-based games in the pipeline.

Still in France, the ancient Greek legend of Perseus and Andromeda is being reworked by Coktel Vision. This is the first commercial game to be released written entirely in STOS Basic, and while the story may be ancient, this new graphic adventure bears all the hallmarks of the new language.

Fully animated sequences and the ability to work on both mono and colour monitors are just two of the features which demonstrate the flexibility of STOS as a games creator.



Perseus and Andromeda: First commercial game written entirely in STOS

Among UK companies now using STOS as a development tool is Capital Software, which will be redesigning its digital soundsampler with STOS. The company previously produced games programs for Software Ltd and Prism Leisure and is also well known for developing a freeze-frame system for the ST.

Enigma Variations is also currently using STOS to develop ideas for a game based around the character of Gilbert, a monster featured in the Saturday morning TV series Get Fresh. The game follows Gilbert's attempt to leave his home planet of Dril for Earth. To do this he must try and find various parts with which to build a spaceship.

However, his fellow Drilians try to prevent his departure as this will give away the secret whereabouts of their home. Before they will allow him to leave Gilbert must win a series of contests which – like his character – are quite disgusting and include a spitting competition. The game will be out just before Christmas on the Atari ST, Spectrum, Commodore 64 and Amiga.

Enigma Variations is a new company formed by Richard Naylor, previously software manager for Domark, and Mark Greenshields, a professional programmer of five years' standing. Mark is best known as the author of titles such as Bombo, Hades Nebular, Split Personality and more recently, 19.

They intend to specialise in products with small licenses and already have two more games in the pipeline and several follow-ups based on the Gilbert theme.

Heading for Journey's end

DEPARTING for once from its successful line of text-only brain twisters, Infocom has ventured into "a whole new realm of entertainment software" – Role-Play chronicles.

The concept comes from Zork Trilogy co-author Marc Blank, and the first title is Journey – which even he has some difficulty in describing.

"It's neither an interactive fiction title with multiple characters, nor is it a role playing game with text – it is a true welding of the two game types into a novel form of its own", he said.

The bare bones of the adventure involve guiding a party of travellers on a quest to defeat the evil which has invaded the land.

And although the player controls the actions of the party, characters can act independently as they solve puzzles, overcome obstacles and explore unknown lands.

Journey – complete with more than 100 illustrations and theme music – should be available for the Atari ST in early 1989.

Line still open

ROBTEK might be a name of the past, but the company's products are still available from the liquidators, Levy Gee, who will also deal with any queries regarding orders in progess. The telephone number remains unchanged: 01-847 4457.

Looking for best sellers at Atari's Christmas Show

OPPORTUNITY is knocking for the next generation of Atari games writers.

It will arrive in the form of a brand new feature area at the Atari Christmas Show – a Games Workshop.

For the first time budding authors are being invited to bring in their programs to be assessed by the UK's leading software houses.

US Gold, Ocean, Mastertronic/Virgin and Tynesoft will all have representatives on hand each morning during the show which runs from November 25 to 27 in the West Hall, Alexandra Palace.

The expert panel will comment on each game brought in and will consider marketing any exceptional programs that come to light. "Who knows, perhaps we'll find our next bestseller there", says US Gold's Charles Cecil.

Each afternoon during the show, the Atari Games Workshop will become the venue for regular "hints and tips" sessions involving the household names in entertainment software.

And for those people whose only interest in games is playing them, a Big Game High Score Contest will be open to all visitors.

Featuring Double Dragon, the ST version of the arcade game of the year from Melbourne House, the free competition will offer a major prize for the eventual winner.

LINKS SPEED SOFTWARE

WITH the availability of data transfer links between the ST and Z88, there is much interest in the latest software for the Cambridge Computer laptop.

Spell-Master from Computer Concepts (0442 63933) is a £59 easy-to-use text editor with integrated 60,000 word spelling checker. Text files created using Pipedream can be loaded into the text editor and spelling checked using the quick-edit facility.

On a smaller scale, Wordchip from Harvester Information Systems (01-831 2331) contains 30,000 words and costs £49.95. Also from Harvester comes Data Organiser for simple record keeping, price £39.95.

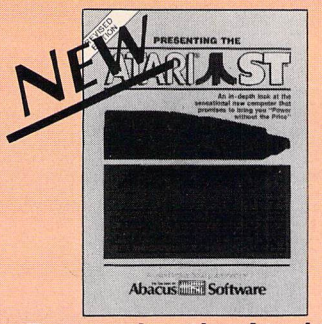
Due for release at the end of the year, priced £69, zBase database from Wordmongers (0296 437878) has a fast search facility plus the ability to index data and output files for further processing of business applications such as sales order processing and stocktaking.

Three-in-one adventuring

THE first adventure game – and start of a planned series – from Psygnosis (051-207 0825) is Chrono-Quest, a three disc package written by French development house Infomedia. The quest begins in 1920 with the discovery of a murder and the need to find a time machine the player must use. Price £29.95.

Atari ST Reference Books from Abacus Software

You Can Count On



Presenting the Atari ST

A detailed summary of the capabilities and features of the Atari ST for new and intending users.

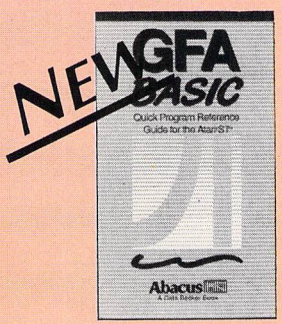
The first section covers what a computer operating system does and why the Atari ST is truly user-friendly, and includes a brief discussion of the software included with the ST system. The second section describes in greater detail the actual components and operating system, from the 68000 processor to the GEM interface.

BKAB 980 179 pages **£12.95**

The Atari ST for Beginners

With its icon-based operating system the ST is ideal for a beginner, although many aspects of the ST can be confusing to the first-time computer user. This informative book will help you learn the essentials of the Atari ST without problems. Topics include: Set-Up and connection, TOS< GEM and application programs, introductions to BASIC and LOGO programming, and a glossary of computer terms. Full of ideas for putting your Atari ST to work.

BKAB 525 203 pages **£12.95**



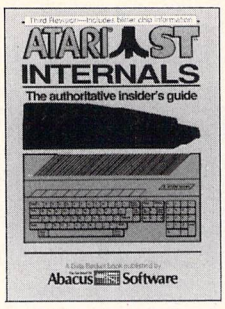
GFA BASIC

Quick Program Reference Guide for the Atari ST.

The GFA BASIC Quick Program Reference Guide is a powerful tool for programmers using one of the most popular BASIC interpreters for the Atari ST.

Designed for the intermediate and advanced level programmer, its easy-to-read, easy-to-locate organization finds commands, their uses and parameters in a flash. With its clear alphabetical listing, Quick Index and compact format, the GFA BASIC Quick Program Reference Guide is truly instant information at your fingertips.

BKAB 555 214 pages **£9.95**

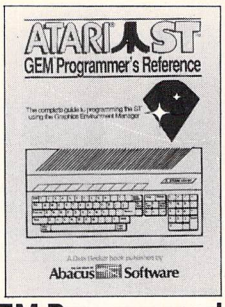


ST Internals

(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.

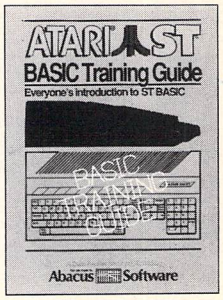
BKAB 450 446 pages **£14.95**



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.

BKAB 470 412 pages **£14.95**



ST BASIC Training Guide

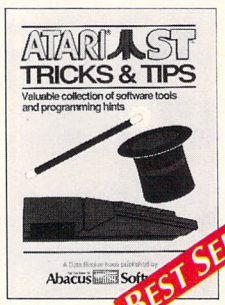
An educational, well-written introduction to Atari ST BASIC. You'll learn to program your ST quickly with the BASIC commands, problem analysis, and algorithms presented in the first few chapters. Quizzes throughout the book help you learn to think in BASIC while you get a practical grounding in the language 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.

BKAB 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 source-code 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.

BKAB 520 250 pages **£14.95**

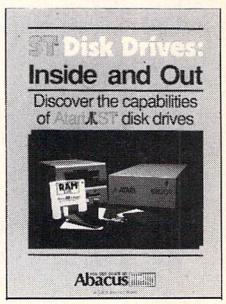


BEST SELLER

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.

BKAB 455 260 pages **£14.95**



ST Disk Drives: Inside and Out

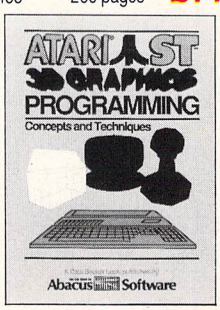
The definitive guide to the ST disk drives, including the Atari ST Hard disk. This exhaustive volume not only covers files, file structures and data management, but details both the programming and technical aspects of the floppy drives; hard drive and RAM disk. Includes program listings for several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

BKAB 445 375 pages **£16.95**

ST Machine Language

Learn 68000 machine and assembly language to make the fullest use of your ST. Takes a systematic approach in presenting number systems, logical operations and bit manipulation; use of registers, structure and details of the 68000 instruction set and the ST system routines; explains the functions of the editor, assembler, linker, etc. Contains many sample programs.

BKAB 465 280 pages **£14.95**



3-D Graphics

Teaches ultra-fast 3-D graphics techniques in 68000 machine language. Axial rotation, zooming and shading of 3-D objects. Learn the mathematics and data structures behind 3-D graphics. Topics include transformation and projection of one dimensional figures to 3-D, hidden line removal, shading, introduction to 3-D CAD. Complete with 3-D patternmaker and animator.

BKAB 550 351 pages **£16.95**

Optional Program Diskettes

Available for all of our ST Reference Library titles. The diskettes contain most of the programs found in the text of the book, saving you the time and trouble of typing them in on your keyboard.

Each diskette **£9.95**

Available from your local dealer or directly from

Precision Distribution
6 Park Terrace,
Worcester Park,
Surrey KT4 7JZ
Telex 8955021 Precis G
Fax 01-330 2089

01-330 7166

ORDER FORM Mail to: Precision Distribution, 6 Park Terrace, Worcester Park, Surrey KT4 7JZ

Please send me: _____

_____

Free postage & packing in U.K. Cheques payable to Precision Software Ltd

☐ Cheque enclosed ☐ Visa ☐ Access/Mastercard

Name _____

Address _____

_____

(Credit Card Number)

Expiry Date _____ Signature _____

_____ Postcode _____

THE PERSONAL COMPUTER SHOW

Tony Leah reports on what this year's PC Show had to offer for the Atari ST owner

BY the end of the year every TV owner in the country will have been exposed to Atari products, thanks to a £2 million advertising campaign.

Visitors to Earls Court for the PC Show have already had a preview. Although set well back from the front-of-house, the three-section Atari stand was difficult to miss. Its tented style would have made Colonel Gadhaffi feel at home, while its bustling interior seemed to please both trade and end users alike.

Atari boss Bob Gleadow was much in evidence, chatting eagerly about rising ST sales and announcing, among other things, that there would be 110 Atari Games Centres in place by the New Year.

The ST more than held its own among the games consoles and transputer workstations. Most of the action seemed to centre on ST products from Atari itself and the many third party suppliers who added their special brand of atmosphere to the stand.

There was also plenty for the ST user in both the business and leisure sections of this massive, well attended show...

Serious stuff

ELECTRIC Distribution (0954 61258) was busy demonstrating its new ST spreadsheet LDW Power. The Lotus 1-2-3 work-alike package has 300 commands, 80 functions and costs £79.95. The firm also launched 1st Word Plus version 3.0 for the ST. It has a host of new features and enhancements for faster, more professional word processing.

Amateur and professional software writers were to be seen buzzing around Mandarin Software (0625 878888) for a glimpse of the revolutionary new Basic games' language STOS in action.

From the crack French programmers at Jawx International, STOS – priced £29.95 – provides ST games authors with a vast range of new facilities. A whole new generation of STOS-inspired games are now forecast.

Microdeal (0726 68020) introduced C-Breeze – "the most advanced editor available for the C programmer on the Atari ST". The gem-based program combines the qualities of a sophisticated text editor with advanced commands for editing C source code and direct access to the compiler and its utilities. Price £24.95.

Modem Marketing (0733 230240) announced availability of the Easi Talk package for the ST in a version configured for use with Dataphone products. The amended software now runs with either the Demon II or Designer modem. Price £26.

Cameron UK (01-499 7517) was showing its £299 mouse-like Handy Scanner and promising it will have an ST version of its £590 flat-bed Personal A4 Scanner out soon.

Mini Office from Database Software (0625 878888) received its ST baptism. Two £29.95 modules – spreadsheet and communications – were launched, with word processor, database and business graphics promised soon.

"Not only is it cheaper than anything else on the ST market, it is also technically more advanced – providing all the features ST users will appreciate", said Michael Meakin, head of Database Software.

Hugh Symons Distribution (0202 745744) had an Atari ST running Passport Master Tracks Pro sequencing software.

Another musical exhibitor was Eidersoft (0372 67282) with new and enhanced digital sampling software and accessories for the ST. The latest version of Pro Sound Designer costs £64.95.

Still under development, Mouse Music is a complete digital sampling system for professionals and serious amateurs. It will cost £179.

HiSoft (0525 718181) was launching FTL Modula-2 Developer, claimed to be the first complete Modula-2 development system for the ST, at £99.95. Also demonstrated was Turbo ST for accelerated program screen output, price £39.95.

Ladbroke Computing demonstrated an £89 image scanner for the ST which fits the print head of most dot matrix printers.

Documents are fed through the printer for scanning and digitising.

Entertainment software

THE battle for supremacy in the Christmas games' market could once again be fought out between Ocean and US Gold, occupants of the two biggest, brassiest and noisiest stands in the Leisure Hall at Earls Court.

"We've been number one at Christmas for the past two years with Gauntlet and Outrun and we intend to be there again with Thunder Blade – the most popular coin-op in Europe this year", said US Gold sales boss, Geoff Brown.

"This will be backed up by Summer Games, LED Storm from Capcom and many others". The many others include – take a deep breath – Realm of the Trolls, Joan of Arc, Starball, Tiger Road, Last Duel, Human Killing Machine, Black Tiger and Forgotten World.

"We've made a big swing toward the 16 bit market in order to fully exploit all the computers on the scene now", Brown added. "We've signed an agreement with Epic guaranteeing another year of top class entertainment, and we've obtained two big licences at the show which we'll be giving details of at a later date".

Across the aisle, Ocean sales manager Paul Patterson said: "Last year people laughed when we said we'd have five games in the top 10 – but we did it. "This year we're aiming to fill the top five places, and we can do it with the likes of Batman, Rambo III, Dragon Ninja, Robocop, Operation Wolf and Wec Le Mans" – all available for the ST at £19.95.

"We've just had one of the best years ever, thanks to concentrating on quality product. We've now got an in-house programming staff of 40, including graphics and music experts – Robocop had a team of 10 to itself – most of whom have been with us two years or more.

"These days we're looking for around 100,000 sales for everything we produce".

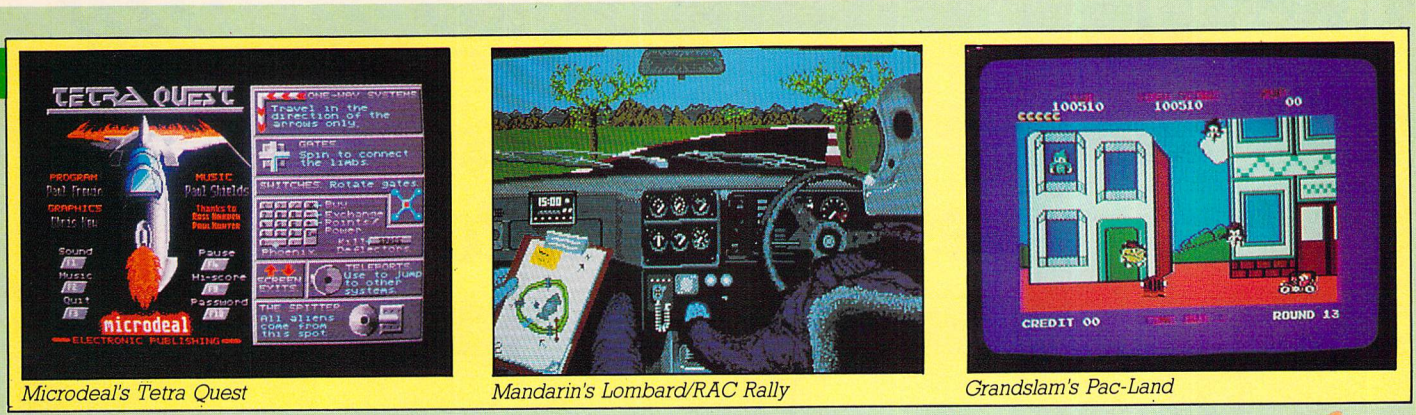
Ocean (061-832 6633) and US Gold (021-356 3388) won't have things their own way, however. They can expect plenty of competition from Telecomsoft's Rainbird and Firebird labels (01-379 6755).

Due from Rainbird this month are Fish! and Verminator, with Weird Dreams and Déjà Vu II: Lost in Los Angeles "coming soon" – priced £24.99 each.

Hot on the heels of Elite, Firebird's November release will be Blazing Barrels by Icom Simulations, price £19.99, with Savage, written and programmed by Probe Software, to follow.

Hewson (0235 832939) also previewed a strong all-action Christmas line-up for the ST in Exolon, Stormlord and Astaroth – all priced £19.99 – plus Kalashnikov, JMP and The Eliminator which are due out early in the new year.

The new Imageworks label from Mirrorsoft (01-377 4645) fulfilled its promises to stretch the ST with sophisticated games. On view were air combat simulator Sky Chase and abstract puzzle game



Microdeal's Tetra Quest | *Mandarin's Lombard/RAC Rally* | *Grandslam's Pac-Land*

Bombuzal, price £19.99, plus Fernandez Must Die and Speedball, price £24.99.

Cinemaware from Mirrorsoft to follow Defender of the Crown includes Lords of the Rising Sun and TV Sports Football.

Dungeon Master enthusiasts were pleased to hear that Chaos Strikes Back – a five level add-on – and Dungeon Master II are in the pipeline from FTL.

Other Mirrorsoft ST projects include Bismark and Theatre Europe, priced £24.99, plus Firezone, Final Frontier, Sorcerer Lord and Harpoon – all from strategy specialists PSS.

And Mirrorsoft will be releasing an ST version of Falcon AT, the award-winning fighter plane simulation from US publisher Spectrum Holobyte.

Mandarin Software (0625 878888) has made a determined entry into the ST entertainment marketplace with Lancelot and Lombard/RAC Rally, priced £19.95 each. Tri-adventure Lancelot is based on the Arthurian legend – there's a chance here to win a £5,000 replica of the Holy Grail – while Lombard/RAC Rally is bang up-to-date, faithfully recreating the gruelling cross-country journey of a 300bph Ford Sierra RS Cosworth.

Microdeal (0726 68020) showed its innovative space adventure Jug, along with the forthcoming Tetra Quest – a galactic challenge by Paul Frewin – and an arcade game based on the film Frightnight. Prices £19.95.

Christmas offering from Prism Leisure (01-804 8100) is The Kristal – not cheap at £29.95, but the three-disc science fiction odyssey programmed by Fission Chip Software is already being hailed as "the game of the decade". It has 60 screens, 75 animated sprites, 150-frame sword fights, and even a musical soundtrack narrated by Patrick Moore.

Prism also previewed Hyperforce, a 32-level space race, price £19.99, which is due for release in February.

Grandslam (01-247 6434) launched its 1-4 player board game conversion Espionage and ST versions of the Namco coin-op classics Pac-Mania and Pac-Land, all priced £19.95. Also due before Christmas is Dandy – The Computer Game.

Big Apple (01-368 5545) recreated downtown Manhattan on its stand to present its first ST product Oops!, an addictive strategy maze game priced £19.95. Other autumn releases previewed were The Fools Errand and Harrier Strike Mission II. Due early next year are Lasertrain, Thud Ridge and Greased Lightnin'.

Pride of place on the Novagen Software stand went to an entertaining demonstration of Paul Woakes' progress on his 16 bit blockbuster Damocles, sequel to Mercenary and due out for Christmas. Novagen (021-449 9516) provided further interest with an arcade machine playing last year's hit Backlash. The Intec machine has been developed by East Midlands Leisure using ST technology.

The firm's new label Quantum Design has been two years in gestation. Show visitors saw its first ST title, arcade action Transfighter, due out this month.

Because they'd worked so hard preparing pre-Christmas releases, the programmers at Domark (01-947 5622) were rewarded by a visit from Margaret Thatcher. But it was only the Spitting Image version of the Prime Minister, there to publicise Domark's latest licence.

"The game will be no-holds barred enjoyment", promised Domark boss Dominic Wheatley. "Walking Circles are programming and are working very closely with our technical people and also, very importantly, with the Spitting Image scriptwriters.

"It's a marvellous opportunity for Domark and I'm thrilled we have the opportunity to market such a title in the busiest selling season of the year. It really is completely brilliant".

Domark was also previewing a number of other entertainment products due for launch before the end of the year. They included The Computer Maniac's Diary, Return of the Jedi – last in the Star Wars trilogy – Live and Let Die and Genus II – Trivial Pursuit.

Colossus Chess X for the ST was launched by CDS Software (0302 21134). Play and graphics of this latest version of the 8 bit best-seller have been completely redesigned.

Simulations specialist MicroProse (0666 54326) was promising ST versions of Kennedy Approach and Pirates in time for Christmas.

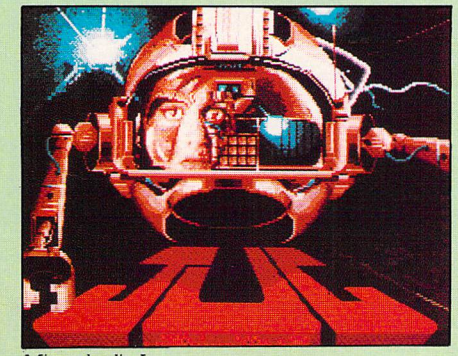
There was a first public showing by Level 9 (0344 487597) of Ingrid's Back, price £19.95, the satirical animated sequel to Gnome Ranger.

Another new 16 bit publisher – Software Horizons (01-348 4577) – launched commando mission Veteran, space fantasy Luxor and action quest Mafdet, priced £14.95.

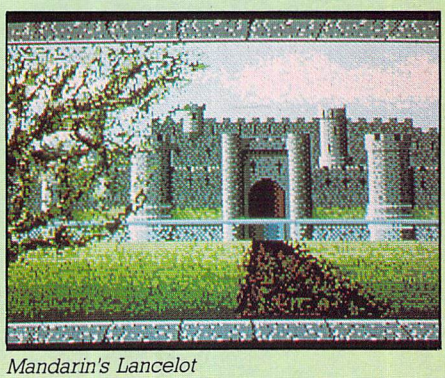
Electra Software (0865 54195) scored a hit this summer with its first release Better Dead Than Alien. Previewed at the show were its next two ST projects – Sleeping Gods Lie and Time, both demonstrating superb animated graphics.

David Martin, boss of Martech (0323 768456) was urging visitors to "grab that joystick and take to the skies" with Supercobra helicopter attack simulation Hellfire. "Added to Nigel Mansell's Grand Prix it's far and away our strongest Atari ST autumn line-up to date", said Martin.

Three new joysticks for the ST from Konix (0495 350101) made their debuts. The £14.99 ergonomic Navigator was described by Konix director Sandra Holloway as "the best joystick we've produced – it's also the best looking joystick ever". The £12.99 Predator is operated by micro switches, and the more traditional Megablaster costs £6.99.



Microdeal's Jug

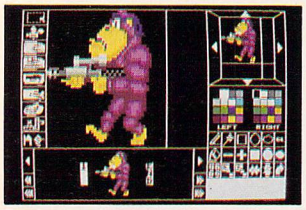


Mandarin's Lancelot

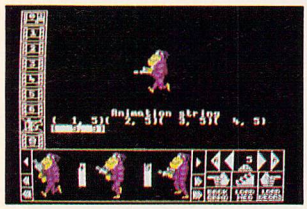
UNLEASH YOUR IMAGINATION WITH

STOS

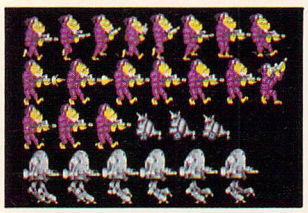
The Game Creator



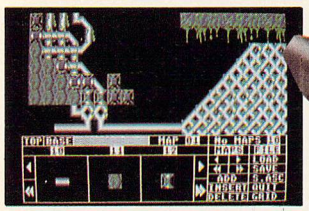
Design sprites using the powerful sprite editor



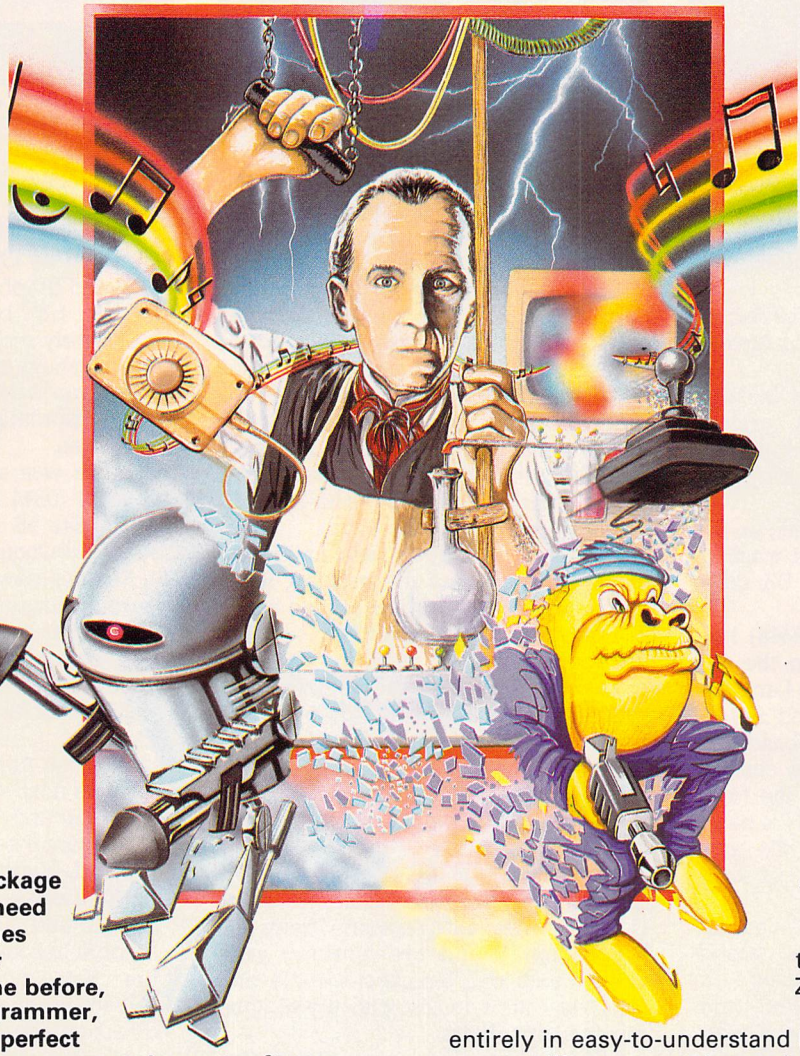
Set the sprites in motion with the animator section

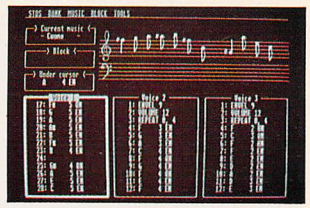


Choose from a range of example sprites included with STOS

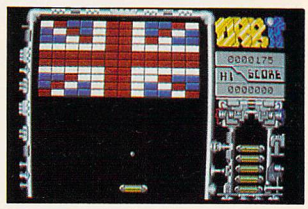


Produce a layout for each screen with the room designer



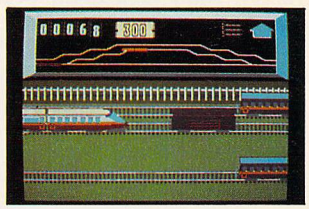


Create dynamic sound effects and compose a suitable score



Construct devious screens in the feature-packed Orbit game

Draw the flight paths of the attacking aliens in Zoltar



Blast the carriages in the horizontal-scrolling Bullet Train

STOS is a revolutionary package which has everything you need to create fast, exciting games quickly and easily. Whether you've never written a game before, or you're a competent programmer, you'll find that STOS is the perfect way for you to design your own entertainment software.

The STOS package comprises:

- A massive manual packed with easy-to-follow examples.
- At-a-glance reference card putting all the commands at your fingertips.
- Three discs containing: STOS Basic, sprite editor, room designer, character set editor, icon editor, music editor, screen compacter . . . plus many other utilities and short programs.
- An exciting opportunity to join the STOS Club for expert advice and contact names.

PLUS: Three *free* fast-action games which show you just what can be achieved with this unique package. There's Zoltar, Bullet Train and Orbit – and each game is written entirely in easy-to-understand Basic, which means you can modify or customise each one to your heart's content. Change the sprites, music, difficulty level, design new screens and so on. And by examining the programming you'll learn how to create your own games from scratch.

All this for just £29.95?

You'd better believe it!

Please send me **STOS – *The Game Creator*** at £29.95 (incl. VAT and P&P). Add £5 for Europe inc Eire/£12 Overseas

☐ I enclose a cheque payable to Mandarin Software

☐ Please debit my Access/Visa number:

Expiry date: /

Signature .....

Name .....

Address .....

.....

..... Postcode .....

MANDARIN SOFTWARE

Send to: **Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.**

Enquiries: 0625 879940

Order Hotline: 0625 879920

R221

Here's just some of the facilities that will be at your command:

• 340 powerful and versatile commands • Move and animate up to 15 sprites at once • Sprites any size up to 64 x 64 pixels • Full collision detection between each sprite or zone • Grab sprites from commercial games • Define up to 16 different types of scrolling areas • Hold up to four main programs and 12 accessory programs in memory at once • Create pull-down menus with just one command • Change modes from within a program • Overlay up to 13 windows • Compact Neochrome or Degas screens – or even sections of screens • Zoom and reduce pictures to produce incredible effects.

Compumart

A Great Deal More For a Good Deal Less!

Free FAST DELIVERY

(Monitor not included)

CREDIT TERMS AVAILABLE

FREE ONLY from Compumart!
Hi-Tech black ash finish computer desk manufactured from highest quality materials and craftsmanship with useful easy-glide drawer. Flat packed for simple home assembly
WORTH £46 when you purchase the Atari 520 STFM Superpack, ONLY from Compumart!

ATARI 520 STFM SUPERPACK

Buy this terrific Atari pack now and you get a 520 STFM with built-in Modulator, **1 meg. drive,** ½ meg. memory, instruction manual and a mouse with . . . .

Free 21 exciting action games **WORTH £400**
Free 'Organiser' integrated business software **WORTH £49.99**
Free Atari joystick **WORTH £9.95**

Only **£399**

Phone for other great ST deals ! !

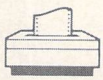
PRINTERS

From as little as £159.85 and...

Free A FREE STARTER PACK with EVERY PRINTER Only from Compumart
- 1000 sheets listing paper
- 1 EXTRA printer ribbon
- Printer interface cable (ST/Amiga/PC-please state type)

WORTH OVER £30

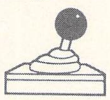
CREDIT TERMS AVAILABLE



		CITIZEN 120D	PANASONIC KX-P1081	CITIZEN LSP 100	AMSTRAD DMP 3250	PANASONIC KX-P1092	AMSTRAD LQ 5000
PRINT	9 Pin	●	●	●	●	●	
HEAD	24 Pin						●
COLUMN	80 Col.	●	●	●	●	●	
WIDTH	132 Col.						●
PAPER	Friction	●	●	●	●	●	●
FEED	Tractor	●	●	●	●	●	●
PRINTER SPEED	Draft cps	120	120	175	160	160	288
	NLQ cps	25	28	30	40	35	96
INTERNAL BUFFER		4K	1K	4K	2K	1K	8K
OUR PRICE		£159.85	£175.95	£182.85	£217.35	£263.35	£428.95

SUNDRIES

LISTING PAPER 2000 sheets high quality 11" x 9½", microperf all round, 60gsm. **£14.95**



JOYSTICKS The new 'Microblaster' joystick from REPLAY, *order today and . . Take Control* **£12.95**

MOUSE MATS High quality Mouse Mats for your desk top. **£5.95**

DISK STORAGE MD 70L Lockable 3½" disk storage box, holds up to 70 disks. **£12.95**

WITH A FREE 3½" DISK ! ! !

MONITORS
Philips CM8833, 14" colour **£274.85**
Atari SM124, 12" mono **£128.80**

WITH A FREE ST CABLE WORTH £12

DISK DRIVES All 1 meg. with internal power supplies

TRIANGLE	£99
CUMANA	£99
POWER	£109

QUALITY BLANK DISKS

Why buy unlabelled disks when you can have branded quality at prices like these ! !

Choose either...

TDK. "The Specialists in Data Storage"

BASF "All You Need and More"

Both are certified 100% error free and offer a lifetime warranty

Prices are per box of 10 disks

	1-4 Boxes	5-9 Boxes	10 + Boxes
3.5" SS	15.99	14.84	13.69
3.5" DS	20.59	19.44	18.29

Please state type (TDK or BASF) when ordering

24HR ORDER HOTLINE (0509) 610444

ACCESS VISA

Superb Service

- Usually same day despatch on most items
- FREE, next working day delivery on all hardware, allow 2-5 days for other items
- Large stocks for immediate despatch
- FAST, efficient service

Great Guarantees

- If any item proves to have a manufacturing fault within 30 days we will replace free of charge or refund in full
- After 30 days and within the warranty period, we will repair at our expense

Better Back-up

- Friendly advice and after sales support
- Any problems quickly resolved to your complete satisfaction
- Special offers to existing customers We aim to please . . . and usually do!

All prices inclusive of VAT

Prices/delivery subject to availability and only applicable to UK mainland, N. Ireland and BFPO's. E&OE
Compumart are licensed credit brokers. Simply ask for written details.

Compumart
A Great Deal More, For a Good Deal Less

COMPUMART LTD
FREEPOST (AST)
LOUGHBOROUGH
LEICS LE11 0BR
TEL: 0509 610444
FAX: 0509 610235

CYBER SERIES

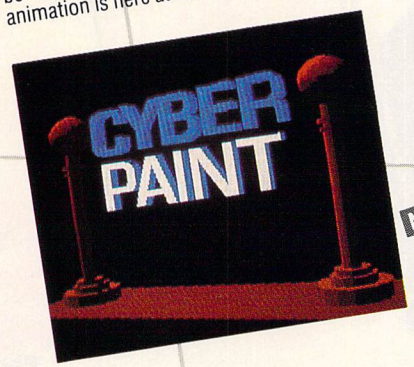
CYBER PAINT

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

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

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

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



CYBER CONTROL

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

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

NEW! CARTOON DESIGN DISK

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

NEW! CYBER SCULPT

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

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

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

NEW! VIDEO TITLING DESIGN DISK

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

HUMAN DESIGN DISK

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

FUTURE DESIGN DISK

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

ARCHITECTURAL DESIGN DISK

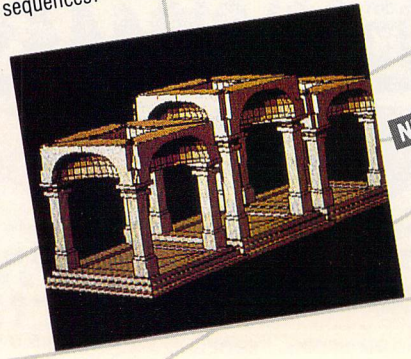
An electronic architect's studio packed with doors, windows, stairways — all you need to build your own CAD-3D dream house.

CYBER STUDIO

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

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

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



3D DEVELOPER'S DISK

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

3D PLOTTER & PRINTER DRIVERS

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

NEW! 3D FONTS I & II

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

STEREOTEK

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

G.I.S.T.

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

CYBER SERIES

	● CYBER STUDIO	£79.95
	● CYBER PAINT	£69.95
	● CYBER CONTROL	£59.95
NEW!	● CYBER SCULPT	T.B.A.
NEW!	● CARTOON DESIGN DISK	£29.95
	● HUMAN DESIGN DISK	£29.95
	● FUTURE DESIGN DISK	£24.95
	● ARCHITECTURAL DESIGN DISK	£29.95
NEW!	● VIDEO TITLING DESIGN DISK	£29.95
	● 3D DEVELOPER'S DISK	£29.95
	● 3D PLOTTER & PRINTER DRIVERS	£24.95
	● 3D FONTS I	£29.95
NEW!	● 3D FONTS II	£29.95
	● STEREOTEK	£149.95
	● G.I.S.T.	£34.95

Antic

From Antic Publishing,Inc. An Information Technology Company

THE CYBER SERIES

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

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

Start with Cyber Studio, mainstay of the Cyber Series, then add other Cyber products, each with their own exciting features, to build a powerful library of programs capable of breathing even more life into your Cyber creations. Everything from sound effects to a specialised animation control language. It's just what your ST's been waiting for!

ELECTRIC DISTRIBUTION,
8 GREEN STREET, WILLINGHAM, CAMBRIDGE, CB4 5JA
Tel: (0954) 61258. Fax: (0954)61345 . Telex: 817057 GSTUK G.

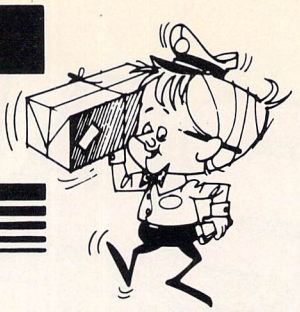
Please send me more details of the Cyber series.

NAME _____ MACHINE _____

ADDRESS _____

_____ POSTCODE _____

BYTEBACK



FAST DELIVERY SERVICE
... and the keenest prices

Ring us now! **0636-79097** we're programmed to help

NEW TITLES	ONLY!
Starglider 2	16.95
Night Raider	16.95
Round the World in 80 Days	13.95
Elemental	13.95
CHRONO QUEST 20.95	
Driller	16.95
Daley Thompson	13.95
Hyperbowl	6.94
Where Time Stood Still	13.95
Pacmania	13.95
Fish	16.95
ELITE 16.95	
Nebulus	13.95
Trip a Tron	24.95
Allternative Reality	13.95
Zynaps	13.95
Star Goose	13.95
Helter Skelter	9.95
FEDERATION OF FREE TRADERS 24.95	
Super Hang On	13.95
Whirligig	13.95
Sinbad	16.95
Strip Poker 2 Data Disk	6.95
Garfield	13.95
Hotshot	13.95
LEADERBOARD BIRDIE (Golf + Tournament Disk!) 16.95	
Netherworld	13.95
Eliminator	13.95
Powerdrome	16.95
Empire	16.95
Virus	13.95
Star Ray	13.95
STOS (Arcade Game creator)	22.95
Space Harrier	13.95
5 STAR Games Pack Barbarian, Crazy Cars, Wizball, Enduro racer, Wizball 16.95	
Summer Olympiad	13.95
Street Fighter	16.95
Chubby Gristle	13.95
Quadralien	13.95
Bombjack	13.95
Revenge of DoH	13.95
Garfield	13.95
Verminator	16.95

GAMES	ONLY!
Alien	13.95
Bad Cat	16.95
Better Dead Than Alien	13.95
Bermuda Project	16.95
Beyond Ice Palace	13.95
Bionic Commandos	16.95
Black Lamp	13.95
Bubble Bobble	13.95
Buggy Boy	13.95
Captain Blood	16.95

GAMES	ONLY!
Chessmaster 2000	16.95
Chubby Gristle	13.95
Dungeon Master	16.95
ELF	13.95
Empire Strikes Back	13.95
Foundation Waste	16.95
Fire and Forget	16.95
Football Manager 2	13.95
Goldrunner 2	13.95
Gauntlet II	16.95
Gunship	16.95
Hunt for Red October	16.96
JET (F16 Falcon)	29.95
Flight Simulator II	34.95
Western Europe scenery	13.95
Japan Scenery disc	13.95
Scenery disc 7	16.95
Scenery disc 11	16.95
Leaderboard	19.95
Lords of Conquest	16.95
Masters of Universe	16.95
Mickey Mouse	16.95
Obliterator	16.95
Oids	13.95
Outrun	16.95
Overlander	13.95
Pete Beardsley Football	13.95
Pandora	13.95
Phantasm	13.95
Platoon	13.95
Rolling Thunder	13.95
Scrabble Deluxe	13.95
Sidewinder	6.95
Star Fleet 1	16.95
Star Wars	13.95
Strip Poker 2+	9.95
Sundog	9.95
Super Ski	13.95
WORLDS GREATEST EPYX Championship Wrestling Winter Games & Super Cycle 20.95	
Test Drive	16.95
Vectorball	10.45
Wargame Construction	19.95
World Darts	9.95
Xenon	13.95

ADVENTURES	ONLY!
Bards Tale	16.95
Beyond Zork	16.95
Corruption	16.95
Deja Vu	16.95
Shadowgate	16.95
Guild of Thieves	16.95
Jinxter	16.95
Legend of the Sword	16.95
ST Adventure Creator 27.50	
Leisure Suit Harry	16.95
Mindfighter	16.95
Time and Magic	13.95
Uninvited	16.95
EASY DRAW 2 New SUPERCHARGE Version 69.95	

ART & MUSIC	ONLY!
Degas Elite	16.95
GFA Draft Plus	111.95
Music Construction	19.95
Quantum Paint	13.95
Spectrum 512	47.95
Cyber Studio	63.95
Supplementary Packages:	
Cyber Paint	55.95
Genesis	63.95
Cyber Control	47.95
Architecture	23.95
3D Developers	23.95
G.I.S.T.	27.95
Human Forms	23.95
Future Designs	19.95
Sterotek 3D Glasses	135.00
Advanced Art Studio	16.95
CAD 3D	17.50

UTILITIES	ONLY!
Desktop Publisher	79.00
Fastcom	45.00
First Word Plus	59.95
K-Data	36.95
K-Spread 2	56.95
Saved (NEW)	20.95
PROCOPY NEW Version 1.60 27.50	
Database Professional	52.50
ST Doctor	13.95
Superbase Personal	79.95
Superbase Professional	175.00
Word Perfect	185.00
Word Writer	59.95
Data Manager	29.95
Swiftcalc	29.95

LANGUAGES	ONLY!
HiSoft POWER Basic	32.95
HiSoft Basic	59.95
HiSoft Devpac ST (2)	47.95
Fast ASM	13.95
GFA BASIC NEW Version 3 'The SuperBASIC' 49.95	
Fast Basic (Rom)	64.95
Fast Basic (Disk)	32.95
GFA Basic Compiler	34.95
GFA Companion	22.50
GST Macro Assembler	18.50
GST C Compiler	18.50
MCC Assembler	36.95
MCC Pascal (2)	69.95
MCC Lattice C (3.04)	69.95
ATARI STFM SUPER PACK £369.95 inc VAT and DELIVERY!	

Half Price or less!!!	RRP	Only
Altair	19.95	9.95
Amazon Adventure	9.95	9.95
Addictaball	14.95	7.45
Brimstone	29.95	14.95
Champ'ship Water Ski	19.95	9.95
Checkmate	9.95	4.95
Clever & Smart	19.95	9.95
Crash Garrett	19.95	9.95
Dark Castle	24.95	12.45
Dizzy Wizard	19.95	9.95
Deathstrike	14.95	7.45
Essex	29.95	14.95
Eye	14.95	7.45
Extensor	19.95	9.95
Gambler	14.95	7.45
Hollywood Hijinx	29.95	14.95
Hacker 2	24.95	12.45
Indiana Jones	19.95	9.95
Karate Kid 2	24.95	12.45
Lands of Havoc	19.95	9.95
Leviathan	14.95	7.45
Livingstone	14.95	7.45
Little Computer People	24.95	12.45
Moonmist	29.95	14.95
Metrocross	24.95	12.45
Metropolis	12.95	6.45
MGT	24.95	12.45
Mind Forever Voyaging	34.95	17.45
Mission House	19.95	9.95
Moebius	24.95	12.45
Passengers on Wind	24.95	12.45
Phoenix	19.95	9.95
Not a Penny More	19.95	9.95
Powerplay	19.95	9.95
Rockford	19.95	9.95
Shanghai	24.95	12.45
Sidewalk	19.95	9.95
Skulldiggery	19.95	9.95
Skyrider	14.95	7.45
Space Ace	19.95	9.95
Space Pilot	19.95	9.95
Space Port	19.99	9.95
ST Wars	19.95	9.95
Tai-Pan	19.95	9.95
Tass Times Tone Town	24.95	12.45
Tee-Up	14.95	7.45
Terrest. Encounter	14.95	7.45
TNT	19.95	9.95
Tournament of Death	19.95	9.95
Trauma	19.95	9.95
Trinity	34.95	17.45
Wanderer 3D	24.95	12.45
Western Games	19.95	9.95
World Games	24.95	12.45
3D Galax	19.95	9.95

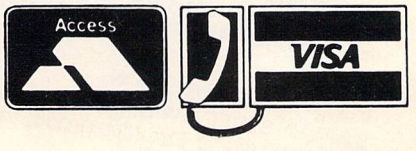
ACCESSORIES	ONLY!
3.5" Disks SS/DD (x10)	10.95
3.5" Disks DS/DD (x10)	11.95
Locking Disk Box (40)	7.95
Locking Disk Box (80)	9.95
Media Box (Holds 150 disks)	19.95
FURRY MOUSE COVER Your Mouse is NAKED without one! 6.95	
Mouse Bracket	2.99
Mouse Mat (Best Quality)	5.95
Keyboard Cover	5.95
Joystick/Mouse Extension	4.95
Wiz Card controller	3.50
4 Player joystick adaptor	5.50
Quickshot II	7.95
Quickshot II Turbo	12.95
Competition PRO 5000	15.95
Arcade Joystick	16.95

The above is just a small selection of our VAST stock of 16 BIT software!
Ask for our full catalogue including 100's of Public Domain Disks

BYTEBACK

DEPT STU, 6 MUMBY CLOSE, NEWARK, NOTTS NG24 1JE

Cheque, postal orders or credit card facilities are available



NORTH NOTTS COMPUTERS

Specialists in computer hardware and software for Atari ST & Amiga

23 Outram Street, Sutton-in-Ashfield, Notts NG17 4BA

Mail Order Tel: (0623) 556686 (24 Hour Answering Service)

Prices include VAT. For Hardware orders add £8 P&P All prices are subject to change without prior notice
Offers subject to availability. No deposit finance arranged. Written details on request. Overseas orders accepted
Please ring for details of any new releases
Visit our extensive showrooms for the latest Christmas Software and Hardware bundles
Full range of Software for most machines always on display

Access VISA

PACK A

Atari 520 STFM Standard Pack

- ★ Atari 520STFM Computer
- ★ Fitted 0.5 Mb Disk Drive
- ★ Free P.D. Software
- ★ Mouse, leads, manuals

Excellent Value at only £294.95

- ★ **With 1084 H/R Colour Monitor + lead £599.95**

PACK B

- ★ Atari 1040STFM Computer
- ★ Fitted 1 Mb Disk Drive
- ★ 10 Blank Disks
- ★ Lockable Disc Box
- ★ Mouse Mat
- ★ Mouse, leads, manuals

Excellent Value at only £499.95

MONITORS/PRINTERS/ DISK DRIVES/& ACCESSORIES

★ 1084 H/R Colour Monitor	£249.95
★ Atari M/R col monitor + lead	£379.95
★ Atari H/R mono monitor + lead	£139.95
★ 3.5 Cumana 1Mb Disc Drive	£114.95
★ 5.25 Cumana 1Mb Disc Drive	£149.95
★ 3.5 Atari 1Mb Disk Drive	£184.95
★ Atari SMM804 D/M Printer + lead	£184.95
★ Citizen 120D D/M Printer + lead	£159.95
★ Star LC10 Colour Printer + lead	£269.95
★ Atari ST Mouse	£24.95
★ Lockable Disc Box (100PCS)	£12.95
★ 10 3.5" D/S Discs	£10.95
★ Lockable Disc Box (40PCS)	£9.95
★ 40 3.5 D/S Discs at only	£43.95

BOOKS

★ A thousand and one things to do with Atari ST	£10.00
★ First Book on Atari ST	£16.95
★ Atari ST 3D Graphic Prog.	£16.95
★ Atari ST Advanced Prog Guide	£10.95
★ Atari ST Application Prog	£22.95
★ Atari ST Basic Training Guide	£12.95
★ Atari ST Basic to C	£14.95
★ Atari ST Explores	£8.95
★ Atari ST Internal	£14.95
★ Atari ST Intro to Midi Prog	£14.95
★ Atari ST Machine Lange 68000	£14.95
★ Atari ST Peeks and Pokes	£12.95
★ Atari ST Tricks and Tips	£14.95
★ Atari ST for Beginners	£12.95
★ GEM Programmers Reference Guide	£14.95
★ Practical Basic on Atari ST	£6.50
★ ST Disc Drives inside and out	£16.95
★ Using Logo on the Atari ST	£4.00
★ Using ST Basic on the Atari ST	£7.95

PACK C

Atari 520 STFM Super Pack

- ★ Atari 520 STFM Computer
- ★ Fitted 1 Mb Disk Drive
- ★ Free Joystick
- ★ Mouse, leads, manuals
- ★ Free 22 Top Titles

Marble Madness	Chopper X
Test Drive	Roadwars
Beyond the Ice Palace	Zenon
Buggy Boy	Arkanoid II
Super Ski	Wizball
Ikari Warriors	Blacklamp
Thunder Cats	Genesis
Ranarama	Thrust
Zynaps	Seconds Out
Quadralien	Summer Olympiad 88
Starquake	Organiser Business Software

All this for only £379.95

PACK D

Atari 520 STFM Super Pack

- ★ Atari 520 STFM Computer
- ★ Fitted 1 Mb Disk Drive
- ★ Free Joystick
- ★ Lockable Disc Box
- ★ 10 Blank Discs
- ★ ST Source Book
- ★ Mouse Mat
- ★ Free 22 Top Titles

Marble Madness	Chopper X
Test Drive	Roadwars
Beyond the Ice Palace	Zenon
Buggy Boy	Arkanoid II
Super Ski	Wizball
Ikari Warriors	Blacklamp
Thunder Cats	Genesis
Ranarama	Thrust
Zynaps	Seconds Out
Quadralien	Summer Olympiad 88
Starquake	Organiser Business Software

All this for only £399.95

ATARI 520ST/FM 1Mb MEMORY UPGRADE

Includes:

- ★ Built-in A/B Drive Select Switch
- ★ Free collection & delivery direct to your house
- ★ 3 months full warranty on work carried out

All for £139.95

Pack A is available at the end of October 1988. For all the latest details on Atari packs phone and quote ST User

SOFTWARE

ATARI ST BUSINESS & MISC	RRP	OUR
Time Works Desk Top Publisher	99.95	89.95
Spectrum 512 (60Khz Monitors Only)	59.95	47.95
Cad 3D for the 520STFM	29.95	24.95
Cad 3D V.2 for the 1040 STFM	79.95	69.95
Cyberpaint for the 1040 STFM	69.95	59.95
Start Magazine from America with disk	12.95	12.95
1st Word Plus	79.95	69.95
Accountant	171.85	159.95
Accountant Plus	228.95	199.95
Payroll	49.00	43.95
Stock Control	49.00	39.95
Superbase Personal	99.95	94.95
D Base II	99.95	94.95
DB Calc	49.95	43.95
Art Director	49.95	44.95
Film Director	59.95	54.95
K Graph 2	49.95	44.95
Micro Time Clock Card	29.95	27.95
Fleet Street Publisher	115.00	105.00
Advanced Art Studio	24.95	17.50
K Spread 2	79.95	69.95
Certificate Maker	24.99	22.45
K Switch	29.95	24.95
Colour Writer	49.95	44.95
Haba Writer	59.95	54.95
ST Replay	79.95	74.95
Print Master	29.95	24.95

LOWEST PRICES ON ALL SOFTWARE PLUS FAST RELIABLE SERVICE

ATARI ST ARCADE GAMES	RRP	OUR
OUTRUN (While stocks last)	19.95	16.95
Starglider II	24.95	17.50
Nightraider	19.95	16.95
Birdie (Leaderboard Golf)	19.95	16.95
Super Hang-On	19.95	13.95
Trip A Tron	34.95	29.95
Verminator		Phone
Elite		Phone
Around the World in 80 Days		Phone
Hyperball		Phone
Buggy Boy	19.95	13.95
Mouse Trap	14.95	10.95
Star Glider	24.95	16.95
Beyond the Ice Palace	19.95	13.95
Sidewinder	9.95	8.50
Goldrunner II	19.,95	13.95
Ikari Warriors	14.95	13.95
Roadwars	19.95	13.95
Gauntlet II	19.95	16.95
Leathernecks	19.95	13.95
Mach 3	19.95	13.95
Predator	19.95	13.95
Wizball	19.95	13.95
Bubble Bobble	19.95	13.95
Crazy Cars	19.95	13.95
Black Lamp	19.95	13.95
Oids	19.95	13.95
International Soccer	19.95	13.95
Super Sprint	14.95	12.95
Star Wars	19.95	13.95
Empire Strikes Back	19.95	13.95
Overlander	19.95	13.95

	RRP	OUR
Virus	19.95	13.95
Summer Olympiad 88	19.95	13.95
Space Harrier	19.95	13.95
Army Moves	19.95	13.95
Arkanoid II (Revenge of Doh)	19.95	13.95
Street figher	19.95	15.95
Chubby Gristle	19.95	13.95
Quradralien	19.95	13.95
Battle Probe	14.95	12.95
Bomb Jack	19.95	13.95
Mickey Mouse	19.95	15.95
Eddie Edwards Pro Ski	19.95	13.95
Return to Genesis	19.95	13.95
Solomons Key	19.95	15.95
Sidearms	19.95	13.95
Better Dead Than Alien	19.95	13.95
Fire and Forget	19.95	13.95
Wizard Warz	19.95	15.95
Corruption	24.95	17.50
Alien Syndrome	19.95	13.95
Phantasm	19.95	13.95
Bionic Commander	19.95	16.95
Football Manager II	19.95	13.95
Peter Beardsleys Soccer	19.95	13.95

ATARI ST ARCADE ADVENTURE		
Captain Blood	24.95	17.50
Impossible Mission II	19.95	15.95
Knightmare	19.95	13.95
Vampire Empire	19.95	15.95
Terramex	19.95	13.95

	RRP	OUR
Dungeon Master	24.95	17.50
Obliterator	24.95	17.50
Carrier Command	24.95	17.50

ATARI ST ADVENTURES	RRP	OUR
STAC	39.95	32.95
Legend of the Sword	24.95	17.50
The Pawn	24.95	17.50
Guild of Thieves	24.95	17.50
Jinxter	24.95	17.50
Kings Quest I	19.95	13.95
Kings Quest II	19.95	13.95
Kings Quest III	19.95	13.95
Lurking Horror	29.95	20.95

ATARI ST SIMULATIONS & BOARD GAMES		
Delux Scrabble	19.95	13.95
Powerplay	19.95	13.95
Universal Military Simulator	24.95	17.50
Gunship	24.95	17.50
Flight Simulator II	49.95	39.95
Spitfire 40	24.95	17.50
Balance of Power	29.95	20.95
Defender of the Crown	29.95	20.95
F15 Strike Eagle	24.95	17.50
Hunt for Red October	24.95	17.50
Silent Service	24.95	17.50
Strike Force Harrier	24.95	17.50
Cricket Crazy	14.95	12.95

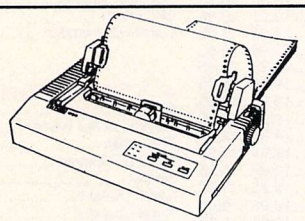
PLEASE BRING OR QUOTE THIS ADVERT AS SHOP PRICES MAY VARY
PLEASE MAKE CHEQUES & P.O.s PAYABLE TO NORTH NOTTS COMPUTERS
Slight discount price increases in any software is regrettable but necessary due to new trade price alterations

**FIDGET LTD., 150 DESBOROUGH ROAD,
HIGH WYCOMBE, BUCKS. HP11 2QA
TEL: (0494) 33144/32018**

FIDGET

Title	RRP	Fidget
3-D Galax	19.95	15.95
Advanced Art Studio	24.95	15.95
Airball	24.95	15.95
Altair	19.95	12.95
Amazon Adventure	19.95	12.95
American Pool	9.95	6.95
Annals of Rome	24.99	15.95
Arena/Bratacas Twin Pack	34.95	23.95
Arkanoid II	19.95	12.95
Army Moves	19.95	12.95
Backlash	19.95	12.95
Bad Cats	19.95	15.95
Balance of Power	29.95	19.95
Barbarians (Palace)	14.99	10.50
Barbarians (Psygnosis)	24.95	15.95
Better Dead Than Alien	19.95	12.95
Beyond Zork	24.95	15.95
Black Lamp	19.95	12.95
Blue War	19.95	15.95
Boulderdash Construction Set	24.95	15.95
Brian Cloughs Football	24.95	15.95
Bubble Bobble	19.95	12.95
Bubble Ghost	19.95	12.95
Buggy Boy	19.95	12.95
Burmuda Project	19.95	12.95
Captain America	19.95	15.95
Captain Blood	24.95	15.95
Carrier Command	24.95	15.95
Certificate Maker	24.99	15.95
Championship Baseball	24.95	15.95
Chopper X	9.95	6.95
Clasiques One	19.95	12.95
Clever and Smart	19.95	12.95
Colonial Quest	29.99	19.95
Corruption	24.95	15.95
Crash Garrett	19.95	12.95
Dark Castle	24.99	15.95
Deep Space	34.95	23.95
Defender of the Crown	29.95	19.95
Deja Vu	24.95	15.95
Diablo	14.95	10.50
Dizzy Wizard	19.95	12.95
Dungeon Master	24.95	15.95
Eagles Nest	19.95	12.95
Eddie Edwards Super Ski	19.95	12.95
Empire Strikes Back	19.95	12.95
Enduro Racer	14.99	10.50
Enforcer	9.95	6.95
Epix Epics	29.99	19.95
Eye	14.95	10.50
F-15 Strike Eagle	24.95	15.95
Fire & Forget	24.95	15.95
Fireblaster	19.95	12.95
Flight Simulator Scenery	24.95	15.95
Flight Simulator	45.95	35.95
Football Manager II	19.95	12.95
Gato	29.95	19.95
Gauntlet II	19.95	16.94
Get Dexter II	19.95	12.95
GFL Football	24.95	15.95
Goldrunner I	24.95	15.95
Goldrunner II	19.95	12.95
Guild of Thieves	24.95	15.95
Gunship	24.95	15.95
Hacker 2	24.95	15.95
Hadleys Nebula	9.95	6.95
Hardball	24.99	15.95
Hollywood Poker	14.95	10.50
Hunt for Red October	24.95	15.95
Ikari Warriors	14.99	10.50
Impact	14.95	10.50
International Soccer	19.95	12.95
Jewels of Darkness	19.95	12.95
Jinxter	24.95	15.95
Karate	24.95	15.95
Killdozers	19.95	12.95
King's Quest	29.95	19.95
Knight Orc	19.95	12.95
Krazy Cars	19.95	12.95
Las Vegas Gambler	9.95	6.95
Legend of the Sword	24.95	15.95
Leisure Suit Larry etc.	19.95	12.95
Leviathan	14.95	10.50
Macadam Bumper	24.95	15.95
Mean 18	29.99	19.95
Mercenary	24.99	15.95
Mickey Mouse	19.95	15.95
Mindfighter	24.95	15.95
Mission Genicide	9.95	6.95
Moebious	24.95	15.95
Mortville Manor	24.95	15.95
Mud Pies	19.95	9.95
Ninja	9.99	6.95
Obliterator	24.95	15.95
Ogre	24.95	15.95
Oids	19.95	12.95
Overlander	19.95	12.95
Outcast	9.95	6.95
Out Run	19.95	15.95
Pandora	19.95	12.95
Peter Beardsley	19.95	12.95
Phantasie II	24.95	20.95
Platoon	19.95	12.95
Plundered Hearts	24.99	15.95
Police Quest	19.95	12.95
Predictor	19.95	12.95
Psion Chess	24.95	15.95
Quadralien	19.95	12.95
Quantum Paint	19.95	12.95
Return to Genesis	19.95	12.95
Revenge II	9.95	6.95
Roadwar 2000	24.99	15.95
Roadwars	19.95	12.95
S.D.I.	29.95	19.95
Sentinel	19.95	12.95
Shadowgate	24.95	15.95
Shanghai	24.95	15.95
Shuffleboard	9.95	6.95
Side Arms	19.95	12.95
Silent Service	24.95	15.95
Silicon Dreams	19.95	12.95
Slaygon	19.95	12.95
Soloman's Key	19.99	12.95
Space Ace	19.95	12.95
Space Harrier	19.95	12.95
Space Pilot	19.95	12.95
Space Quest	24.95	15.95
Spider Tronic	19.95	12.95
Spy v Spy	24.95	15.95
Stac	39.95	25.95
Star Glider	24.95	15.95
Star Glider II	24.95	15.95
Star Trek	19.95	12.95
Star Wars	19.95	12.95
Stir Crazy	19.95	12.95
Strike Force Harrier	24.95	15.95
Street Gang	14.95	10.50
Sub-Battle Simulator	24.95	15.95
Summer Olympiad	19.95	12.95
Sundog	14.95	10.50
Superconductor	49.95	39.95
Super Cycle	24.95	15.95
Syper Hang-On	19.95	12.95
Supersprint	14.95	10.50
Tai Pan	19.95	12.95
Tanglewood	24.95	15.95
Tee Up	14.95	10.50
Tempus	29.95	19.95
Tenth Frame	24.99	15.95
Terror Pods	24.95	15.95
Tetris	19.95	12.95
The Gambler	14.95	10.50
Thundercats	19.95	12.95
Time and Magic	19.95	12.95
Time Link	89.95	59.95
Tracker	24.95	15.95
Trailblazer	24.95	15.95
Trauma	19.95	12.95
Trivial Pursuit	19.95	12.95
Typhoon	19.95	12.95
U.M.S.	24.95	15.95
Ultima 3	24.95	15.95
Ultima 4	24.95	15.95
Uninvited	24.95	15.95
Vampire Empire	19.95	12.95
Vegas Gambler	24.95	15.95
Virus	19.95	12.95
Wanderers	24.95	15.95
War Games Construction Set	24.95	15.95
Winter Games	24.95	15.95
Wizard Warz	19.95	16.95
Wizball	19.95	12.95
World Darts	14.95	10.50
World Games	24.95	15.95
Wrath of Nikademus	24.95	20.95
Xenon	19.99	12.95

***** PLEASE PHONE TO GET LATEST RELEASES *****



CITIZEN 120D PRINTER

£149
Inc. VAT
FREE CARRIAGE
(UK mainland)

* **TWO YEAR WARRANTY**
* IBM and Epson Compatibility
* 120 CPS Draft
* 25 CPS NLQ Print
* Tractor and Friction Feed
* Graphics Printing
* 4K Buffer
* Includes: Mains Plug, Printer Ribbon, Manual
* Free Atari ST Printer Lead

Access, Barclaycard welcome,
24 hour answering phone,
trade and official order enquiries
welcome.

TO ORDER:
Simply phone or send in your order, stating full name, address, Visa or Access numbers, cheque or money order payable to:

FIDGET

**FIDGET LTD., 150 DESBOROUGH ROAD,
HIGH WYCOMBE, BUCKS. HP11 2QA
TEL: (0494) 33144/32018**

Read it out aloud

Nic Outterside looks at a speech synthesised spelling program for primary aged children

WE are probably all aware of the small but growing array of good educational programs available for the ST. Now I find myself assessing a second spelling package for primary children in almost as many months. Is this bordering on proliferation?

B. Spell by B. Ware Software is similar in many respects to Spellbook, which was reviewed in the September 1988 issue of *Atari ST User*. It is an exclusively mouse-driven program allowing your child to spell simple words from a grid of lower case letters. This ameliorates the almost embedded problem of young children being alienated from micros because of their upper case keyboards.

B. Spell is published with a concise six page manual in simple packaging. This all helps to keep the price at the bargain end of the software market. This is important as such packages, by their very nature, are transient and may well have served their purpose after only a couple of weeks of use with any particular child. The manual is especially useful as it includes a clear flow diagram/program tree to make using the program simplicity itself.

Boot up the disc and you will be greeted with a cheerful "Hello" and the choice of operating the program at a level suitable for five and six-year-olds or for seven and eight year olds. Making either choice clears the screen, and a colourful alphabet grid appears above which is a correction box, a bold question mark and a chequered flag.

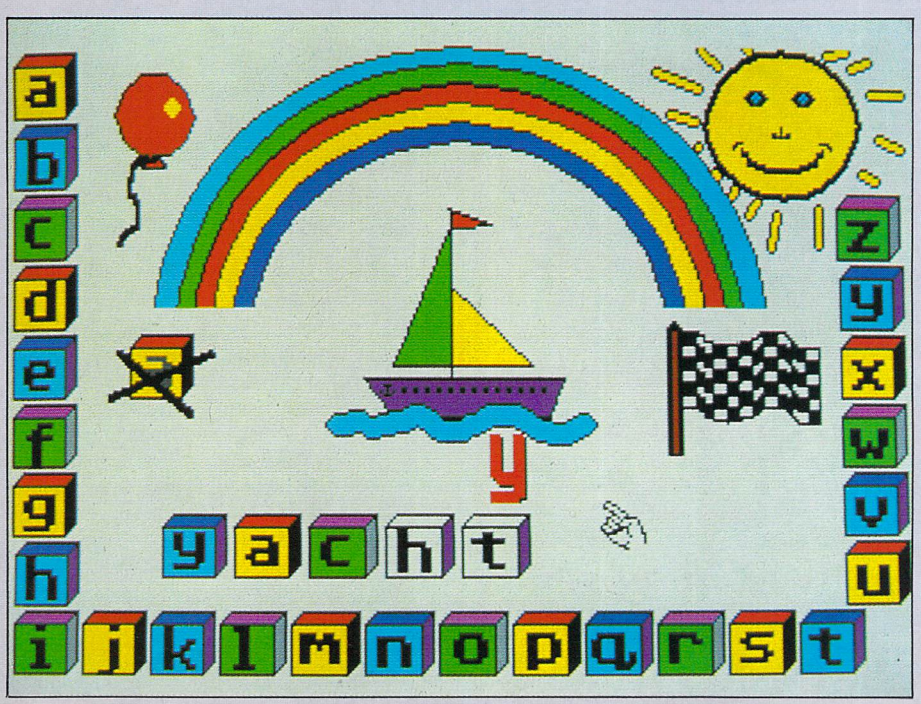
At the younger age level you select an initial letter with the pointer and click on the left mouse button. A picture which begins with the selected letter is displayed with its correct spelling. Your child can then copy the spelling by clicking against the correct letters in the alphabet grid. As each letter is selected its phonically correct short sound is replicated through the speech synthesiser, thus coupling spelling with phonic sounding.

Alternatively you can click against the large question mark and a word is chosen randomly by the program. Such a facility overcomes the problem of a child using the program in a rote manner and nullifying much of its educational purpose.

Relaxed style

Used at the older age level the program works in a similar way, but each picture is displayed without its spelling. You must clearly then attempt to spell the word correctly without the help given to the younger child. Correct spellings at either level are rewarded by a complimentary "well done" and a short nursery rhyme tune. Incorrect attempts are marked by the word "wrong", and you are shown the correct spelling and allowed another go at spelling the word correctly.

No effort is made at scoring the number of correct spellings made by your child, so the software can be used in a relaxed manner with less able children. The graphics are bold and simplistic and quite adequate for this type of application.



Phonic approach

However, I do have a few criticisms concerning some of the program content. By using speech sythesis the programmers are obviously aiming at a phonic approach to spelling. This is all very good with words like cup, dog, egg, nut and sun, but the inclusion of words such as yacht and watch into such a scheme seems educationally risky. I would have preferred a consistent list of simple three and four letter words with perhaps yarn and well substituted for the aforementioned interlopers.

A bank of only 26 words seems insufficient for a spelling package, as repetition will leave your child with a well spelt but limited vocabulary. However, B.Ware tells me that it is now marketing a compatible construction kit to enable you to enter words and pictures of your own choice. The potential use of B. Spell then seems limitless.

The only other annoyance I found was the similarity of pronounciation in the program of the letters m and n. They are almost indistinguishable, which could lead to a few problems in usage.

B. Spell can be freely backed-up, which enhances its use within the educational field. This is especially important when you consider that if used within a classroom as many as 10 STs may be in use at the same time. This clearly puts it in the category of super-bargain.

That being said, B. Spell will probably find its true use in the home, where it can be used to support school-based learning. Despite my reservations, this is a useful little addition – though not quite in the same league as Spellbook – to the ST's educational library, and one not beyond the reach of many pockets.

FACT FILE

Product: B. Spell
Price: £14.95
Supplier: B. Ware, 19 Southfield Road, Hinkley, Leicestershire LE10 1UA.
Tel: 0455 613377

POINTS FOR:
Good use of a software speech sythesiser.
Very easy to use.

AGAINST:
Inconsistent word content and a very small word bank.

ATARI STAR USER GAME

ELITE

Product: Elite
Price: £24.95
Supplier: Firebird, 74 New Oxford Street, London WC1A 1PS.
Tel: 01-631 5373

IT'S here at last on the ST – the most requested 8 bit game conversion of all. I am of course, referring to Elite, and it has taken almost three years for it to be released. Can a four-year-old game that has its origins on a 32k 8-bit BBC Micro measure up to today's 16-bit mega-games on the ST? The answer to that must be a resounding Yes.

Superficially, Elite bears some resemblance to Starglider II – Star Game in last month's *Atari ST User* – and comparisons will inevitably have to be made. The game is set in the distant future, way out in deep space, with your space ship Cobra docked at a space station above the planet Lave. Your legal status is clean, your rating harmless, you have fuel for seven light years and 100 credits in your pocket.

Selecting Buy from a menu at the bottom of the screen using the mouse brings up a screen displaying the items for sale on Lave's open market. There is food, liquor, computers, machinery, gold, guns, slaves, drugs and so on. By each item is the quantity for sale and the price per tonne, kilogramme or gramme. Here you can fill your cargo hold using your 100 credits.

Having spent up, selecting Local from the menu brings up a local star chart and you can select a planet within travelling distance of Lave. Selecting Planet gives you a brief report on its occupants, economy, government, technology level and population.

Selecting Launch then ejects you into space and here the game becomes a 3D flight simulator. With the growing planet Lave in front and the diminishing space station behind – you can select views in front, behind, left and right – you hyperspace to your chosen planet.

You end up quite some distance from your destination and must fly towards it, but fortunately you can jump most of the way. Once at the planet you must locate the space station using the on-screen scanner and fly towards it.

Once there, locate the entrance and fly into the slowly rotating station, matching its rotation by spinning your ship round in perfect time. This is a tricky manoeuvre which takes time to master, but fortunately an automatic docking computer is available if you can afford it.

Once docked you can examine the planet's market prices – which will be different to Lave – and hopefully make a a profit on the items you bought at your last stop. Here the trading aspect comes in, as you must travel the galaxy visiting planets and trading between them.

What is cheap on an agricultural planet – for instance, food – will be expensive on an industrial world so there's a profit to be made buying items where the price is low and selling them where the price is high.

Unfortunately, the space lanes are also frequented by pirates and aliens, and some of the planets themselves are downright unfriendly, and don't take too kindly to visitors. Here the combat element takes a bow, as you must battle in space with all manner of alien ships hell-bent on highjacking your cargo.

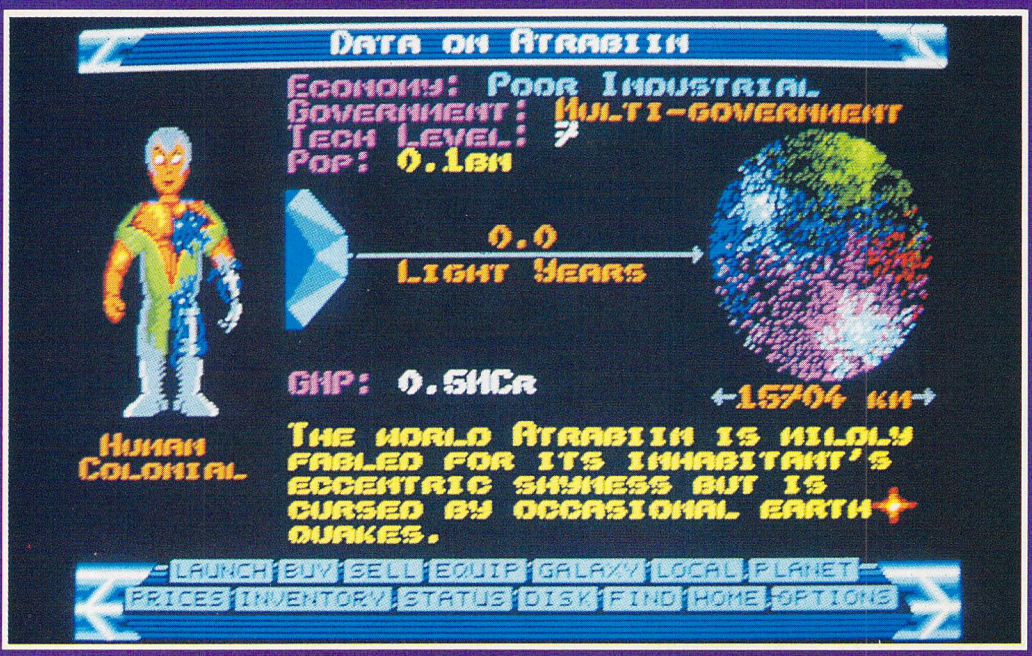
The action takes place in 3D in a window which occupies the major part of the screen. Immediately below it is a scanner – like a 3D radar – in the middle, missile banks, power meters and so on. Your controls are rotate left and right, nose up and down, accelerate and brake. You initially have a pulse laser and three homing missiles on board.

These weapons aren't too good, so your priorities early in the game will be to make enough money to buy better lasers, an ECM for detonating homing missiles, an energy unit for replenishing shields and so on. There's quite an armoury available.

Apart from making lots of money and improving your ship's specifications, you can traffic in drugs and shoot up the local police patrolling around the space stations. This will boost your legal status up to Fugitive. Every battle you win in space will add to your rating, which starts off as harmless, and ranges through average, dangerous and finally Elite – the ultimate goal.

You need to blast an enormous number of ships to reach this last level, and it will take an expert at least 50 hours or more, and a novice may take two or three times longer. In fact many will never make it. Fortunately, you can save your position whenever you are docked at a space station, and this is a good insurance policy in case you get highjacked by Thargoids in hyperspace or ambushed by pirates.

Six months ago the graphics would



Consulting the data banks on a planet

Another Thargoid bites the dust

have been rated as the best around. Now however, they are merely good, and aren't quite up to the standard of say, Starglider 2. The sound is only average, with a musical introduction and zaps and explosions during the game.

Where this game scores most points is on playability and addictiveness.

It's hard to get into, but once you've mastered the controls of your Cobra it becomes like a drug and it's difficult to stop playing.

If you've played one of the other incarnations of Elite on an 8 bit micro you'll love this one. And if you haven't, buy this and just see what you've been missing – it's one of the classic games that will run and run.

Roland Waddilove

Sound	7
Graphics	9
Playability	10
Value for money	9
Overall	9

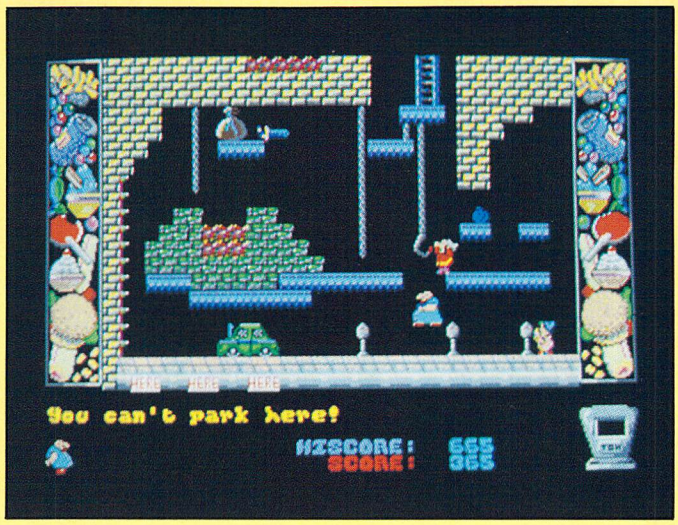
SECOND Sight

What a brilliant game. I loved the 3D wireframe version on the old BBC Micro, but this 3D solid version is stunning. The controls are the same and I was immediately at home, trading, blasting, baiting the police and generally living the life of a pirate among the star systems. This classic game must be on everyone's Christmas shopping list. Don't miss it.

Andy Richards

A fat chance

Program: Chubby Gristle
Price: £19.99
Supplier: Grand Slam Entertainments, 12-18 Paul Street, London EC2A 4JS.
Tel: 01-247 6434



CHUBBY Gristle is an extremely large and overweight car park attendant. He despises his job but does manage to find some solace in two things: Shouting – "You can't park there!" – and eating.

Your task is to aid Chubby as he gorges his way through 20 screens of gluttony. Chubby must put on as much weight as possible to avoid a fate worse than death – the health farm.

Once the grotesque little man has finished his day's work he returns home to Mrs Gristle for a celebratory steak and kidney pie and to produce lots of little Grislets – Grand Slam's words not mine.

In his time Chubby has made all sorts of gruesome enemies and these nasties are determined to stop him from achieving his goal. Contact with any of these removes one of his three lives.

This is a very simple platform game with all the normal jumps, leaps, objects to collect – dustbins, barrels and the like – and adversaries to avoid. Chubby works for Sainsbellys: The title screen sums up the game and is accompanied by some dreadful music.

Chubby Gristle looks like an old Spectrum game, and bears more than a passing resemblance to Jet Set Willy. The graphics are colourful but extremely small and badly defined. There is a certain amount of humour, but it didn't raise much of a smile in my household.

Indeed the gameplay is exceptionally over-difficult making it frustrating and annoying rather than enjoyable and amusing. Chubby Gristle tastes of an 8 bit title which has been rehashed for the ST. And at the price it is an expensive way to discover platform games. To my mind it falls flat on its face.

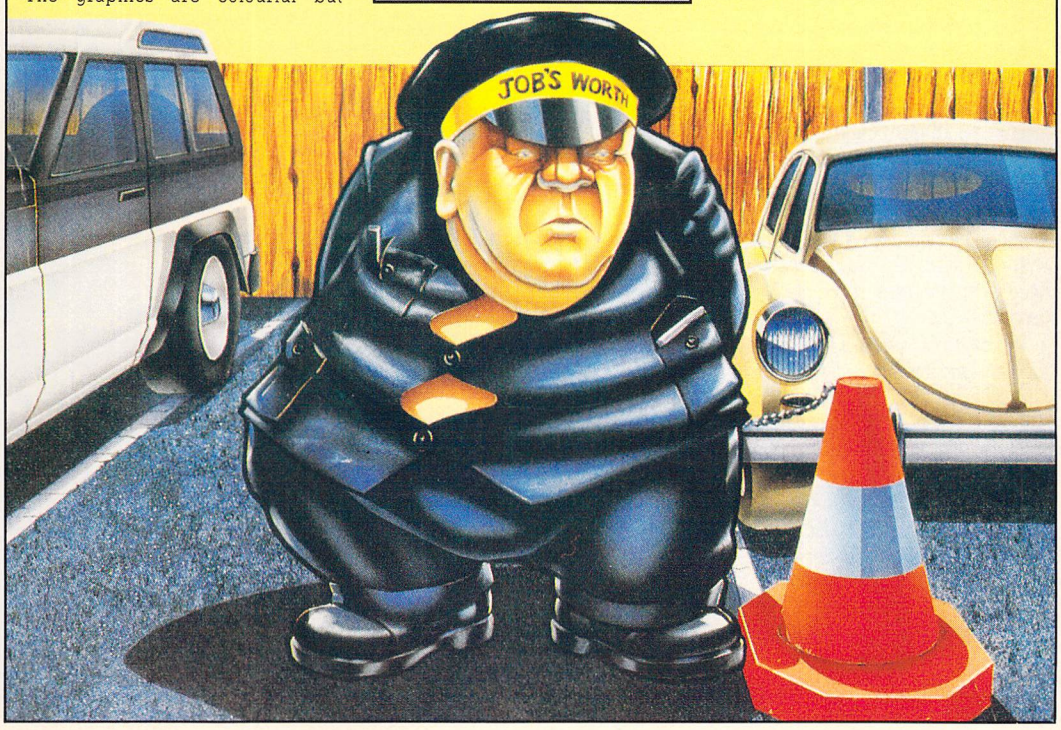
Robert Swan

Sound	3
Graphics	6
Playability	6
Value for money	4
Overall	5

SECOND Sight

This game reminds me of the good old days of the ZX Spectrum and ladders and levels. If you long for the simplicity of this Jet Set Willy/ Manic Miner type of arcade game then you'll love this 16 bit version. However, it hardly stretches the ST to its limit, and technically is quite simple.

Andy Richards



Chilly quest

Program: Beyond the Ice Palace
Price: £19.95
Supplier: Elite Systems, Eastern Avenue, Lichfield, Staffordshire WS13 6RX
Tel: 0543 414188

USUAL stuff here. Evil torching the forest, Good having a hard time, ancient and wise spirits bless a sacred arrow and shoot it into the air. Whoever picks it up has to descend into the bowels of somewhere Beyond the Ice Palace, and sort out the mess.

Anyway, you start off with a choice of three weapons, a dagger, ball and chain and a sword, before leaping down a hole to begin the adventure.

Superficially Ice Palace resembles Barbarian from Psygnosis, in that the action takes place underground, with some teasing traps, well designed scenery and hordes of monsters. However, Ice Palace scores on account of having excellent true horizontal and vertical scrolling. The monsters tend to come thicker and faster, while the traps are thinner on the ground.

The object is simply to wander along searching for the exit to the next level. Acknowledging that Ice Palace is a tough game you have been provided with nine lives, and believe me you'll need most of them to reach the end of level one.

The different weapons are useful in different circumstances, but at certain points there is no choice but to collect a dagger and end up fighting the worst thing the level has to offer with the most feeble of weapons.

To help you out in those tricky situations are Spirits of the Forest who will sacrifice themselves to weaken the opposition. Usually such help is too late, so it is essential to memorise where the bad news is posted and summon a spirit as soon as you get there.

At the end of the first level, a series of vertically moving platforms is where all those lives start to disappear. Not only are you chased on to the platforms by a spirit, but airborne enemies await, and the roof of the platform is ready to spike you. Even if you overcome this difficulty then a centipede-like creature is ready to pounce, and that's only the first level, it gets harder from then on.

A forgettable jingle warbles away in the background, while routine effects accompany the main action, so it's fair to say that full use of your ST isn't being made in this department.

Still, Ice Palace is entertaining joystick fodder, and a quest worth undertaking.

Mark Luckham

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

SECOND Sight

The inherent ideas in this game may be rather hackneyed, but the development and on-screen action are excellent. There is a certain addictiveness to this adventure which had me hooked to my ST for hours on end.

There are plenty of puzzles to solve, and nasties to slaughter so there's no time to stop and catch your breath. I recommend it.

Nic Outterside

No surrender

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

STREET Fighter looks as if it should be a great game, with well drawn characters and realistic moves. Unfortunately the real guts of Street Fighter, the combat itself, is too repetitive, monotonous and eventually rather boring.

You have the choice of visiting any of four countries: Japan, China, USA or England. If you can battle your way through all four you get to go to Thailand as well. In each country the local muggers are out to get you.

In England a head-butting mohican tries his best to rearrange your hair-do. Knocking him out in a best-of-three contest brings you into conflict with an iron bar wielding thug. Another win here gives you the chance to gain bonus points by karate chopping a stack of concrete blocks, gauging the force of your blow by a rapidly fluctuating sliding scale.

Then it's on to more bashing and dodging, as you draw on your repertoire of 16 joystick-controlled moves to defeat some of the more anti-social elements of the five countries.

There is a sort of two player option which allows the two players to fight it out for the right to go on to confront the world's thugs. Why there is no actual two-player combat option I don't know as it would have been a worthwhile extra.

As far as computer games go, I am not that hot on this type of martial arts fight game. However, I surprised myself by defeating six fighters on the trot at my first attempt. I was even more surprised when, on only my second go at the game, I beat 11 of my 12 opponents, only just losing out against the last one, in the deciding third round.

That says more about the ease of the game than my skill as a street fighter. It was just too easy, even with the somewhat unresponsive controls. Pushing the fire button for a kick or a punch did not have an immediate reaction on the screen there was a noticeable and annoying delay.

After the first couple of fights the novelty wore off and I really couldn't imagine going back very often. If I spend £20 on a game I want something that is going to hold its attraction for some time. Unfortunately I found Street Fighter wearing a bit thin after half an hour.

Hardened fight freaks may get more out of this than I did, especially if playing against friends where a competitive spirit may lift the game a little more out of the ordinary. But, for all its visual appeal, I really can't recommend it.

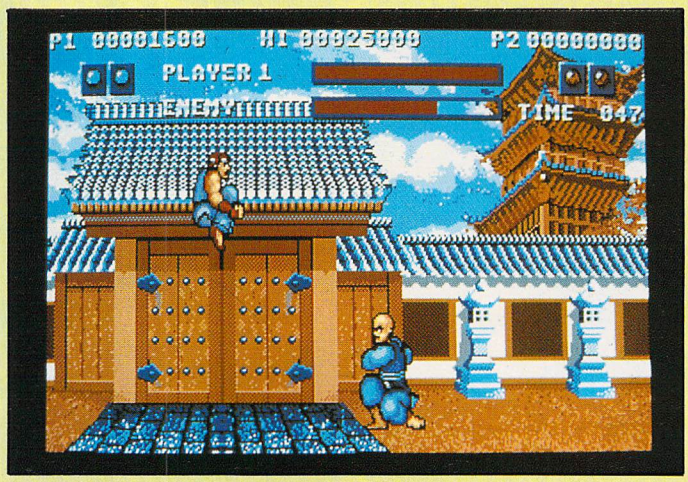
Niels Reynolds

Sound	*5*
Graphics	*7*
Playability	*6*
Value for money	*6*
Overall	*6*

SECOND Sight

This is definitely my type of game. I long ago packed in practising real karate and now often while away the time letting sprites take the punishment for me. This is one of the best simulations I have seen, though a bit on the easy side. Recommended.

Nic Outterside



PAC-MANIA

Armed with new BOUNCE power, PAC-MAN faces new challenges as he enters the worlds of Block Town, Pac-Man's Park, Sandbox Land and Jungly Steps.

PAC-MAN IS BACK & BOUNCING IN 3D!

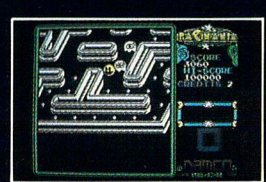
AVAILABLE ON:
ATARI ST & AMIGA £19.95
C64 & AMSTRAD CPC DISK £14.95
C64 Cassette £9.95; SPECTRUM, AMSTRAD & MSX Cassettes £8.95

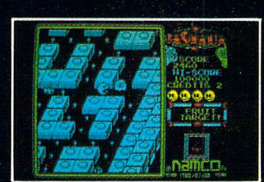
stein

GRANDSLAM

©1987 NAMCO LTD. All rights reserved
Licensed from Tengen
©1988 Grandslam® Entertainments Ltd.
12-18 Paul Street, LONDON EC2A 4JS.

Screenshots taken from ATARI ST.





Screenshots taken from SPECTRUM

Triangular yawn

Program: Bermuda Project
Price: £24.99
Supplier: Mirrorsoft, Maxwell House, 74 Worship Street, London. EC2A 2EN
Tel: 01-377 4644

ACCORDING to Arthur C. Clarke, the disappearances of ships and planes in the Bermuda triangle are mysteries of a Zeroeth kind. They can usually be explained as perfectly commonplace tragedies. Indeed, it is a tribute to the Florida coastguards that there are so few disappearances in this busy shipping area.

Yet this has not stopped multitudinous science-fiction books, films and now computer games being written on the extra-dimensional factor which supposedly operates within the Bermuda triangle.

Bermuda Project purports to be an adventure but is essentially nothing more than an excuse for a three dimensional arcade-type game. Success is based on the speed of mouse manoeuvre than on any cerebral gymnastics.

This package is presented on two single-sided discs. The first features an impressive loading screen depicting an airliner which mysteriously bursts into flames and crashes on a desert island within the Bermuda triangle. The loading disc also produces a stunning piece of filmatic musical score which helps set the atmosphere.

You must now insert disc two which carries the main program and data files. Quite soon your screen shows a three dimensional image of part of the desert island.

You play the role of the surviving hero, who is displayed as a fairly crude sprite, standing next to a burning crashed airliner. Movement and all commands are entered by mouse. The obvious initial move is to examine the cockpit, where you discover a dead pilot and an acute smell of aviation fuel.

You must put out the flames if you are to retrieve anything useful from the crashed aircraft. After much searching, by rolling the mouse across the desktop I discovered a bucket and shovel. I attempted to fill the bucket with sand which I could in turn use as a fire extinguisher.

It was only after a series of failures I discovered that the required action was to quickly fill the bucket with water from the river before returning to the plane. Surely the author knows that water and petrol fires don't mix?

In any event this action is almost impossible as you must activate a window using the left and right mouse buttons in order to EXAMINE, GET, DROP, USE, ATTACH or DETACH anything in the game.

This slows down your movements and by the time you return to the plane you will find that the heat from the flames has sealed all entrances to the cabin or fuselage. Such dependence upon speed of reactions puts Bermuda Project firmly into the category of arcade game.

Options such as Save, Load, Status and New are also accessed by awkward mouse button pressing and holding via the text window. Further exploration leads you to discover a carefully guarded village, two river inlets and a few dead bodies as well as an abandoned jeep full of goodies.

Entry to the village is a major obstacle, but once achieved your true problems really begin. Your goal is to escape from this wretched place by sea or air, but first you must do some gold prospecting, listen carefully to a tape message, practise voodoo and explore a pyramid or two, among many other tasks.

There appears to be little logical sequence to the game, and it is only after much experimentation that progress can be made. There are a number of neat chaining puzzles, but again success is determined by mouse dexterity and not by logical thought processes.

And constant saving to disc is essential after any tricky operation if you are to stand any chance of upward mobility within this game.

The scrolling island landscape is quite cleverly displayed, but simplistic, and sprite movement is clean and smooth. The screen changes colour as you move from temperate landscape through jungle to dense tropical forest. Natural features such as rocks and trees are shown as fairly unimpressive icons. I have seen much more realistic graphic representation on the ST, and far better implementation of the

Apocalypse now!

Program: Fire and Forget
Price: £24.95
Supplier: Titus/Entertainment International, Unit 4 Stannets, Laidon North Trade Centre, Basildon, Essex SS15 6DG.
Tel: 01-385 7622

GLANCING down at the global display you recognise the unmistakable signs of impending doom. The increasing number of large scale conflicts is threatening to panic the superpowers into a nuclear encounter from which none of us will survive. Sat behind the wheel of the most awesome war machine the world has ever known, you are the last hope of mankind. Now where have I heard this all before?

Fire and forget is like Out Run with Rambo in the driving seat. There are three levels of play and six battles to quell per level. The battles may be attempted in any order by selecting a location from a full-screen global map. The backdrops are similar – a change of colour scheme is used to indicate desert, snow, or lush vegetation.

You have a limited amount of fuel with which to make your run between two checkpoints – this is used at a constant rate, irrespective of the speed at which you are travelling, so drive as quickly as possible. Fuel wasted through inopportune encounters with land mines, boulders and tank traps can be replaced by driving over blue or green cones. Thunder Master, your car, is armed with a limitless supply of frighteningly powerful tetranuclear propulsion missiles. The age-old technique of blasting everything that moves and zapping everything that doesn't works well with Fire and Forget. Fortunately, your fuel reserves are missile-proof.

In addition to immobile hazards the enemy also utilises the more common vehicles of war. On numerous occasions I went blasting round a corner and came face to face with an entire tank battalion. Even worse than the tanks are the helicopter gunships – the Thunder Master is defenceless against airborne attack.

Just as the enemy is about to take advantage of your aerial vulnerability you call up Thunder Cloud. With the help of a second player, and preferably a second joystick, you can pilot a small but vicious fighter craft that hovers just above Thunder Master. Player two controls altitude and left and right movements, but the Thunder Cloud's velocity is tied to that of the ground vehicle.

The game's graphics are big, colourful, and animated at break neck speed. Similarly the sound effects are of a very high quality – with sampled explosions and missile effects throughout. One final feature specially for the poseurs is the saveable high score table.

Playing Fire and Forget is a superb

SECOND Sight

Superb loading screen with a beautiful musical score, but that is as far as I would go to recommend this game. The action is awkward and graphics are not particularly good. It may suit a few hacks, but there are much better examples on the same theme available elsewhere.

Jayne West

arcade-adventure idea.

There are some good ideas present within Bermuda Project, but it suffers from lack of real development and can become quite boring. I'm afraid that frustration set in as I played and my mind wandered to other more pleasurable games awaiting review.

Surely some kind of keyboard usage is imperative in a game like this, if only to add flexibilty and curb the boredom factor.

I would recommend it only to the die-hard arcade-adventure fanatics, and even they may be disappointed.

Nic Outterside

Sound	8
Graphics	5
Playability	6
Value for money	4
Overall	5

SECOND Sight

Somewhere lurking within all of us is that killer instinct to blast everything that moves. Fire and Forget has that ability to tap the dark side of our psyche and ensure we feel guilty to no one. Put the children to bed, give your spouse a box of chocolates, close the study door, and fire and forget like there's no tomorrow.

Nic Outterside

way of escaping the pressures of school or work – just sit down, disengage your brain, and let instinct take over. If you have to think then you're dead, just hone the reflexes and go for it!

Jon Revis

Sound	8
Graphics	8
Playability	9
Value for money	7
Overall	8

Chocks away!

Program: Spitfire 40
Price: £24.99
Supplier: Mirrorsoft, Athene House, 66 Shoe Lane, London EC4P 7AB.
Tel: 01-377 4645

THIS latest release from Mirrorsoft provides an opportunity to fly one of the most famous aircraft of all time, the Spitfire. You are offered three flying modes: Demonstration, simulation and game. The first speaks for itself; it gives you a quick idea of the features and graphical qualities of the game before you try it out.

Simulation mode provides two options – practice or combat. In the former you are placed in the cockpit at the take-off point on the runway and allowed to try your hand at taking off, flying and landing.

Combat is similar to practice except you are assigned a mission to complete. The instructions tell you the number, distance, height and bearing of the enemy aircraft. Game mode provides a fighter or bomber option. Whichever you select, you'll immediately find yourself flying at 10,000 feet with enemy craft close by.

The enemy will be flying a Messerschmitt Bf109E if the fighter option is selected or a Junkers JU 87 (Stuka) or a Heinkel HE 111 if bomber was chosen.

The action is viewed from the cockpit of your Spitfire. The display is two screens high and you can scroll it up and down or toggle between the two by pressing the spacebar.

The top half of the two-screen display is the view through the window while the lower half shows the instrument panel. You can play using the joystick and keyboard or keyboard only.

You can call up a map of SE England which will show the current position of you and the enemy. The map can be zoomed in and out, and scrolled when enlarged. The level of ground detail can be changed, from no objects seen ranging through some to all objects visible.

The graphics showing the interior of the Spitfire are rather good and there are some deft touches, like the pilot's log at the opening and ending of each mission. What lets the game down is feeble sound, boring scenery, the usual lack of detail and the rather slow and jerky movement of the display. Response to keyboard control is not all that hot, either.

This is a shame, because at first sight this looked a pretty good simulation. If the whole thing could have been zipped up a little, Spitfire 40 would have been a joy to play.

Bob Chappell

SECOND Sight

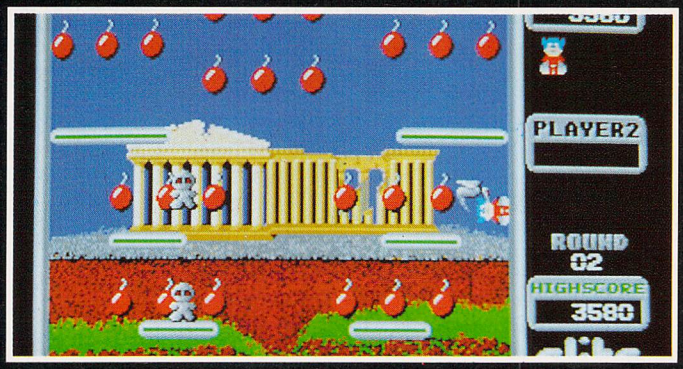
Although it is competently programmed, as a flight simulator it is overshadowed by Flight Simulator II, and as a combat game, Carrier Command leaves it standing. However, enthusiasts will like it, as the cockpit graphics are excellent and the game does keep up the interest.

Andy Richards

Sound	3
Graphics	7
Playability	6
Value for money	6
Overall	6

Bombs away

Program: Bombjack
Price: £19.99
Supplier: Elite, Eastern Avenue, Lichfield, Staffs, WS13 6RX
Tel: 0543 414188



COIN-OP conversions for the ST are coming thick and fast: Elite's timing for Bombjack may be a bit out, because the arcade original first appeared a couple of years ago. Indeed, the game has already appeared on all the 8 bit machines, and topped the charts on its original release. This makes you wonder how many people will feel like paying top prices for a game which would now look good in the budget market, but which doesn't perhaps justify a £20 price tag.

It's a simple, cute little game which compares favourably with recent titles such as Firebird's Bubble Bobble, but which doesn't offer the graphic sophistication of, say, Out Run or Roadblasters. If you like this sort of Pac Man derivative, you'll overlook the limitations.

The minimal plot finds you, the hero Jack, leaping around colourful screens attempting to defuse stacks of bombs. The nicely-drawn backgrounds show landmarks such as the Sphinx, the Parthenon and a Germanic castle, while the bombs lie on platforms scattered in different patterns around each screen. The early screens can be completed in a few seconds – the later ones demand precise timing, concentration and careful planning of your route.

Your spring-heeled boots allow you to make a cross between a leap and a flight into the air, collecting the bombs as you fly. Once a bomb's fuse starts to burn you get a 200 point bonus for catching it before it goes off – fuses burn faster and faster as the game progresses. Spinning tokens fall from the top of the screen, and catching them gives you a points bonus, or freezes your enemies, allowing you to catch them Pac Man-style for extra points.

Your enemies include flapping reptile-birds, spinning saucers, spacemen, and objects that look like something you'd regret finding at the bottom of a Chinese meal. Each type behaves in a different way, some following you intelligently, others floating around.

Each time you collide with an enemy you lose one of your three lives and start again, falling from the centre of the screen. Fortunately, the bombs you've cleared don't reappear. Your enemies, though, move faster and become more numerous.

Though the sound effects are nothing to write home about – they're not sampled, and consist simply of bleeps and bangs – there's a nice running theme tune which can be switched off if you run out of patience.

There's also a two-player mode and a decent loading screen; apart from that there's little to say about Bombjack that couldn't be said about any platforms and ladders game. Bombjack is good fun but won't make you leap with excitement.

Chris Jenkins

SECOND Sight

This strikes me as a good coin-op conversion of the platform and ladders type game. Plenty of variety and the graphics are quite good, but the sound could have been more highly developed.

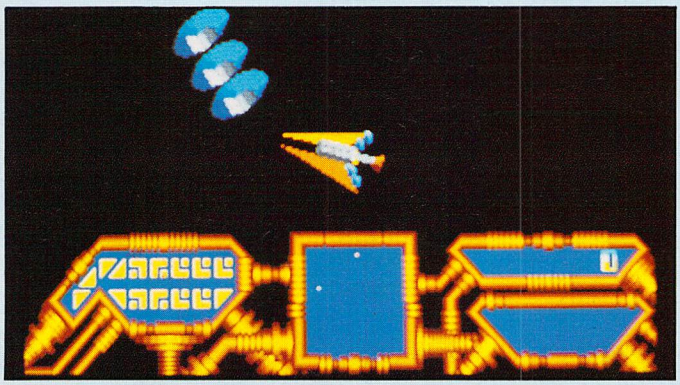
Lots of fun if you like this kind of thing. Try it and see, though I could think of better ways of spending £20.

Nic Outterside

Sound	5
Graphics	5
Playability	6
Value for money	4
Overall	5

Lost in space

Program: Whirligig
Price: £19.95
Supplier: Firebird, 64-76 New Oxford Street, London WC1A 1PS.
Tel: 01-631 5373



FINDING the proverbial needle in a haystack is a piece of cake in comparison to what lies in store for the players of Whirligig. Somewhere in over four billion zones (Eignspaces) there are five perfect solids. Locate these and you've won the game. Firebird has calculated that it would take more than 8171 years of continuous play if you spent just one minute in each zone.

Eignspaces are isolated pockets of time and space, which may contain fuel and weapon depots, and one or more stargates. The stargates are your exits to further eignspace zones. Whatever else they contain, they will always harbour a plentiful supply of alien vessels.

Most commands in Whirligig are issued using the mouse. If you remember the trouble you had when you first played Starglider then you'll have some idea of what's in store with Whirligig.

Sideways motions of the mouse initiate clockwise and anticlockwise rotations of your ship. Push the mouse forwards to accelerate, backwards to brake. Simple isn't it? I spent the first 10 minutes spiralling through the galaxy.

All objects are solid in appearance and spin gracefully through three dimensions with the greatest of ease. The large scale of the spacecraft means that your view is restricted to the immediate vicinity of your ship. When an alien vessel flies on-screen you have only a fraction of a second in which to loose a missile, especially if the vessel is on a collision course for your ship.

Fortunately, all your missiles are of the homing variety – unfortunately, they're not very sophisticated. A missile will lock on to the first available target, and if there is no other ship on the screen then you can kiss your asteroids goodbye. In cases of extreme panic you can eject chaff to confuse incoming missiles, or even to destroy enemy ships.

Providing you can successfully guide your ship into one of the rotating stargates you will find yourself suspended in gatespace. While in this limbo you can study a chart of the eignspace zone you are about to enter – this details the positions of all stargates and depots in the zone. Each stargate is labelled with the number of the eignspace zone to which it leads, and the display also notes what facilities are available in that zone.

Whirligig has no save game option, but its 12 lives provide sufficient duration to prevent premature termination being too much of a problem.

If you want an arcade game with a touch of originality, cracking sound and graphics, and skill requirement of 10 out of 10, then look no further – Whirligig has got them all.

James Riddell

SECOND Sight

I enjoyed this. If you are looking for a space-age alien blaster with an infinite variety of screens and action then look no further. It may take some time to get used to controlling your craft, but the effort will be well rewarded by hours of enjoyment, and you'll keep coming back for more.

Nic Outterside

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

VERMINATOR

Atari ST screen shots.

WANNA MAKE SOME DOUGH . . ?

Well here's your chance. As head of the Tree Council, I appoint you HONOURARY VERMINATOR.

Your task — rid the Royal Oak of every nasty, slimy, creepy, crawly, filthy, bug-eyed creature that's taken up residence. There's a price on the head of every one of the little blighters, so use your skill and cunning to smash 'em to smithereens and collect the bounty.

Once you've made a bob or two, visit the local hardware store and buy the latest in sophisticated equipment, specially designed to combat the meanest of meanies. If you run a bit short, a quick visit to the bank might do the trick. You can even pop into the local casino for a flutter.

Oh, there's one other thing. If you're really hard up for gear, you could always pay the mob a visit but remember, if you don't pay 'em back pronto, they'll send round the boys.

Verminator with over 250 colourful locations, superb sound effects and graphics. Quite simply the most fun you'll ever have in a tree.

RAINBIRD

Rainbird and Rainbird Logo are trademarks of British Telecommunications PLC.

Telecomsoft, First Floor, 64-76 New Oxford St, London WC1A 1PS.

Atari ST £24.99

The ultimate shoot-'em-up

Program: Better Dead Than Alien
Price: £19.95
Supplier: Electra, 16b Worcester Place, Oxford OX1 2JW.
Tel: 0865 54195

SOMETIME during the summer of 1977 I was lured away from my college's pinball machine to a weird and wonderful arcade contraption on which my pals were playing a strange game called Space Invaders. After three days of almost continuous play I was addicted, and thereafter was rarely separated from my new hobby.

I have since watched the development of Space Invaders on various arcade coin-ops and home micros and been both amazed and disappointed at some of the end results.

However, here at last is Better Dead Than Alien, the ultimate Space Invaders game to blast out all other pretenders to that crown. The game comes in unpretentious packaging resembling somewhat a cross between a DC comic and the delight of my childhood, The Eagle. The documentation is brief but adequate enough to get you started in this epic shoot-'em-up.

Boot the disc and the loading screen displays a film advert showing Brad Zoom starring in Better Dead Than Alien coupled with Brain Eaters from the Purple Planet. You are then presented with a menu from which you can choose a one or two player game and an input option to alter keyboard, mouse or joystick settings. All such decisions are simplistic and almost idiot-proof.

Click on Start the Slaughter, the practice level emerges on screen and you can begin your quest to save civilisation as you know it. Zap those aliens like there is no tomorrow. Blast away two formations of invaders and you will face either a meteor storm or a giant hideous alien who seems bent on your destruction.

If you succeed at this level you will automatically proceed to the next and meet more of the same type of thing, moving faster and firing larger and more deadly photons.

The varied graphics are smooth, colourful and more than adequate for this type of game. Meanwhile the sound effects are unpreposing and quite clever – just listen to that digitised cackle as you fail against yet another fleet of aggressors.

There are 22 levels in all, ranging from A Doddle to That's It, which I found far too difficult to play. They can be accessed either by progression through the ranks or directly by secret passwords given as you complete each stage. You will be asked to shoot against giant prawns from another world, alien squibs and extra-terrestrial potatoes among

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

A GAME of the film, Platoon draws obvious comparison to Predator, with a similar theme. Included as a freebie with Platoon is a short audio tape by Smokey Robinson, The Tracks of my Tears. The sound quality was awful – had it been recorded underwater? Anyway, on with the game.

Lost deep in the bowels of the Vietnamese jungle, your platoon is now only five strong. You have a number of missions to fulfil in order to reach the end of the game safely. These objectives divide play into six separate sections.

Sections one and two deal with the jungle and village, while section three has you floundering in a flooded underground tunnel system. Leaving the tunnels you gain access to the bunker in level four, only to have to battle through more jungle again in section five on the way to the final section, a supposedly safe area.

The status of the platoon can be checked at any time. Each man has a limited amount of ammunition, hand grenades and fitness. Fitness is determined by the number of hits sustained in combat – four hits and the man is dead. A bullet counts as one hit, but falling over a booby trapped trip wire will kill you outright.

The platoon can be wiped out even before you are massacred by the Viet Cong's fire power if you let your morale level dwindle. This goes down each time you sustain a hit or you shoot an unarmed Vietnamese villager, but is increased when you collect food and medical supplies.

Although you have potentially 20 lives, you'll need lightning reflexes to survive for very long. Attackers usually

many other nasties from above.

There are some excellent and quite novel developments in this mega-game. The invader is at its weakest when its eyes glow putrid green. If you blast a greeny it will release a power capsule which can be picked up by your ship. This can recharge your power supply – beware that without energy you are helpless – or boost your fire power.

The control panel at the right of the display screen indicates eight icons which represent destructivity intensifiers. Depending upon which one is lit when you blast that green nasty will decide which enhancement you are going to be blessed with. These vary from scatter-bolt lasers and radiation sickness inducing neutron bombs to clone ships and force field protection.

There is never a dull moment as you blast away at level after level of marauding aliens. If you are in need of a rest between shoot-outs just press Escape and sit back and view the animated digitised screen of the five programmers who brought this marvel to your ST.

Better Dead Than Alien was developed as a trivial product by Electra, but soon took shape as a master-blaster which looks certain to grab one of the top slots in game of the year.

Go out and get it today, before those brain eaters from another planet come and get you.

Nic Outterside

SECOND Sight

This is not just another space invader type game but a lot more besides. I doubt if you will find a better development of the same theme on any home micro. The variation between the levels is outstanding. Better Dead Than Alien is an essential buy for any self-respecting arcade addict.

Jayne West

Sound	*7*
Graphics	*9*
Playability	*10*
Value for money	*10*
Overall	*9*

come from left or right, but can also leap down from the trees or appear from hidden foxholes. Barely visible trip wires also pose a serious hazard. Most of the jungle scenery looks very similar, so to find your way to objects and exits, map making is necessary – and difficult too when you're under constant attack.

The game itself is well paced and addictive and the instruction manual is nicely presented. It describes the scenario and details each section clearly, outlining a clear objective for the level and offering useful hints and tips. These go far enough to give encouragement and incentive to carry on, without making the game too easy.

A decent joysick makes a lot of difference to your scores, and my old Atari stick lost out heavily to a newer micro switched job. You will often have to pay dearly for a split second delay.

The graphics are on a par with those in Predator, though the action is slightly faster, and the game is all the better for it. Sound effects are pretty good too and can be toggled on or off, as can the music.

I liked Platoon, there seemed to be more going on than I've seen in some similar games – a better story line, more variety and more thought to the sheer playability of the game. The instructions are of a standard rarely seen and the package as a whole has a quality feel to it.

If you have good reflexes and a lot of staying power, Platoon shouldn't disappoint.

Niels Reynolds

SECOND Sight

Products based on the Vietnam war seem to have infiltrated our culture in quite an insidious way. Platoon is another such item, but don't let that detract from the game's playability. It has that extra something that sets it apart from most other shoot-out games. A soldier's life in Nam was no picnic and this game isn't easy either.

Nic Outterside

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

Daydream or nightmare?

Program: The Great Giana Sisters
Price: £19.95
Supplier: US Gold, 2/3 Holford Way, Birmingham B6 7AX
Tel: 021-356 3388

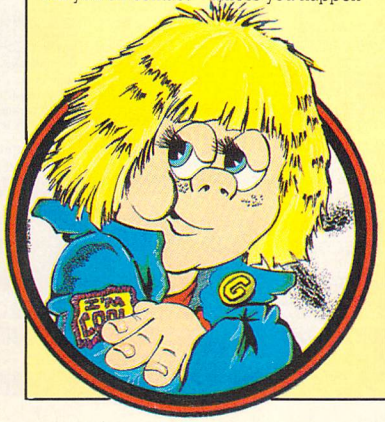
THE Great Giana Sisters from US Gold is a traditional, single-minded, no-nonsense platform game. The blurb on the back of the inlay card explains that Giana has a dream in which she finds herself in a mysterious world, full of unexplainable buildings, grottos and deserted castles, inhabited by frightening and hideous creatures.

To make matters worse she can't leave unless she can find the Magic Huge Diamond. Despite reassurances that no-one will have experienced situations like Giana, I am sure you will have seen it all before.

Giana starts her quest for the rather unimaginatively titled Magic Huge Diamond, strolling from left to right. Throughout her travels she can collect points from various items strewn about the screen. As she gets part way across the screen, the background landscape flips past and there is no going back. This means that any missed bonus collectables are gone forever.

Points are not the only thing to be picked up. Stamina can be increased, the ability to smash rocks can be acquired and dreambubbles thrown to deal with aggressive nasties. Bombs can be used to blast all hostile creatures from the screen, clocks utilised to freeze time and water drops used against fire hazards.

The game is divided into relatively small sections and each has to be completed within a time limit. Bonus points are earned for the amount of time left as the level is completed. The frightening and hideous creatures which are out to hinder your progress are actually rather cute, though they do kill you on contact – unless you happen to jump on their heads first.



The Great Giana Sisters really has nothing new to offer, but that can be said of a large percentage of games these days. What it does provide is an entertaining one or two player game, with some nice little extras thrown in.

Humorous touches like Giana's hair being zapped into a spikey punk style on contact with a fire wheel help to make the game less anonymous. The graphics are by no means exceptional, but certainly don't disgrace the ST and sound too is OK. I particularly enjoyed the introductory music.

The movement and pace of the game are good and I liked the way in which direction could be changed in mid jump – very handy while trying to negotiate a landing on a tiny pinnacle. The Great Giana Sisters isn't going to set the world on fire, but it should help while away a few dull and dismal Autumn evenings.

Niels Reynolds

SECOND Sight

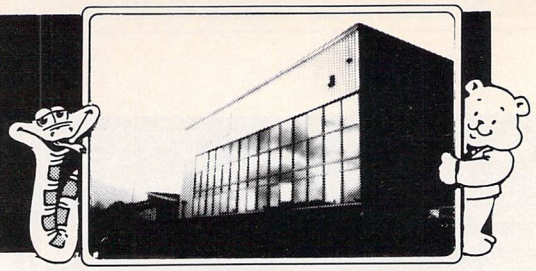
An interesting idea but at the end of the day there is nothing here that you haven't seen before. However, sectionalisation within the game, maintains interest: The graphics are good and the sound enjoyable.

Definitely a month for platform games and this is probably the best among them.

Nic Outterside

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

COMPUTER EXPRESS

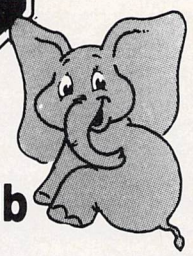


" FANGTASTIC BARGAINS "

ATARI

£319 + VAT

NEW ATARI 520ST-FM 1Mb



With over £400 worth of FREE software

ATARI MEGA ST2

A fast 8Mhz 68000 processor and 2Mb of RAM make this a powerful machine for serious users. One 720k floppy drive and Monochrome monitor as standard, alternative colour monitor £135 extra. 20Mb Supra Hard Disk available from stock. **£709.00**

ATARI TOP SELLING LEISURE SOFTWARE

Advanced OCP Art Studio – Low Cost Art Package	£18.45
Chessmaster 2000 – 3D Graphics With Speech	£18.45
Degas Elite – The Most Powerful Art Package	£18.45
Dizzy Wizard – Magic and robots	£17.95
Dungeon Master – Chaos Lord in 3D corridors	£21.99
Flight Simulator II – Very Realistic Best Seller	£36.00
Flight Simulator Scenery Disks – For Use with Above	£18.45
International Soccer – Kick 'em to death	£17.95
Obliterator – Through the plasma in Cinemascope graphics	£21.95
Preditor – Arnold at his tricks	£12.95
Star Trek – Beam me up Scotty	£13.50
Star Wars – The Exciting Arcade Game for the ST	£13.50
Terrorpads – Watch Out They're Here!	£18.45

MANY OTHER TOP RELEASES AVAILABLE

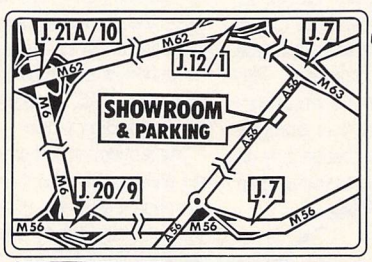
ATARI HARDWARE

Atari 520STFM, 512K RAM, Disk Drive, Mouse, 1Mb Drive	£319.00
Atari 1040STFM, 1Mb RAM, Disk Drive, Mouse	£449.00
Atari 1040 with SM124 Mono Monitor	£519.00
Atari 1040 with Philips 8833 Colour Monitor	£699.00
Atari Mega ST2, 2Mb RAM, Mouse, Mono Monitor	£830.00
Atari SM124 12" High Res Mono Monitor	£119.00
Atari SC1224 12" Med Res Colour Monitor	£309.00
Cumana 1Mb Double sided 3.5" Disk Drive	£119.00
Philips 8833 Med Res Colour Monitor – Excellent Buy	£249.00
Super Drive 20Mb Hard Disk – Auto Boot!	£459.00

PROFESSIONAL ATARI SOFTWARE

DX Heaven Editor – Midi Synth Editor	£88.00
WordPerfect	£169.00
PC Ditto – At Last a Full IBM Emulator	£66.00
Steinburg Pro 24 software – from as little as	£150.00
Film Director – Animation Package for Art Director	£44.00
Word Writer	£56.00
First Word Plus	£56.00
Swift Calc & Data Manager	£56.00
Superbase	Call
Fast ST Basic (ROM) – It's really fast!	£66.00
Fast ST Basic (Disk) – Disk Version of Above	£33.00
Fastcom – Popular ST Communications Package	£36.00
Easy Draw II – Great with timeworks DTP	£39.00
Spectrum 512 – The Ultimate Paint Programme	£35.00
Superbase Personal – Powerful Relational Database	£73.00
Lattice 'C' Compiler – Still Very Popular	£71.00
Mark Williams 'C' Compiler – 'C' How You Like This	£90.00
Super Conductor – 16 Track Midi Sequencer	£36.00
Timeworks DTP	£89.99
Timeworks Datamanager – Gem Based Database	£34.00
Timeworks Swiftcalc – Databased Spreadsheet	£34.00
Timeworks Desktop Publisher – Xerox Ventura Clone	£69.00
Timeworks WordWriter – Wordprocessor	£56.00
Trimbase – The Integrated Database	£66.00
CAD 3D 2.0 Cyberstudio – The Best 3D Drawing Kit	£66.00

ALL CYBERSTUDIO ADD-ONS AVAILABLE



MANCHESTER SHOWROOM
85 WASHWAY ROAD (A56) • SALE
MANCHESTER • M33 1TQ

PANASONIC 1081

At this price who can ignore this little winner. 120cps draft and 30cps in NLQ makes it everybody's favourite.
..... **£142.99**

EPSON LX800

This latest offering from Epson zips along at 150cps in draft and 25cps in NLQ. Comes complete with Parallel Esc-P or IBM Parallel interface as standard, plus top mounted tractor feed. Good clear typeface, and 80 column wide. **£189.00**

FAST DELIVERY

Straight from stock to the customer by means of our super-reliable, ultra-efficient delivery service. Computer Express won't keep you waiting.

ENORMOUS STOCKS

Enormous stocks of Atari Hardware and Software for speedy despatch from our own vast warehouse in St. Albans.

TECHNICAL BACK-UP

Highest possible standard of service from the Computer Express technical department. Any problems, just give us a call.

SUPER PRICES

Call us for a copy of price list or an on-the-spot quotation – no obligation.

FREE STARTER KIT

Buy any Atari ST keyboard from Computer Express and receive completely free of charge, our special starter kit.

- **PUBLIC DOMAIN SOFTWARE**
- **MOUSE MAT**
- **ST OWNER'S MANUAL**

AFTER SALES SERVICE

Don't worry – if you buy from Computer Express we're always ready to help. New software, product developments, hints and wrinkles – call us for friendly advice and encouragement.

STAR LC-10

The new rising star in the printer world. Already its topping the hit parades. For the money no other printer offers so much. 80 column multifont printer with 8 resident fonts and paper parking. 144cps draft and 36cps in NLQ quality. Parallel or Commodore interface versions available.
..... **£189.99**
Colour version printing 7 colours **£199.99**

COMMODORE AMIGA 500 £319.00 + SOFTWARE

AMIGA

Amiga 500 + software	£319
Amiga Colour Monitor	£249
Amiga Genlock	£235
Amiga External Drive 3.5	£79
Amiga 500 External 20Mb Hard Disk with SCSI	£499
Amiga 2000(B) CPU and Keyboard	£979

AMIGA PRODUCTIVITY SOFTWARE

Page Flipper with FX animated graphics with IFF sound	£99.00
Descartes? educational graphing tool	£21.99
Silver Ray Tracing and Animation	£99.00
IntroCAD – Amiga aided design	£44.99
Director – Thames TV on your Amiga	£42.99
Professional Pagesetting – under	£100.00
Educational Software – from	£32.50

OKIMATE 20

The only printer to go hand in hand with the Amiga colour graphics software. Wisper quite, with a glossy colour finish.
..... **£149.00**

Special: New shipping charges. Next day delivery. We will ship any consignment up to 25kgs anywhere in the U.K. (except the highlands of Scotland) for only **£8.50.** For small software orders the charge is **£6.50.**

All goods guaranteed. Official Purchase orders accepted from Government, Local Authorities, Universities and PLC's. All prices exclusive of VAT and subject to change without notice. Delivery charges extra. No returns or repairs accepted without Returns Authorisation Number (obtainable from our Technical Support Department). Defective dead-on-arrival merchandise repaired or replaced immediately at our carriage expense. Carriage on warranty repairs is paid by the customer. Non-defective credit returns subject to a 10% restocking fee. Technical support available Monday to Friday. Export and trade enquiries welcome.

FOR FULL PRICE LIST PLEASE CALL
TELEPHONE ORDERS WELCOME

Access VISA

0727 37451

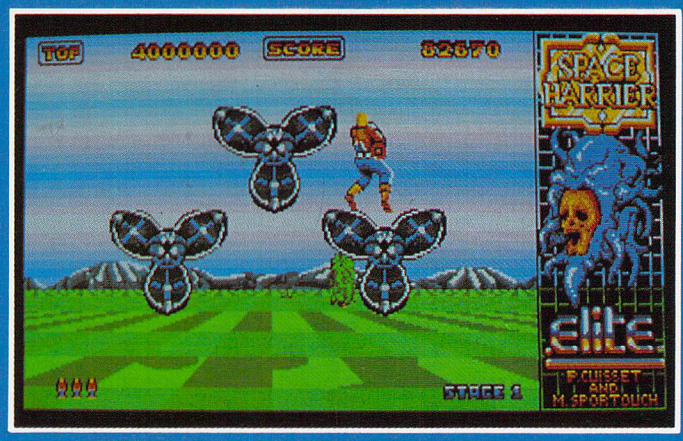
SINGLE AND MULTI-USER
MICRO-COMPUTER
SOFTWARE SALES AND SUPPORT

NORTH LONDON SHOWROOM • 99 PARK STREET LANE • BRICKETWOOD • ST ALBANS • HERTFORDSHIRE • AL2 2JA • (0727) 72790
MANCHESTER SHOWROOM • 85 WASHWAY ROAD (A56) • SALE • MANCHESTER • M33 1TQ
HEAD OFFICE • CAXTON CENTRE • PORTERS WOOD • ST ALBANS • HERTFORDSHIRE • AL3 6XT • (0727) 37451 • FAX (0727) 50819

COMPUTER EXPRESS HOLLAND • NIJVERHEIDSWEG • N60 • 3812 PM • AMERSFOORT • NETHERLANDS • (33) 630544. *COMPUTER EXPRESS AMERICA* • 1713 S.E. ELLIS STREET • PORTLAND • OR • 97202 USA • TELEPHONE (503) 235 0277

Spacewar stunner

Program: Space Harrier
Price: £19.99
Supplier: Elite Systems, Eastern Avenue, Lichfield, Staffordshire.
Tel: 0543 414188



ANYONE who has been anywhere near an amusement arcade in the past few years must surely have heard of Space Harrier. This game had a seat fitted to an hydraulic arm in juxtaposition to the video screen. As you moved the little figure on the screen, the arm moved your seat along with it, producing the nearest thing yet to being there.

After nearly a two-year wait, the game – minus the hydraulics – has finally arrived on the ST. Was it worth the wait? Well, that depends on how much you liked the original coin-op version.

Graphically, Space Harrier is far ahead of its rival arcade games. The images coming at you range from superbly-drawn trees, shrubs and boulders to amazing huge granite heads and obelisks as well as a fair range of beautifully executed nasty creatures.

To be honest, the graphics can hardly be faulted, though I would have liked to have seen some animation of the player character when he is flying. He looks very odd just hanging there, but not as odd as some of the scenery. For instance, level three consists mainly of giant mushrooms or toadstools – mycology was never my strong point – zooming towards you.

Musically, too, Space Harrier is ahead of the field. The music is not technically excellent, nor is it particularly spectacular – where it excels is that it complements the game perfectly. Rather than grating on I found that this tune simply seemed to fade away as I played. In short, the music stayed in the background during the game, and tended not to distract me too much from the blasting.

Space Harrier consists of 16 levels, each with its own character, colours and graphics, and each more difficult than the last. There is a great variety of nasties to be dealt with, as well as the odd friend to be found – at level 10 you meet a cute dragon on which you can ride off into the sunset.

The game has gorgeous graphics and unobtrusive music to boot. The digitised screams and growls also work very well, though the voice saying "Get Ready" sounds as though it was spoken through a handkerchief down a bad telephone line by someone who didn't want to be recognised.

In short, this is a straightforward shoot-'em-up, but with some of the best graphics that I have seen in an ST arcade game. This must surely go down as one of the all time great conversions, despite the lack of a hydraulic arm.

Roy Stead

SECOND Sight

Hang on to your seat, you're in for a bumpy ride with this one. What! No hydraulic arm? Still, it's just as good as the coin-op without it. Superb graphics, original sound and addictive game-play – what more can I say? You'll be hard pressed to find a more faithful conversion of an arcade classic.

Nic Outterside

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

Computer chaos

Program: Killdozers
Price: £19.95
Supplier: Lankhor/Active, Greyhound House, 16 Greyhound Road, Hammersmith, London W6 8NX.
Tel: 01-385 7622

REMEMBER that old film called KillDozer? The one where an alien takes control of a bulldozer and the machine goes around killing innocent bystanders? All in the best possible taste, of course.

The game, bears no relation whatsoever to that film. Except that it too stars a rampaging machine. The idea is that a super computer has gone mad and started producing weapons with which to take over the world. You, as the planet's finest upstanding citizen, have been asked to save the day by fighting your way through six levels, each consisting of 26 rooms, until you reach Unicom – the mad machine itself.

At this point, just kill it. Simple, really. Incidentally, precisely why the game should be called Killdozers completely escapes me. You are not driving a bulldozer – you're driving a tank – and the enemy are largely gelatinous blobs and tanks. Not a bulldozer in sight.

However, leaving that point aside for the moment, Killdozers features a role-playing sort of technique, whereby you select one of four tanks at the start of play. Each has characteristics like armour rating, speed, hitpoints and so on which affect your performance in a fight.

Another feature of the game is the range of three weapons which are available at any time – simple missiles, absorbers which take energy from your enemy, and armour piercing warheads.

The problem with Killdozers is, quite simply, that it is boring. There's not a lot to do, and that's done over and over again. Just wander over 26 screens, find an engineer, get to the exit then do the whole thing all over again.

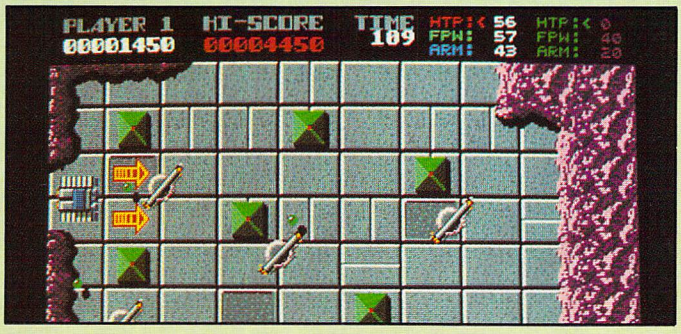
Graphically it's not too impressive either, with simple square-shaped sprites drawn in a style reminiscent of Gauntlet, though without the excitement even the ST version had to offer.

Sonically too Killdozers fails to captivate, producing a few decent effects, but these digitised sounds are repeated to an annoying degree. Five seconds of music repeated 120 times does not constitute a 10-minute soundtrack.

Even given the Construction Set which allows you to design your own levels, Killdozers is uninteresting.

As an adventure, it's not adventurous and it lacks the thrill of the chase, which every arcade game needs. Even mappers will find it dull as there are no decent mazes. Give this one a miss – by, say, 10 miles. Please, Lankhor, no sequels.

Roy Stead



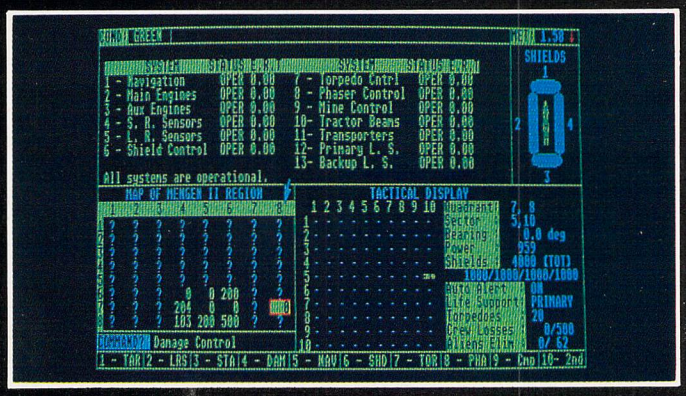
SECOND Sight

I'm beginning to go to sleep, it seems to be one bore after another this month, thank goodness for Elite! Killdozers is a bit of a drag in terms of variety of gameplay, but there are more than 150 screens to plough through and you can construct your own. Not the most breathtaking game I've come across and that's an understatement.

Nic Outterside

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

Program: Star Fleet One
Price: £24.95
Supplier: Interstel/Electronic Arts, Langley Business Centre, 11-49 Station Road, Langley, Berkshire SL3 8YN.
Tel: 0753 49442



To boldly go...

STAR Fleet One is, I am told, a popular program in the United States. The reason for this popularity escaped me when I first loaded the game, confronted as I was by a mass of text in what seemed initially to be a badly-presented version of the old favourite Star Trek.

Then, looking in the box, I found to my amazement three slim volumes, totalling 200 pages of instructions and hints.

Star Trek, for the uninitiated, consisted of making your way around a grid – usually eight by eight or 10 by 10 – and destroying any Klingons around by using photon torpedoes and/or phasers, which may be replenished at starbases.

Star Fleet One is based on this old game, but takes its ideas far further – adding the menace of the evil Zaldrons, whose ships possess invisibility screens.

Other additions include a fairly comprehensive command system which permits access to deep-space probes, mines, transporters, tractor beams, internal security systems and, of course, the obligatory shields, phasers, torpedoes and sophisticated navigation computer.

At the touch of a button you can access details on nearby alien ships or your own vessel, as well as the status of any starbases you have encountered.

The most significant bolt-on, however, has to be the complex hierarchy at Star Fleet. As you complete more and more missions, your permanent service record is updated to take note of promotions, medals and any other awards earned.

In this manner you are able to advance from raw recruit to the lofty status of Admiral, though this progression through 10 ranks may take quite some time.

Where Star Fleet One is a great disappointment is in the graphics – there are none. The box promises "Full colour battle animation", but the only animation consists of crude character-block movement of tiny spacecraft. The sound, too, consists of little more than beeps.

Star Fleet One is an absorbing game. Don't be put off by first appearances. Though lacking sonically and graphically, it is amazingly addictive and will no doubt sell steadily if not dramatically.

The programmer's distinctive humour – a Krellan secret weapon is revealed as the outpourings of their ship's sewerage plant – and attention to minute details – the ship's engineer spends many battles frantically attempting to drain every last drop of power from various systems, cursing as he patches up the shields control system yet again – help add to the realism of the game.

This realism would not be particularly well served by use of graphics unless these were of Carrier Command standard, but the sound could definitely do with a revamp.

At £24.95, Star Fleet One is competing directly with Carrier Command and adventures from Infocom, Sierra and Magnetic Scrolls. Perhaps against such competition it pales in comparison.

However Star Fleet One is an addictive romp through the galaxy, but insist on trying it out on a higher level. Use the name MANAGER and password FLEET then try the game on level four or five before parting with your cash.

Roy Stead

SECOND Sight

This is definitely an addictive game and has a number of commendable points. However,it is a bit of a disappointment as graphics and sound are poor in comparison with contemporaries of the same ilk. It definitely seems over-priced to me. Try before you buy.

Nic Outterside

Sound	4
Graphics	4
Playability	8
Value for money	5
Overall	5

Very old favourite

Program: Revenge II
Price: £9.99
Supplier: Mastertronic, 8-10 Paul Street, London EC2A 4JH.
Tel: 01-377 8411

REMEMBER the dawn of the computer age, when Sinclair ruled the Earth and people thought Space Invaders was a pretty neat game? Well around that time there was a program called The Attack of the Mutant Camels, a highly successful piece of code quickly followed up by The Revenge of the Mutant Camels.

Since then the technology, and man's taste, have both become more sophisticated, so why has Mastertronic released Revenge II, the most outdated and overpriced game that I have encountered in a long time?

The disc inlay card supplies background information about Earth, the evil Zzyaxians, and the unlikely heroes – the 90 foot tall, neutronium-shielded, laser spitting camels.

Revenge II is fought over a total of 100 waves – these are selected by moving a cursor around a 10 x 10 grid. You are not allowed access to every square at the beginning of the game. Starting at the top left corner, you may proceed horizontally or vertically, fighting one wave at a time.

To the right of the wave select grid there is a list of options that relate to your attack or defence capabilities. Shields one and two double and treble the number of hits required to destroy your camel.

Yo Yo arms your beast with ammunition that comes whizzing back towards you when it reaches the screen edge, which quite often is more of a nuisance than an advantage.

Giant increases the size of your bullets until they resemble gobstoppers – highly recommended if you're a lousy shot. The final bullets are of the smart variety, and these home in on the first available target.

The unfortunate thing about all of the options is the fact that they have to be paid for. Credits are awarded for each wave successfully completed, so you'll have to do some fighting armed only with the bare essentials.

Dropping out of hyperspace on wave one I was greeted by the less than impressive image of a camel plodding across an Egyptian scene. The next thing I knew, I was being dive bombed by hearts.

For the next seven waves the camel lumbered onwards against various backgrounds doing battle against the most ridiculous of household objects – toothbrushes, toothpaste, Y-fronts, letters, telephone boxes, telephones, floppy discs ... the list is endless. Whatever happened to the Zzyaxians?

Mastertronic has built up a hard-earned reputation for producing top quality budget games for a large variety of home computers. Revenge II is very much a budget quality program.

Carol Barrow

SECOND Sight

I can't make my mind up about this one. It's either brilliant or a load of dingos, I'm not sure which. But I keep coming back to it for another go, so it can't be all bad.

It is quite different to any other game on the market, so if you are looking for an unusual challenge this may just be your cup of tea.

Andy Richards

Sound	5
Graphics	6
Playability	4
Value for money	6
Overall	4

STARRAY

Screen Shots taken from AMIGA

We won't mention the super-smooth parallax scrolling...the stunning backdrops... the amazing hi-res graphics...the never heard before sounds...the gameplay that turns humans into jelly...the aliens that just get wierder...the unique Last Game Option...

We'll just say "Quite possibly the best arcade action yet written for any micro"

AMIGA STARRAY CONTAINS 2 DISKS AND AN AUDIO CASSETTE FOR £24.95. COMING SOON FOR THE ATARI ST AND COMMODORE 64 AT £19.95 AND PC FOR £24.95

"This game is so hot it will leave burnmarks on the most adept joysticks"

Amiga User International

Phone your order now on our credit card hotline for prompt delivery
(0933) 228953

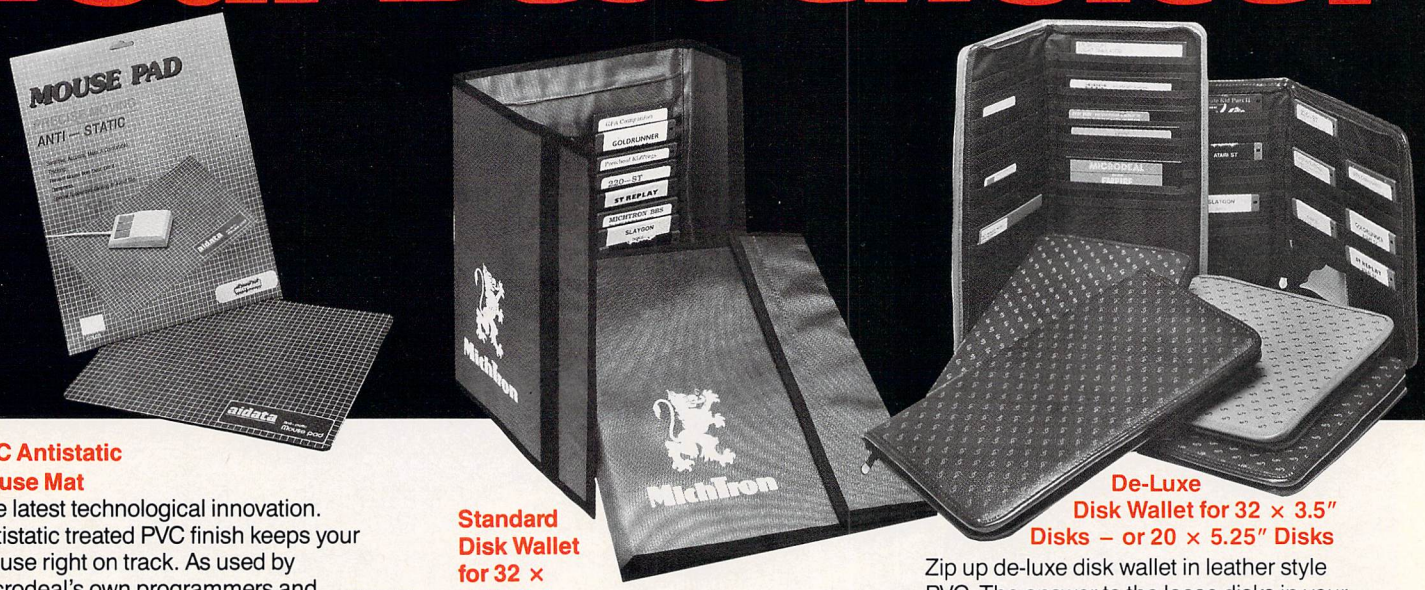
LOGOTRON RECREATION

MASTERWORKS FOR THE MILLENIUM

LOGOTRON LTD, DALES BREWERY, GWYDIR STREET, CAMBRIDGE, CB1 2LJ

MICRODEAL

Your Best Choice!

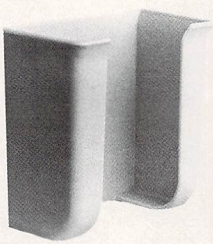


PVC Antistatic Mouse Mat
The latest technological innovation. Antistatic treated PVC finish keeps your mouse right on track. As used by Microdeal's own programmers and artists. Finished in dark grey PVC. £5.95

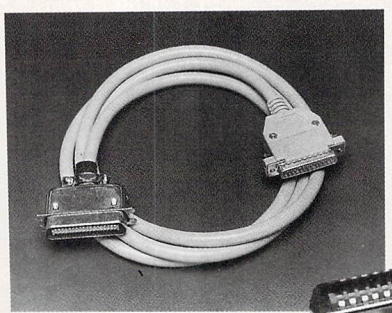
Standard Disk Wallet for 32 × 3.5″ Disks
This hard wearing travelling disk wallet holds up to 32, 3.5″ disks complete with easy open velcro fasteners and space for your name and address. Available in red, grey, maroon or blue. £12.95

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

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



Mouse Bracket
Our "mouse house" stores your mouse safely whilst not in use. The self adhesive pad affixes to your monitor or wall for safe storage. £2.95



Budget 6′ Parallel Printer Cable
Our low cost 6′ printer cable with standard parallel plugs. 6′ of grey cable. Fits IBM PC's and compatibles, Atari ST's, Commodore Amiga 500/2000 when used with a standard parallel printer. £7.95

Comtech Disk Cleaner with 2 Refills for 3.5″ Disk
Our disk cleaning kit comes with cleaning fluid and 2 refill cleaners and will last 3 times as long as other disk cleaners. £5.95

Stackable Disk Library for 80 × 3.5″ Disks £24.95
Kiss goodbye to searching for disks. This spin round disk library holds 80 of your disks and will stack up to 3 high.

De-Luxe 6′ Parallel Printer Cable
Easy to remove moulded plugs with thumbscrews, all in Atari Grey make this a professional choice. Fits IBM PC's and compatibles, Atari ST's, Commodore Amiga 500/2000 when used with a standard parallel printer. £9.95

50 × Sproket Fed Disk Labels for 3.5″ Disks
Self adhesive labels for 50 disks. £2.99

I should like to order the following items — Allow 28 days for delivery

Quantity	Item	Colour	Price
			£
			£
			£
		Add P&P	£1.00
		Total Enclosed	

Name _____

Address _____

_____ Post Code _____

Microdeal Limited
Box 68, St Austell, Cornwall PL25 4YB England
Telephone (0726) 68020 Telex 45218 MICROD G
Fax (0726) 69692

Access VISA AMERICAN EXPRESS DINERS CLUB INTERNATIONAL

The ST in education

Our resident educational expert, Nic Outterside, investigates the growing influence of the ST in British education

THE ST is suddenly taking the education market by storm. That is the impression I have gained after almost four weeks of thorough investigative journalism into the role the ST is playing within this country's schools.

A domain which until now has been the almost total prerogative of Nimbus and BBC-badged micros is being invaded seriously by the Atari ST. There have been outstanding results and distinct improvements to the computer-based learning strategy of schools and colleges.

In the vanguard invasion is the computer distribution company SDL, a small band of dedicated county education advisers and perhaps surprisingly – considering their record in marketing their own products – Atari UK. As a result of their efforts the ST is replacing the BBC Micro as the main computer used in schools in these education authorities: West Midlands, Norfolk, Kent and Essex as well as most London boroughs.

It is also being increasingly used in many other counties alongside more traditional 8 bit micros. It is making major inroads into British universities, polytechnics and colleges of further education, including University College London, Trent Polytechnic and the London School of Music.

Even traditionally conservative authorities such as Hereford and Worcester are giving multiple units of £700 – the distribution based on school role size – for schools to buy machines other than the BBC Micro.

A cautious estimate says between 7,000 and 10,000 STs are now installed in places of education, ranging from special schools to training centres for the police and the armed forces. Couple this with the fact that more and more institutions are also opting for Atari PCs and Corinth packages to cater for their administration needs, and the picture starts to take shape.

In Cumbria the ST has been taken on as a chief medium for teaching music. The senior music adviser for that county, Mike McNully, says around a further 20 STs will be bought this year and the trend is positive and definitely upwards. Currently driving drum machines, keyboards and other Midi packages, the Atari micro is getting rave feedback from Cumbria's schools.

In Shropshire the ST has become the standard micro in every county secondary school and is now being transported into the primary and tertiary sectors. Andy McKeown, county advisory teacher for Information Technology there, is responsible for ousting the BBC Micro

Turn to Page 39 ►

Why let your word processor slow you down?

PROTEXT is the fastest on the Atari ST

Unlike its competitors, Protext does not use Gem. The scrolling speed is four times faster than that of Gem based word processors. Yet Protext is still WYSIWYG and still allows access to desktop accessories.

Protext is faster all round, for example the search and replace command is six times faster than First Word +, and the spelling checker, too, is faster.

Protext has all the features you would expect from a good word processor - many text editing commands, print commands, spelling checker and mailmerge. What you might not expect though, is the refinement and thought that has been put into the program - the logical keystrokes and commands, the clear layout, the speed and power ... all go towards making Protext ideal for the novice or the experienced user alike.

Are you considering upgrading from First Word?

Protext is now the obvious choice.

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

..."Every feature you could possibly want is here - word processing, Ascii text editing, mail merging and so on"
ATARI ST USER April 1988

Box manipulation	move, copy, or delete any box as well as blocks
Command recall	commands are stored and can be recalled and edited with cursor keys
Configuration	configure most features to your own preferences of line. delete line, block or box
Dictionaries	add/delete words to/from supplied dictionary. Create additional specialised dictionaries.
Disc utilities	copy files, erase, rename, type, create directory, change directory, remove directory, catalogue files
Exec files	store sequences of commands in files for easy use
File conversion	flexible file conversion utility for other WP files
Find & replace	very powerful and fast with many options. All or part of text, forwards/backwards, whole word or part, wildcards, case specific or not, nth occurrence, find control codes, single key for next find/reverse direction
Foreign languages	accented characters can easily be used ä æ ç ö ü è é ß à ù ô ê ñ etc. German dictionary available separately
Formatting	format paragraph, block or whole text, centre line, word wrap on/off, right justify on/off
Headers & footers	up to 9 lines of text, different even/odd headers and footers possible, automatic page numbering
Help	edit and command help available on-screen
Hyphens	soft hyphens and non-break hyphens
Keyboard macros	string any sequence of letters together on a single key e.g. "Yours sincerely"
Line spacing	variable in half lines, including 0, ½, 1, 1½, 2, 2½, 3
Margins	all margin sizes variable, different even and odd
Markers	block markers, 10 place markers, multiple markers
Preview	print to screen to check layout
Printer support	works with any parallel or serial printer. Wide range of printer drivers supplied, incl. lasers and 24-pin printers. Drivers may be edited, or new ones created
Printing styles	bold, condensed, double strike, elite, italics, enlarged, pica, NLQ, subscript, superscript, microspacing, proportional spacing, any other printer fonts
Program mode	program editing mode suppresses formatting
Proportional text	will print proportionally spaced, right justified text
Quick dictionary	dictionary held in memory is very fast
Ruler lines	any number of ruler lines to define document layout. unlimited line width. define left/right margins and any number of normal/decimal tab stops
Spelling checker	check from disc or current text. Suggests alternative spellings. Works with foreign languages
Time and date	set time and date, use within document
Tutorial files	help you to start using Protext
Two file editing	two documents in memory, copy text between them
Typewriter mode	direct printing for envelopes etc.
Undelete	retrieve text deleted in error
Word count	quick count at any time, whole text or just a block
Word puzzles	anagram and crossword solving features
Wysiwyg	on-screen bold, underline, italics, sub/superscript

Mail merge

The most comprehensive mail merge program available. Use it for labels, personalised "standard letters", club membership lists, and much more:

* read data from files from any database or spreadsheet program
* ask for variables from keyboard
* display message while printing
* include file for printing
* reformat whilst printing
* conditional printing and repeat-until loop constructs
* numeric calculations and string expressions including substrings
* commands to record information to a separate file
* operators +,-,*,/,<,>,<=,>=,=,<>,IN,NOTIN

STOP PRESS. The latest version (3.6) includes footnotes, spell check whilst typing, a fast First Word file conversion program, and background printing.

The conversion program will rapidly convert your old First Word/First Word + files into Protext format, preserving your printer codes and layout.

The background printing feature allows you to continue your word processing while waiting for your printer to finish printing.

Please send SAE for reprint of review plus feature summary.

Prices

Protext Word Processor	**£79.95**
German Dictionary	**£19.95**
New - Protext Applications	
Protext Filer	**£24.95**
Protext Office	**£34.95**

Access

VISA

Releasing your micro's potential...

ARNOR

Arnor Ltd, Protext House, Wainman Road, Peterborough, PE2 0BU. Tel: 0733 239011 (24 hour)

All prices include VAT, postage and packing. Access/Visa/cheque/postal order. *Telecom Gold: 74:MIK1982 Prestel: 016848009*

◀ From Page 37

from the county's schools – in a few schools this has been total – and replacing it with the technically superior 16 bit ST.

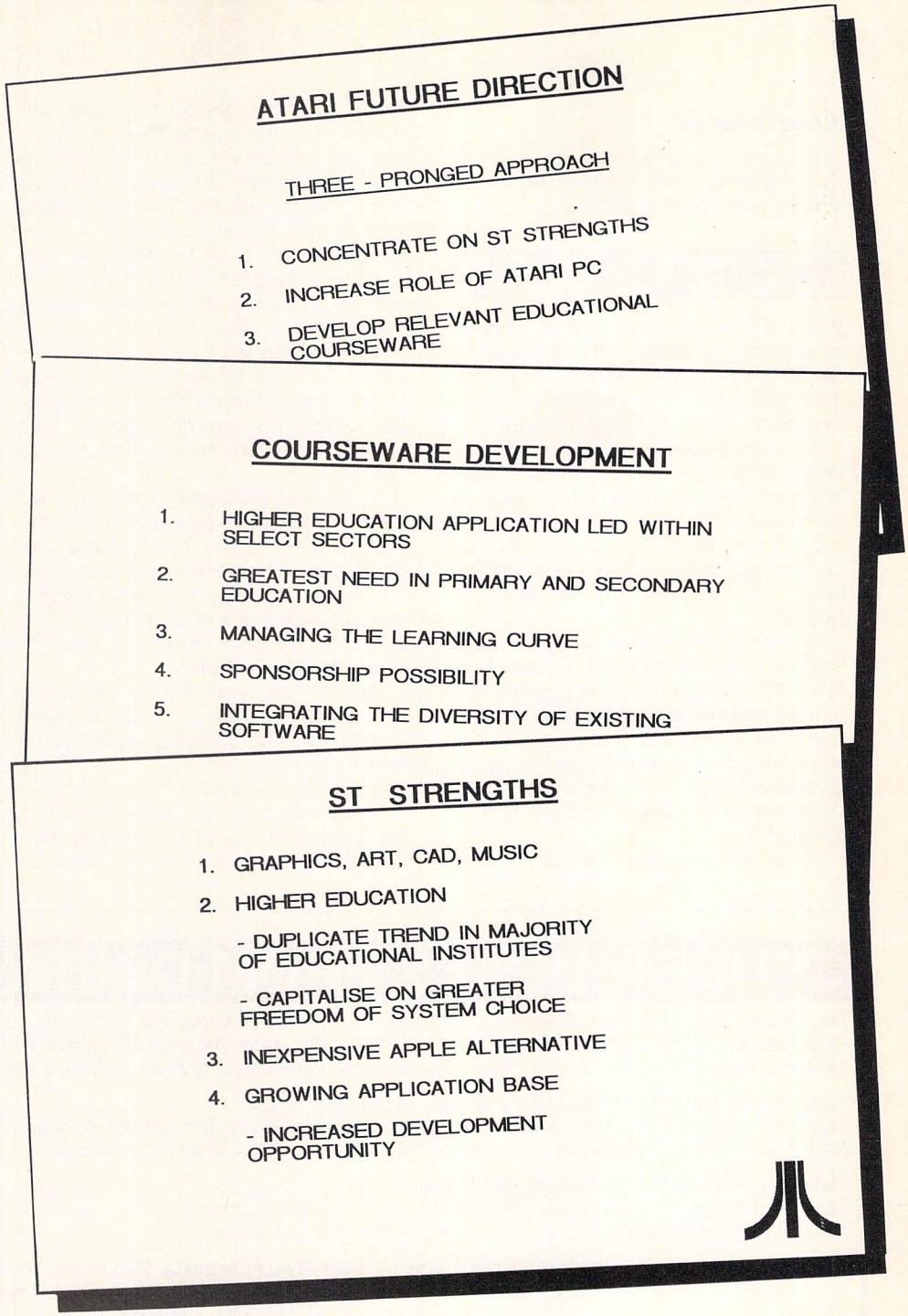
In early 1987 Shropshire had to decide whether to upgrade their old BBC Model B micros for the Master Compact version, wait for the launch of Acorn's much vaunted 32 bit Archimedes, or change to a new brand of computer technology.

Since he first saw a 520ST at the Desktop Publishing show in 1986, Andy was impressed at the machine's versatility and power and realised the potential of the Gem environment in education. He was able to influence decisions at the highest level and when the decision was made Shropshire judged that neither of the new Acorn machines could provide total compatibility with the old model B, and consequently opted for a change of direction.

STs are now being used by the county's schools in all subject areas. In particular the micro's strengths in computer-aided design, desktop publishing and music are being fully exploited by use of some excellent software.

Art and drama departments are creating kinetic animation from scratch using 520STFMs, and one secondary art department has bought five STs for its sole use in design work. Science and English faculties are utilising DTP software within many aspects of course work from first to sixth years, while CDT departments are applying CAD packages wholesale at GCSE level.

Primary school usage envelops the teaching of mathematics, geography, simple anatomy, history and art. However, the number of STs in primary schools is still small, but this will soon change if Shropshire is a good barometer of the country at large.



Policy guidelines resulting from the Atari forum

Developing serious software

Bill Owen, national sales manager for SDL, says Silica Shop Education Division is currently investing tens of thousands of pounds into software development. Atari and SDL are identifying areas of need then attempting to create the software to meet them. Much of their own activity is concerned with importing the best software from the Continent and translating it into English.

Many of these titles come from France, West Germany and The Netherlands. Bill recently showed me six excellent programs from a Dutch firm, Atacom. These dealt with shape and colour recognition, addition, numbers, anatomy and topography. The instructions were still in Dutch, but the quality of the product shone through and I look forward to seeing them released for the British market next month.

Robin Kimberley, the proprietor of Softstuff, is now sponsored by SDL to produce programs for the primary sector and has already released the excellent Spellbook – reviewed in the September 1988 issue of *Atari ST User* – Words and Pictures and the outstanding Things to do with Words.

TVEI adviser for East Anglia Gordon Selvage acts as educational consultant to Mirrorsoft as well as promoting the ST within his education authority. His developments are responsible for Mirrorsoft winning the DTP national awards this year.

Following the almost unparalleled success of Pro-24 and Masterscore in British universities and colleges, Guy Pearson of Evenlode Soundworks has prepared a marvellous piece of software for release this month.

Titled Pro-24E, this adaptation of the famous Midi sequencing program has been specially written for use in primary and secondary schools. It is available complete with coursework and should prove to be a popular utility for many music departments.

Meanwhile at York University's Music Technology Department Andy Hunt has developed and produced a utility for music making and live performance called Midigrid. This is now to be marketed by the Composers' Desk Top Project.

Connected to the ST's Midi system, this

Turn to Page 40 ▶

◀ *From Page 39*

application can be tailored for use with handicapped people either at home or in a training establishment.

The state of play

When SDL organised an exhibition of educational products and suppliers for the ST market it was supported by Atari itself and acted as a window on to the expanding world of the ST in education.

Art and graphics packages such as Degas Elite, Easy Draw 2, Gemlock and Imagine's Digitiser were all on display as examples of quality software being actively used in schools. Canvas CAD has been tested in Shropshire and is now set to be taken up by many Art and CDT faculties.

In Music, it was evident that Steinberg's Pro-24v3 and Masterscore, Hybrid Arts' EZ-Track Plus and EZ-Score Plus are being widely used. Meanwhile, the Casio keyboard and Windsynth are taking the place of instruments such as the piano, glockenspiel, horn and trumpet in music departments the length and breadth of the land.

All of the excellent Timeworks programs are now being distributed with courseware for use in English, mathematics, economics and book-keeping courses. Comms and database packages are in high demand by many secondary schools and tertiary colleges as their applications become beneficial to both teaching and administration. Science software is emerging slowly, being chiefly aimed at the university sector.

Atari underlined its intention to take education on the ST seriously by holding an Education Forum at which educational and computing experts, together with existing Atari users, engaged in a two day think tank.

The business systems marketing manager for Atari UK, d'Este du Plessis, said "Atari wanted to see exactly what was being done with its machines in the educational environment, and one of the purposes of the forum was to generate a flow of information and provide a pool for cross-fertilisation of ideas".

She went on to say that the forum was "a brainstorming session containing some interesting lateral thinking – particularly from Andy McKeown".

She feels that the forum was a springboard for more to come from Atari, which supports a policy to develop software specifically for education purposes rather than convert existing programs from 8 bit machines.

Subsequently a series of policy guidelines have been released outlining development strategy and three are reproduced here.

The future?

While government ESG grants exist for counties to buy Nimbus and BBC Micros, the ST will face an uphill struggle if it is to establish itself seriously in schools and colleges on a nationwide basis.

However, MSC money which has become available through TVEI and YTS schemes, has no such limitations of use and it is primarily through this door that the ST is advancing.

Polytechnics, universities, private schools and training centres have traditionally opted for their own preferences and will continue to do so. It is where such freedom exists that the ST can be seen to succeed. However, the pioneering work of Shropshire LEA, SDL's software development programme and the MESU training of advisory teachers at Warwick and Cambridge University is providing a leading light for the ST in state education.

SUPER DEALS FROM DELTA COMPUTERS

New Atari 520STFM (1Mb Drive) Pack + 21 Games + Business Organiser Software £359.00
New Atari 520STFM (1Mb Drive) Pack + 21 Games + Business Organiser Software + Atari Colour Monitor £569.00
New Atari 520STFM (1Mb Drive) Pack + 21 Games + Business Organiser Software + Atari Mono Monitor £459.00

New Atari 1040STFM (1Mb Drive) + Internal Modulator for T.V £459.00
New Atari 1040STFM (1Mb Drive) + Internal Modulator for T.V + Atari Colour Monitor £699.00
New Atari 1040STFM (1Mb Drive) + Internal Modulator for T.V + Atari Mono Monitor £559.00

New Atari 4 Mega ST Computer (1Mb Drive) £999.00
New Atari 4 Mega ST Computer (1Mb Drive) + Atari Colour Monitor £1199.00
New Atari 4 Mega ST Computer (1Mb Drive) + Atari Mono Monitor £1069.00

Add a Citizen 120D Printer £149 or National Panasonic 1081 £159 to above

SPECIAL OFFER

Atari STFM, 1Meg Drive, Mouse, Language Disc + First Word ..... **£269.00 (While Stocks Last)**

PRINTERS inc lead

Amstrad DMP3160 ..... £189.00
Amstrad DMP3250 DI £199.00
Amstrad DMP4000 ..... £310.00
Amstrad LQ3500 ..... £310.00
Amstrad LQ5000 ..... £399.00
Citizen 120D £159.00
Panasonic KX-P 1081 ..... £169.00
Star LC10 ..... £199.00
Star LC10 Colour £259.00

MONITORS

SM125 ..... £139.00
Philips 8833 Colour £259.00

DISC DRIVES

Atari SF354 0.5mb £129.99
Atari SF314 1.0mb £175.99
Cumana 3.5" Single 1Mbyte £99.99
Cumana 5.25" 40/80 1Mbyte £129.99
Cumana 20Mbyte Hard Drive £679.99
Cumana 30Mbyte Hard Drive £689.99
Cumana 40Mbyte Hard Drive £1009.99
Cumana 60Mbyte Hard Drive £1199.99

E&OE

All prices include VAT

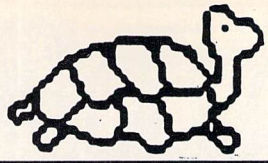
Please add £3.50 for orders under £100, £5 carriage on orders over £100. Mail Order only at this address.

Trade and Educational enquiries welcome.

VISA

85 Union Street, Oldham Lancs. Tel: 061-626 3841

TURTLESOFT



Very Special Offer. Limited number of reconditioned 520ST/FM's complete as new. 3 months warranty only £199.95 plus £8.00 carriage

!!!!! TURTLE PRICES ARE THE ONES TO JUDGE THE COMPETITION BY !!!!!
!!!!! WE ARE SURE YOU WON'T FIND LOWER PRICES AND FREE DELIVERY !!!!!
!!!!! FIRST CLASS SERVICE AT FIRST CLASS PRICES !!!!!

Computers	RRP	Our Price
520ST-M Keyboard/Mouse	249.99	209.95
520ST-M Keyboard/Mouse/1 Meg Drive	429.95	299.95
520ST-FM with 1 meg drive plus £400 worth of Software	399.99	359.95
520ST-FM Keyboard/Mouse/.5 meg drive	299.99	249.95*
520ST-FM Keyboard/Mouse/.5 meg drive/SM124 Mono Monitor	449.98	369.95*
520ST-FM Keyboard/Mouse/.5 meg drive/SC1224 Colour Monitor	699.98	609.90*
1040ST-F Keyboard/Mouse/Software only	499.99	419.95*
1040ST-F+ Modulator/Keyboard/Mouse/Software	499.99	449.95
1040ST-F Keyboard/Mouse/1 Meg drive/Mono Monitor	599.95	549.95*
1040ST-F Keyboard/Mouse/1 Meg drive/SC1224 Colour Monitor	899.98	799.95*
MEGA-ST 2 Meg Ram/Mouse/Mono Monitor	1034.99	929.95
MEGA-ST 4 Meg Ram/Mouse/Mono Monitor	1379.99	1229.95
MEGA-ST 2 Meg Ram/Mouse/Colour Monitor	1319.98	1179.95
MEGA-ST 4 Meg Ram/Mouse/Colour Monitor	1664.98	1479.95
Atari PCI Single Drive + Software + Mouse	399.99	359.95
Atari PCI Single Drive/Mono Monitor + Software + Mouse	499.99	449.95
Atari PC2 + 30 Meg Hard Disk/MM 512 Ram + Software + Mouse	977.49	899.95
Atari PC3 DD/MM 640K Ram, Clock, Mouse and Software	747.49	699.99
Atari PC3 30 Meg HD/MM 640K Ram, Clock, Mouse + Software	1092.49	999.99
External Modulator 1040 TV/Audio/Video	–	50.00

*** All our Mega ST Computers fitted with Blitter Chips before Despatch *** * = While stocks last

Printers		
Star LC10	297.85	209.95
Star LC10 Colour Printer	343.85	239.95
Seikosha SP1200 AI, 120CPS, NLQ, Epson/IBM Comp + lead	232.30	199.99
Seikosha SL 80 AI, 24 pin, 135CPS, NLQ, Epson/IBM Comp + Lead	416.30	349.95
Citizen 120D + ST Lead NLQ. Epsom Comp	229.95	149.99
Panasonic KXP-1081 Printer, Epson comp. NLQ. 120CPS+ST lead	281.75	184.95
MP165 Plus Printer, Epson compatible. NLQ 165CPS + ST lead	263.35	199.99
MP201 136 Col Printer, 200CPS. Epson compatible. NLQ 40CPS	424.35	349.95
MP480 80 Col Printer, Epson compatible. NLQ. 480CPS+ST lead	424.35	349.95
Atari SLM804 Laser Printer ** NEW IN STOCK **	1299.99	1159.95

Disc Drives	RRP	Our Price
Atari One Meg Drive 3.5"	199.95	189.95
Cumana One Meg Drive 3.5"	149.95	99.95
Cumana 5.25" ST Drive. (CSA1000S)	194.35	159.95
Cumana Dual 3.5" ST Drive (CDA358)	275.00	229.95
Atari 20 Meg Hard Disc Drive (New Model SH205)	599.99	539.95
Supra 20Mb Hard Disc + Utilities	599.99	Phone

Monitors		
Atari Medium Res Colour Monitor	399.99	359.95
Philips CM8833 Colour Monitor + ST lead	329.95	279.95
Philips CM8852 Colour Monitor + ST lead	349.95	299.95
ST88 Colour Monitor + ST lead (Same Spec as CM8833)	319.95	239.95
Atari High Res Mono Monitor (SM 124)	149.95	129.95
Commodore 1084 Col Monitor + ST lead (same spec as CM8833)	349.95	239.95

Discs and Things		
Microdeal Battery Backed Clock 520/1040 (Internal & External ver.)	29.99	23.95
Colour/Monochrome Switch (Allows 2 Monitors Connected)	29.99	23.99
SSDD 3.5" Discs (10) + Library Case (10) – LOW LOW PRICE –	17.95	11.95
DSDD 3.5" Discs (10) + Library Case (10) – LOW LOW PRICE –	22.95	14.95
Top Quality Branded 3.5" DSDD Discs (10) – LOW LOW PRICE –	27.95	17.95
Mouse Mat 265mm x 210mm	7.95	4.95
Disc Cleaning Kits 3.5" or 5.25" (State which)	7.95	4.95
Atari Dust Covers, Computers/Monitors from	–	8.95
Mouse Bracket	–	2.95
Lockable Storage Box (holds 40 discs)	–	7.95
Joystick Extension Lead	–	5.95
4-way Joystick Adapter	–	5.95

*** All Computers & Peripherals now sent by Overnight Courier – Free ***

Atari ST Software Arcade/Adventure/Strategy	Retail Price	Our Price
Alien Syndrome	19.95	13.95
Arcade Force Four (1040 Only)	24.95	19.95
Arkanoid II	24.95	17.49
Armageddon Man	19.95	13.95
Barbarian	24.95	17.49
Barbarian By Palace	14.95	10.49
Bards Tale 2	24.95	17.95
Better Dead Than Alien	19.95	13.95
Beyond the Ice Palace	19.99	13.95
Bionic Commando	19.95	15.95
BMX Simulator	14.95	10.49
Bubble Bobble	19.95	13.95
Buggy Boy	19.99	13.95
Captain Blood	24.95	17.49
Casino Roulette	19.95	13.95
Chessmaster 2000	24.95	17.95
Chubby Gristle	19.95	13.95
Corruption	24.95	17.49
Dark Castle	24.95	17.49
Defender of the Crown	29.95	20.95
Dungeon Master	24.95	17.49
ELF	19.95	13.95
F-15 Strike Eagle	24.95	17.49
Fire and Forget	24.95	17.49
Flight Simulator II	49.95	35.95
Flight Simulator Scenery 7	24.95	17.49
Flight Simulator Scenery 11	24.95	17.49
Football Manager	14.95	10.49
Football Manager II	19.99	13.95
Great Giana Sisters	24.95	17.49
Guild of Thieves	24.95	17.49

SPECIAL PRICES Stocks Limited please ring	Retail Price	Our Price
221B Baker Street	19.99	9.99
3D Galax	19.99	6.99
500CC Grand Prix	19.99	6.99
Altair	19.99	6.99
Arkanoid	14.95	6.99
Baseball	24.95	9.99
Bureaucracy	34.99	9.99
Catch 23	19.99	6.99
Championship Wrestling	19.99	6.99
Championship Water Skiing	19.95	6.99
Chess (Psion)	24.95	6.99
Chopper	9.99	4.99
Crash Garrat	19.99	9.99
Deja Vu	29.95	9.99
Diablo	14.95	6.99
Dizzy Wizard	19.99	6.99
Dr. Livingstone	14.95	6.99
ECO (Sphere)	19.99	6.99
Epyx on Atari	29.95	9.99
Extensor	19.95	9.99
Flintstones	19.95	9.99
Foundation Waste	24.95	9.99
Gambler	14.95	6.99
Gauntlet	24.99	9.99
Get Dexter II	19.95	9.99
Hardball	24.95	9.99
Hitchhikers Guide	29.95	9.99
Hollywood Hijinx	29.95	9.99

BUSINESS/LANGUAGE/UTILITIES	Retail Price	Our Price
Advanced Art Studio	24.95	17.49
Aegis Animator	79.95	62.95
Art Director	49.95	34.95
Back Pack	49.95	35.95
CAD-3D Ver. 2.0 + Cybermate	89.95	62.95
CAD-3D Fonts & Printives	29.95	20.95
CAD-3D Architectural Design	29.95	20.95
Degas Elite	24.95	17.95
Dev-Pack 2	59.95	41.95
Digi Drum	24.95	17.49
Easy Draw 2	59.95	42.95
Easy Draw 2 Supercharged Version	99.95	69.95
Easy Draw 2 General Library	29.95	23.95
Easy Draw 2 Technical Library	29.95	23.95
Fast Assembler	19.95	13.95
Fast Basic (Cartridge)	89.90	64.95
Fast Basic (Disc)	44.85	32.95
Film Director	59.95	41.95
First Word Plus	79.95	56.95
Fleet Street Publisher	115.00	89.95
GFA Artist	49.95	36.95

Atari ST Software Arcade/Adventure/Strategy	Retail Price	Our Price
Gunship	24.95	17.49
Hollywood Strip Poker +	14.95	10.49
Hunt for Red October	24.95	17.49
Japan Scenery Disk	24.95	17.49
Jet (Uses F.S. II Scenery Disks)	39.95	27.95
Killdozer	19.95	13.95
Leaderboard	24.95	19.95
Leader Board Tournament	9.95	7.99
Legend of the Sword	24.95	17.49
Leisure Suit Larry	19.99	13.95
Marble Madness	19.95	13.95
Mercenary Compendium	24.95	17.49
Mickey Mouse	24.95	17.49
Music Construction Set	24.95	17.95
Overlander	19.95	13.95
Pandora	19.95	13.95
Pawn (The)	24.95	17.49
Peter Beardsley	19.99	13.95
Phantasie III	24.99	17.49
Phantasm	19.95	13.95
Platoon	19.99	13.95
Pub Pool	9.99	6.99
Revenge II	14.95	10.49
Rings of Zilfin	24.99	17.49
Rockford (The Arcade Game)	19.95	13.95
Rolling Thunder	19.95	13.95
Scrabble De Luxe	19.95	13.95
Shackled	19.95	13.95
Shadow Gate	24.95	17.49
Side Arms	19.95	13.95
Silent Service	24.95	17.49

SPECIAL PRICES	Retail Price	Our Price
Hollywood Poker (By Players)	14.95	4.99
I Ball	9.99	4.99
Impossible Mission II	19.99	9.99
Jewels of Darkness	19.95	9.99
Joeblade	9.99	4.99
Karate Kid II	24.95	9.99
Knight Orc	19.95	9.99
Lands of Havoc	19.95	6.99
Leviathan	19.95	6.99
Liberator	12.95	4.99
Lurking Horror	29.99	9.99
Metrocross	19.95	6.99
Missing One Droid	9.99	4.99
Mission Genocide	9.99	4.99
Mortville Manor	24.95	9.99
Mousetrap	14.95	9.99
Nord & Bert	29.95	9.99
Outcast	9.99	4.99
Perfect Match	9.99	4.99
Perry Mason	19.95	9.99
Plundered Hearts	29.95	9.99
Plutos	14.95	6.99
Power Play	19.95	9.99
Power Struggle	14.95	6.99
Predator	19.99	9.99
Return to Genesis	19.95	9.99
Roadwar 2000	24.99	9.99
Roadrunner	24.95	9.99
Roadwars	24.99	9.99

BUSINESS/LANGUAGE/UTILITIES	Retail Price	Our Price
GFA Basic Interpreter	45.95	17.49
GFA Compiler (Needs Interp.)	45.95	32.95
GFA Draft	99.95	69.95
GFA Draft Plus	139.95	99.95
GFA Sheet	45.95	32.95
GFA Vector	34.95	23.95
GST C Compiler	24.95	17.49
Iconix Midi Software Sequencer	249.95	199.95
K Spread 2	79.95	56.95
K-Comm 2	49.95	36.95
K-Data	49.95	36.95
K-Graph 2	49.95	36.95
K-Minstrel	29.95	20.95
K-Roget	49.95	36.95
K-Word 2	59.95	42.95
Lattice C Ver 3.04 (MCC)	99.95	69.95
Lisp (MCC)	89.95	59.95
Macro Assembler (GST)	24.95	17.49
Macro Assembler (MCC)	49.95	36.95
Maps and Legends	29.95	20.95
Modula 2 (Developers)	149.95	114.95

Atari ST Software Arcade/Adventure/Strategy	Retail Price	Our Price
Soccer Supremo	14.95	10.49
Space Quest II	19.99	13.95
Space Ace	19.99	13.95
Space Harrier	19.95	13.95
Spitfire 40	19.95	13.95
Stac	39.95	27.95
Staff	19.95	13.95
Star Wars	19.99	13.95
Star Glider	24.95	17.49
Star Quake	19.95	13.95
Starfleet	24.95	17.49
Stir Crazy	19.95	13.95
Strike Force Harrier	24.95	17.49
Strip Poker II	14.95	10.49
Strip Poker (Anco)	19.95	13.95
Sundog	24.95	17.49
Supersprint	14.95	10.49
Thunder Cats	19.95	13.95
Time & Majik	19.95	13.95
Trivial Pursuit	19.95	13.95
Ultima 4	24.95	17.49
Universal Military Sim	24.95	17.49
Vampires Empire	19.95	13.95
Virus	19.95	13.95
Vixen	19.95	13.95
Warhawk	9.99	6.99
Warlocks	19.95	13.95
Western European Disk	24.95	17.49
Wizards Crown	24.99	17.49
Wizard Warz	24.95	17.49
Xenon	19.95	13.95

SPECIAL PRICES	Retail Price	Our Price
Sapiens	19.95	6.99
Seconds Out	19.99	6.99
Shanghai	24.99	9.99
Sidewalk	19.95	9.99
Sky Fox	14.95	9.99
Sky Fighter	14.95	9.99
Slap Fight	19.95	9.99
Solomans Keys	24.99	9.99
Space Pilot	19.95	6.99
Space Port	19.95	9.99
Space Quest I	19.95	9.99
Star Trek	19.95	9.99
Swooper	19.95	6.99
Tanglewood	24.95	9.99
Tetris	19.99	6.99
Thrust	9.99	4.99
TNT	19.99	6.99
Tournament of Death	19.99	9.99
Tracker	24.95	9.99
Trailblazer	19.95	6.99
Trash Heap	19.95	6.99
Trivia Challenge	19.95	6.99
Trivia Trove	9.99	4.99
Turbo	9.99	4.99
Typhoon	19.99	6.99
Vegas Gambler	24.99	9.99
Wizball	19.99	8.99
Xevious	24.95	6.99
Bulletin Board System V2	49.95	16.95

BUSINESS/LANGUAGE/UTILITIES	Retail Price	Our Price
Modula 2 (Standard)	99.95	69.95
Music Studio	29.95	20.95
Paintworks	34.95	23.95
Power Basic (Hi-Soft)	39.95	29.95
Publishing Partner	159.85	119.95
Sage Accountant	171.35	129.95
Sage Accountant Plus	228.85	169.95
Sage Bookkeeper	113.85	89.95
Saved (Hisoft)	29.95	20.95
ST Data Manager	79.95	39.95
ST Swift Calc	79.95	39.95
ST Word Writer	79.95	39.95
Start Magazine (Disc) 6 x yearly	12.95	11.95
ST-Doctor	19.95	13.95
ST- Replay (Sound Sampling)	79.95	56.95
Super Conductor	49.95	36.95
Superbase (Database)	99.95	69.95
Timeworks DTP (New)	99.95	69.95
Timeworks Partner	49.95	34.95
Trimbase	89.95	62.95
VIP Professional (GEM)	149.95	114.95

All prices include VAT at 15% and now free overnight delivery anywhere on the UK mainland How to order – Post: Send cheques, P.O. or Visa/Access details to the address below. Phone: Call 0476 591040 24 Hour Service with your Access/Visa details. Turtlesoft Dept. AST, Unit 3, The Old Malthouse, Springfield Road, Grantham, Lincs. NG31 7SE

Subject to availability, all items are despatched within 24 hrs. E&OE. Cheque orders require 7 days clearance. Just because you don't see it – doesn't mean we haven't got it – please ring for details

Please make cheques payable to Oaktree Consolidated Ltd

Evesham Micros

DOUBLE TAKE! PYE TV/MONITOR (MODEL 1022)

High quality medium resolution colour TV/monitor now available to suit the ST or Amiga. Features full infra-red remote control, Euroconnector, Video/Audio input and headphone output connectors, 39 tuner presets, external aerial connector and a loop aerial. Supplied with cable (please state computer type when ordering).

SPECIAL OFFER ! £199.00 includes VAT, cable and next day delivery

PRINTERS

Don't Forget - All prices include VAT delivery & cable

STAR PRICE RISE

Due to EEC levy Star have raised prices as from 1st Sept. Our prices reflect this increase. Please remember this when comparing prices.

LC10

- ☆ Four NLQ fonts (many combinations)
- ☆ Paper Parking (use single sheets without removing tractor paper)
- ☆ IBM/parallel interface
- ☆ 4K buffer
- ☆ Comprehensive 'front panel'
- ☆ 96 NLQ print combinations
- ☆ 144/36cps print speed
- ☆ 7 colour version also available

An *immensely* popular addition to the Star range of printers, the LC10 incorporates many useful features at an ultra low price. Includes facilities not normally available in this price category. **Colour** LC10 option now available at an affordable price - it also accepts standard LC10 black ribbons. Both printers represent fantastic value for money.

Only £219.00
Colour version also available, Only £269.00
Prices include 2 extra black ribbons free of charge.

Star NB24-10 amazing value 24pin printer 216/72 cps, including cut sheet feeder and 2 extra ribbons	£499.00
Star LC24-10 New feature-packed 24pin multifont printer from Star! check availability	£339.00
Star NX-15 budget wide carriage printer	£329.00
Star ND-10 180/45cps high quality 10"	£349.00
Star ND-15 wide carriage version of ND-10	£419.00
Star NR-10 240/60cps professional 10"	£429.00
Star NR-15 wide carriage version of NR-10	£499.00
Star NB24-15 wide version of NB24-10, including cut sheet feeder	£649.00
Star Laserprinter 8 high spec. laser 8ppm/300dpi (price inc.1 year on-site maintenance service)	£1795.00
Star SF-10DJ cut sheet feeder for LC-10	£64.95
Star SF-10D cut sheet feeder, other 10" models	£59.00
Star SF-15B 15" cut sheet feeder for wide carriage 24 pin models	£199.00
Star SF-15D 15" cut sheet feeder, 9 pin models	£159.00
NEC P2200 budget 24 pin 168/56cps + many features	£319.00
NEC cut sheet feeder for P2200	£69.00
Panasonic KXP1081 reliable 120/24cps printer	£179.00
Panasonic KXP1082 160/32cps version of KXP1081	£219.00
Panasonic KXP4450 11ppm/300dpi good value laser	£1949.00
Amstrad DMP3250DI inc. both serial and parallel ports	£189.00
Amstrad LQ3500DI inc. both serial/parallel interface	£329.00
Amstrad DMP4000 offer, includes 'Wordstar 1512', 'SuperCalc 3.1' and 'Accounts Master DD'	£249.00
Amstrad LQ5000DI 24pin wide carr., dual interface	£499.00
Citizen 120D budget 10" carriage 120cps	£149.00
Citizen LSP-100 budget 150/30 cps 10" carriage	£169.00

All prices include VAT and Delivery

ATARI® Hardware Offers

520 STFM *SUPER* PACK

The pack to get, includes 520STFM with 1MEG drive, **over £450 worth of software**, joystick, mouse, BASIC, User Guide and 5 disks of Public Domain Software. Software included is:

Marble Madness, Beyond Ice Palace, Thundercats, Summer Olympiad, Arkanoid II, Eddie Edwards Ski, Ikari Warriors, Test Drive, Buggy Boy, Quadrallen, Xenon, Wizball, Seconds Out, Zynaps, Chopper X, Ranarama, Starquake, Genesis, Black Lamp, Thrust, Organiser Business S/ware

All this For Only **£349.00 Inc VAT & delivery**

1040 STF	1040 STFM	520 STFM
CLEARANCE SPECIAL While stocks last !	1 MEG drive & 1 MEG RAM with TV modulator.	Latest version, with 1 MEG drive internally fitted.
£349.00	£419.00	£279.00
With SM124 mono monitor £449.00	With SM 124 mono monitor £529.00	

520 STFM 1MEG memory upgrade kit	£99.00
Mega ST2 with monochrome monitor	£849.00
Mega ST4 with monochrome monitor	£1099.00
SM124/125 monochrome monitor	£119.00
SC1224 colour monitor, new low price	£279.00
SLM804 laser printer, still great value at	£1099.00
SH205 20Mb hard disk	£449.00
Mega-file 30Mb hard disk	£539.00
Triangle Turbo hard disk 20MB	£479.00
Triangle Turbo hard disk 40MB	£669.00
Mega ST2 special offer package - includes: Mega ST2, mono monitor, SLM804 laser printer, 'Microsoft Write', 'VIP Professional', 'Timeworks DTP' and 90 days on site maintenance for only	£1795.00
Atari DTP Pack 2 (Mega4/SLM804/SH205/s'ware)	£2795.00
Cumana CSA354 1 meg external floppy drive	£109.95
Cumana CDA358 2 meg (dual) external drives	£229.00
Pace Linnet Modem Pack (inc. cable & software)	£179.00
Pye TV/Monitor, model no. 1022, super quality medium resolution, with full infra-red remote control as well. Supplied with monitor cable, next day delivery	£199.00
Philips CM8833 colour monitor with ST cable	£279.00
Philips CM8852 as above, higher resolution	£299.00
(Extra £10.00 discount on Philips monitors if bought with an ST)	
Philips TV Tuner AV7300, use with composite monitors	£74.95
520 STFM/1040 STF/1040 STFM Joystick & Mouse accessibility extension adapter	£ 4.95
Dust covers available for most hardware	£ PHONE

All ST prices include mouse etc.. PLUS 5 disks of software including wordprocessor. graphics utility. games. demos and utilities. We can quote you for any combination of hardware.

External 5.25" Drive 360/720K

Quality 40/80 track switchable 5.25" floppy drive giving 360/720K storage capacity per disk. Colour matched case, internal power supply. Offers IBM compatibility - software included to format disks with IBM parameters **£159.95**

Upgrade your 520 STFM with a 1 meg internal 3.5" floppy drive Only £84.95

Very easy to fit - an ideal way to upgrade your 520 STFM using a double sided, high quality drive, internally replacing the original single sided drive. Full one megabyte unformatted capacity & fully compatible. Detailed fitting instructions provided. Fitted to your ST - add £10.00 extra.

Books

Atari ST Gem Programmer's Reference	£14.95
Atari ST Machine Language	£14.95
Atari ST Tricks and Tips	£14.95
Atari ST Basic Training Guide	£12.95
Atari ST Introduction to Midi Programming	£14.95
Atari ST 3D Graphics	£16.95
Atari ST Disk Drives - Inside and Out	£16.95
Atari ST Internals	£14.95
Atari Basic Source Book	£9.95
Concise ST 68000 Reference Guide (Version 2)	£17.50
First Steps in 68000 Assembly Language	£9.95
GFA BASIC Advanced Programming	£11.95
Using ST BASIC on the Atari ST	£5.95

3.5" Disks and Boxes

10 double sided double density 3.5" bulk disks, fully ST compatible, fully guaranteed	£11.95
25 DS/DD 3.5" disks, larger quantity of above offer	£27.95
10 DS/DD 3.5" bulk disks with plastic library case	£13.95
25 DS/DD 3.5" disks as above, but with 40 capacity lockable disk storage unit	£34.95
S K C MF2DD DS/DD 3.5" disks, box of 10 only	£17.95
Verbatim DS/DD 3.5" disks top quality media with lifetime guarantee. Box of 10	£19.95

For All Your Atari ST Needs

DISECTOR ST

POWERFUL DISK UTILITIES

VERSION 3 NOW AVAILABLE

- ***SOFTWARE BACKUP* with new turbo nibbler**
  The latest version now incorporates a *faster and more powerful* backup utility including 40 parameter options to handle many more programs. Utilises all available drives and memory.
- ***ORGANISER ACCESSORY***
  Extremely useful desktop-based accessory, providing essential disk management commands including FORMAT, RENAME, DELETE etc.
- ***EXTRA FORMAT***
  to maximise usable space on your disks - provides over *15%* additional user storage space per disk!
- ***RAMDISK*** and ***SET DATE/TIME*** accessories.
- ***UNDELETE***
  to recover accidentally lost files.
- ***DISK ANALYSIS***
- ***DIRECTORY PRINTOUT***
- ***plus*** DISK SPEED CHECK, UNFORMAT and more!

Only £24.95 — **Existing users - upgrade your Disector ST disk for only £7.95**

A Top Quality 2nd Drive for the ST ..... at a price that makes sense!

Fully featured, fully compatible ST drive available NOW at an ultra low price

An external 2nd drive for the Atari ST at an ultra low price - complete with its own plug-in external power supply! Based around a top quality Citizen drive mechanism, this drive gives the full 720K formatted capacity. Quiet in operation, neat slimline design, colour matched to the ST, with a long connection cable for location left or right of the computer.

NEW LOWER PRICE!

£89.95

including VAT and delivery - *Why pay more?*

ST Software

Timeworks	
Data Manager	£29.95
Data Manager Professional	£52.00
Swift Calc	£29.95
Partner ST	£37.95
Desk Top Publisher	£74.95
DTP Lite	£37.95
Word Writer	£59.95
Antic	
Cyber Studio (CAD 2.0)	£67.95
Cyber Control (animator)	£44.95
Cyber Paint	£54.95
CAD 3D 1.0	£18.95
Architectural/Human/Future design disks	£22.95
Genesis molecular modeller	£22.95
GIST (sound editor)	£26.25
Base Two	£44.95
COLR (sprite editor)	£18.95
Sage	
Book Keeper	£84.95
Accountant	£129.95
Accountant Plus	£171.95
Financial Controller	£259.00
GFA	
GFA Basic	£31.95
GFA Basic Version 3	£49.00
GFA Compiler	£31.95
GFA Draft	£69.95
GFA Draft Plus	£97.95
GFA Vector	£24.95
GST	
First Word Plus	£59.95
GST C Compiler	£15.95
Macro Assembler	£15.95
1st Mail (for 1st Word only)	£15.95
Lets make...	
Signs and Banners	£8.95
Greetings Cards	£8.95
Calendars & Stationary	£8.95
Art Library 1 (clip art)	£8.95
Art Library 2 (clip art)	£8.95
Buy all the above 'Let's make' series for	£40.00
Simulations	
Carrier Command	£18.95
Flight Simulator II	£37.45
Gunship	£16.95
Silent Service	£16.95
U.M.S.	£18.95
Miscellaneous	
Colour Emulator	£37.95
Degas Elite	£19.95
Easy Draw 2	£44.95
Easy Draw + Supercharger	£74.95
Easy Tools (requires 1Mb RAM)	£29.95
Fast Basic Disk	£37.95
Fast Basic ROM	£69.95
Fleet Street Publisher	£86.25
Fontz!	£21.95
FTL Modula-2	£55.95
Hisoft Devpac	£44.95
Hisoft Power Basic	£29.95
Home Accounts (Digita)	£18.95
Logistix	£79.95
Mark Williams C	£99.95
Mastertracks Junior	£89.95
Mastertracks Pro	£219.95
PC Ditto	£62.95
Pro Sound Designer Mk.II	£58.95
Protext	£79.95
Quantum Paint	£15.95
Spectrum 512	£44.95
Super Conductor	£37.50
Superbase Personal	£69.00
Superbase Professional	£179.95
Word Perfect V4.1	£149.95
Word Up	£49.95

Evesham Micros

How to order from Evesham Micros

VISA

Phone us with your ACCESS or VISA card details on : ☎ 0386-765500

All prices include VAT and delivery. Next day delivery £5.00 extra.

Send cheque, Postal Order or ACCESS/VISA card details

Govt., educ. & PLC orders welcome
Same day despatch whenever possible
All goods subject to availability, E.&O.E.
Open to callers 6 days, 9.30-5.30

Evesham Micros Ltd
63 BRIDGE STREET
EVESHAM
WORCS WR11 4SF
✆ 0386-765500
fax 0386-765354
telex 333294

Also at: **1762 Pershore Rd., Cotteridge, Birmingham B30 3BH Tel: 021 458 4564**

Castle Computers

COME TO THE PROFESSIONALS!!!!

NOW TAKEN

Castle House,
11 Newcastle Street,
Burslem,
Stoke-on-Trent,
ST6 3QB
Tel: 0782 575043

SALE SALE SALE SALE SALE SALE SALE SALE SALE SALE

ATARI ST SOFTWARE
TO CLEAR

Hitchikers Guide	9.95
Leather Goddess	9.95
Zork I	9.95
Planetfall	6.95
Stationfall	7.95
Spellbreaker	6.95
Suspect	6.95
Starcross	6.95
Sorcerer	6.95
Infidel	6.95
Hollywood Hijinx	7.95
Witness	6.95
Trinity	6.95
Nord & Bert	6.95
Ballyhoo	7.95
Plundered Hearts	6.95
Hacker	5.95
Hacker II	5.95
Mindshadow	5.95
Borrowed Time	5.95
Little Computer People	7.95
L'Affaire	5.95
Passengers on the Wind 2	5.95
Shanghai	5.95
American Pool	6.95
The Gambler	3.95
Mission Elevator	4.95
Shuffleboard	3.95
Trash Heap	3.95
Jet	26.95
Road Runner	6.95
Blue War	6.95
Stellar Crusade	18.95
Carrier Command	14.95
Street Fighter	11.95
Whirligig	11.95
Skyfox	4.95
Quadralien	11.95
Super Huey	4.95
Arkanoid 2	12.95
Degas Elite	16.95
Dark Castle	9.95
Strike Force Harrier	9.95
Summer Olympiad	9.95
Side Arms	11.50
Slap Fight	9.95
Empire Strikes Back	12.95
Q Ball	4.95
Peter Beardsleys	12.95
Buggy Boy	12.50
Spy V Spy	8.95

ATARI ST SOFTWARE

Gunship	14.95
Lords of Conquest	14.95
Music Con Set	15.95
Zynaps	13.95
Where Time Stood Still	12.95
D. Thompson's Oly. Chall.	12.95
Bombjack	12.95
Trauma	3.95
Thai Boxing	3.95
Space Port	3.95
Space Pilot	3.95
War Zone	3.95
Skyraider	4.95
Stockmarket	7.95
Seconds Out	7.95
Winter Olympiad 88	8.95
Wanderer	3.95
Strike Force Harrier	9.95

STAR RAY
SPECIAL PRICE
£12.95

BARBARIAN 2
SPECIAL PRICE
£12.95

DRILLER
RRP £24.95
OUR PRICE
£15.95

WHIRLIGIG
Our Price £12.95

EMPIRE
Our Price £16.95

Mercenary Compendium	12.95
Return to Genesis	13.95
Ikari Warriors	9.95
Sky Chase	13.95
Clever & Smart	7.95
Star Ray	13.95
Hunt for Red October	16.95
F15 Strike Eagle	16.95
Tetris	13.95
Sub Battle Sim	16.95
Championship Cricket	9.95
Bards Tale	16.95
Mortville Manor	16.95

WHERE TIME STOOD STILL
£12.95

Terrorpods	16.95
Silent Service	16.95
Fernandez must Die	16.95
Phoenix	13.95
Bamboozal	12.95
Speedball	15.95
Mercenary Comp	16.95
Solomons Key	13.95
Strike Force Harrier	16.95
T.N.T.	13.95
Timebandit	20.00
Tai Pan	13.95
Test Drive	16.95
UMS	16.95
Arena	10.95
Outrun	13.95

ZYNAPS
£14.50

Road War 2000	16.95
Road War Europa	16.95
Uninvited	16.95
Annuls of Rome	9.95
World Darts	10.95
Football Manager II	13.95

STARGLIDER 2
£15.95

EMPIRE STRIKES BACK
£12.95

ST FIVE STAR GAMES

Crazycars
Barbarian
Enduro Racer
Rampage
Whizzball

All five for only
£15.50

Just arrived, Mouse Bracket (Sticks to the side of your computer to hold the mouse in place
Only £2.99

VIRUS
£12.95

POWER DROME
AT £15.75
From
Electronic Arts

STOP PRESS

Colonial Conquest	19.95
Space Harrier	12.95
Legend of the Sword	15.95
Superstar Ice Hockey	15.95
Barbarian II	12.95
Platoon	12.95

From Sublogic
JET
RRP £39.95
Our Price £24.95

We offer a fast reliable service by return of Post! Cheque's P.O's to:
CASTLE COMPUTERS
Any games not listed phone our Hotline Now on 0782 575043

ADVENTURES

Brillig lends a hand in solving problems for fantasy fans

Good clean fun with Sud and Mud

ANOTHER month has flown past and it's time once again to clear the cave of drunken Orcs and partying dragons and get down to your letters.

First off, thanks to all the readers who pointed out my error with the one-armed bandit in Space Quest. What I thought I had to do was somehow to cause a crash in the fruit machine's system and, as a result, thereby receive the jackpot.

What I now know I should have done is to keep betting away until I had won 250 buckazoids – then, and only then, would the machine foul up. It seems I had the cart before the horse, as it were.

Last month I pondered whether that adventurer par excellence R.G.B. Marshall of Congleton would be the first in with a solution to Corruption. Silly me, I could have saved myself the effort of wondering – he was! R.G.B. has now turned his attentions to Deja Vu – that should take him all of two hours.

This man finishes adventures quicker than I can polish off my morning champagne and cornflakes.

Catching up on some of my earlier correspondence, Julian Abram of Walsall requested help with Hollywood Hijinx, while a band of adventurers from Manchester – Jason Murphy, Darren Evans, Steve Killick and Reg Ritchie needed assistance with a whole heap of adventures. For them and others, succour is provided in this month's Hints and Tips.

From Ishoj in Denmark, Ib Rasmussen writes to say that he has been working on a multi-user dungeon (Mud) type program for several months now. Ib thinks that a single-user dungeon must be a Sud, but says it doesn't have quite the right ring to it. Cleaner maybe, but not as appealing.

Like many others, Ib first became interested in Mud when he heard about Essex University's program, and has since decided to write his own version on an ST using a hard disc, Lattice C and Devpac. Of course, you need more than a single micro to play Mud, and the problem was to find a cheap but effective way of linking several micros together. Ib's solution was use ICK-Link, a no-nonsense two-machine interface for home micros.

He then built a simple multiplexer which plugs into the parallel port and allows up to eight machines to be connected simultaneously. Although limited to five or six metres cable length, and not the world's fastest network, the system is sufficient for running a text-based Mud.

He has designed it as an interpreter/database system with the dungeon forming the database and the C program acting as the data interpreter. The program has already grown to over 100k of C code.

It is possible that Ib may eventually place the program in the public domain. Whatever the outcome, I'm sure you'll

Turn to Page 46 ▶

HINTS AND TIPS

HOLLYWOOD HIJINX

What do you do if you cannot open the hatch in the shelter?

● Light the match and candle, lift the left end of the plank, pull the chain, burn the rope then stand on the right end of the plank.

LEISURE SUIT LARRY

What am I supposed to do about the girl in the bath?

● Give her the apple.

Where can you find the inflatable doll?

● Try looking in the closet in the bedroom near the rooftop garden.

KNIGHT ORC

Where is the keycard?

● In the mousehole in the South bedroom. First catch your mouse then use the eye to peep into the hole.

BEYOND ZORK

Need the jewel from the idol?

● Attack the baby Hungus (you rotter) then run to the idol. When the mother Hungus follows she will weigh down the bottom, allowing you to go up and get the jewel. What happens after that requires the Eversion spell.

How do I get rid of the organ grinder?

● Give him the chest.

POLICE QUEST

Bikers in Wino Willy's threatening you?

● Use your nightstick on them.

What do I do with Sweetcheeks?

● Take her to room 204 and phone for a taxi.

How can I play cards?

● Ask Woody about the card game.

JINXTER

Can't catch the mouse?

● In the kitchen, set the trap with the cheese. Go away and return later.

◀ From Page 45

agree that he has embarked on an impressive and fascinating project. Who knows, some of us may one day be enjoying the fruits of his labours.

My thanks to Leon Sanderson of Yeoville, South Africa, and Lucien Oppler of London for their tips on Phantasie III. Next month I'll pass on to you some of their expert advice. Appreciation also to Jonathan Capener from Keele for his tips on Kings Quest 1-3, Space Quest II and Leisure Suit Larry.

Police Quest is causing Oliver Barclay of Shoreham – and one or two others – some difficulty while Enzo Ciaffarafa from Bradford would welcome advice on Jinxter. Your wish is my command.

For players like Simeon Berwick of Ipswich who are still wrestling with The Pawn, may I refer you to a full solution to this adventure serialised in the March, April and May 1988 issues of *Atari ST User*?

To M. Scholes of Huddersfield, I suggest that you point at the shadows after shining the light at them – the dragon is a bit shortsighted and will eat you unless you point him in the right direction.

Mouseventure is a very appropriate term, coined by Kirk Ruebotham of Runcorn, to describe games like Mortville Manor and Deja Vu where the mouse, rather than the keyboard, is used for input. Kirk is fully in favour of such adventures, believing that when measured against games that rely on typed commands, mouseventures come out top in speed, ease of use and reduction in frustration caused by the program failing to understand you.

Kirk makes some telling points against traditional adventures, but what do other readers think of mouseventures? Write in and air your opinion. Kirk has also provided some much-needed tips on Mortville Manor which I greatly appreciate – more on those MM tips in a future issue.

I'll be here again next month – same dungeon, same time. Until then, keep your water pouch full and your matches dry.

Magic in a bottle

Program: Sinbad and the Throne of the Falcon
Price: £24.99
Supplier: Mirrorsoft, Athene House, 66-73 Shoe Lane, London EC4P 4AB.
Tel: 01-377 4645

ALACK and alas! Princess Sylphani has just discovered that her dad, the Caliph of Damaron, has been turned into a falcon. Even worse, the Black Prince and his minions from hell are on the march and are threatening to take over the kingdom unless something can be done. Sinbad to the rescue!

Cinemaware's latest release for the ST follows the style and presentation of its earlier game, Defender of the Crown, containing elements of arcade action, combat, strategy and character interaction.

Sinbad and the Throne of the Falcon is a large game and is supplied on three discs – unless you have a 1Mb machine and/or two disc drives, a frustrating amount of disc swapping is necessary. The whole game is joystick driven as there is no keyboard or mouse option.

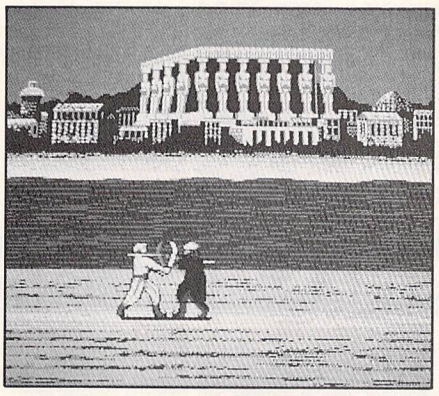
Once you've booted up, leave the title and credits sequence to run its course and you'll be treated to a demonstration of the background to the game. This scene setting is not mentioned in the documentation, but I recommend you have a look at it as it contains some stunning graphics. In fact, the graphics are probably the best feature of Sinbad.

One of the main screens, which is where the action starts, shows Sinbad looking at a signpost that has several destinations attached to it. Positioning the pointer over one of the signs and pressing the fire button brings up a piece of narrative and then shows the selected destination, which sometimes turns out to be no more than another signpost.

In Sinbad's belt is a magical stone and a map. Both items can be brought up as large pictures by clicking on them. The picture of the stone serves two purposes – to give an indication of elapsed time and to call up a war chart. This chart is made up of a number of hexagons and shows the position and strength of your own and the enemy's troops.

Your troop units can "move" one hexagon at a time, and battle commences when one unit lands on a hexagon occupied by the enemy. You need to keep calling up this chart to see the progress of the battle.

Since you'll be doing a lot of travelling,



including sailing the high seas, the map – which can be magnified – is simply a device to let you see the layout of the land. The stone and map are also accessible when Sinbad is on board his ship.

Further elements of strategy and luck come into play in the selection of destinations and the division of your men into recruiting party and crew. The former may gain you a few new crew members, but they may lose even more in the process. Similarly, many of the islands are uninhabited and a visit to them is a waste of precious time – you need to study the map carefully.

During his travels, Sinbad may meet hostile forces. Such an encounter usually takes the form of a simplistic, side-on view swordfight. The graphical quality and animation are probably the weakest parts of the game. Other action sequences are more arcade-oriented.

For example, during a storm at sea, you must steer Sinbad's ship through the rocks. When on land, you might be attacked by a nasty flying creature called a Pteranoxos and must try to shoot it down using only a limited supply of arrows. Elsewhere, an earthquake may have Sinbad running and jumping for his life.

Other tasks include plucking one of the eyes from each of three idols and, armed with only a sling, contesting a battle with a Cyclops.

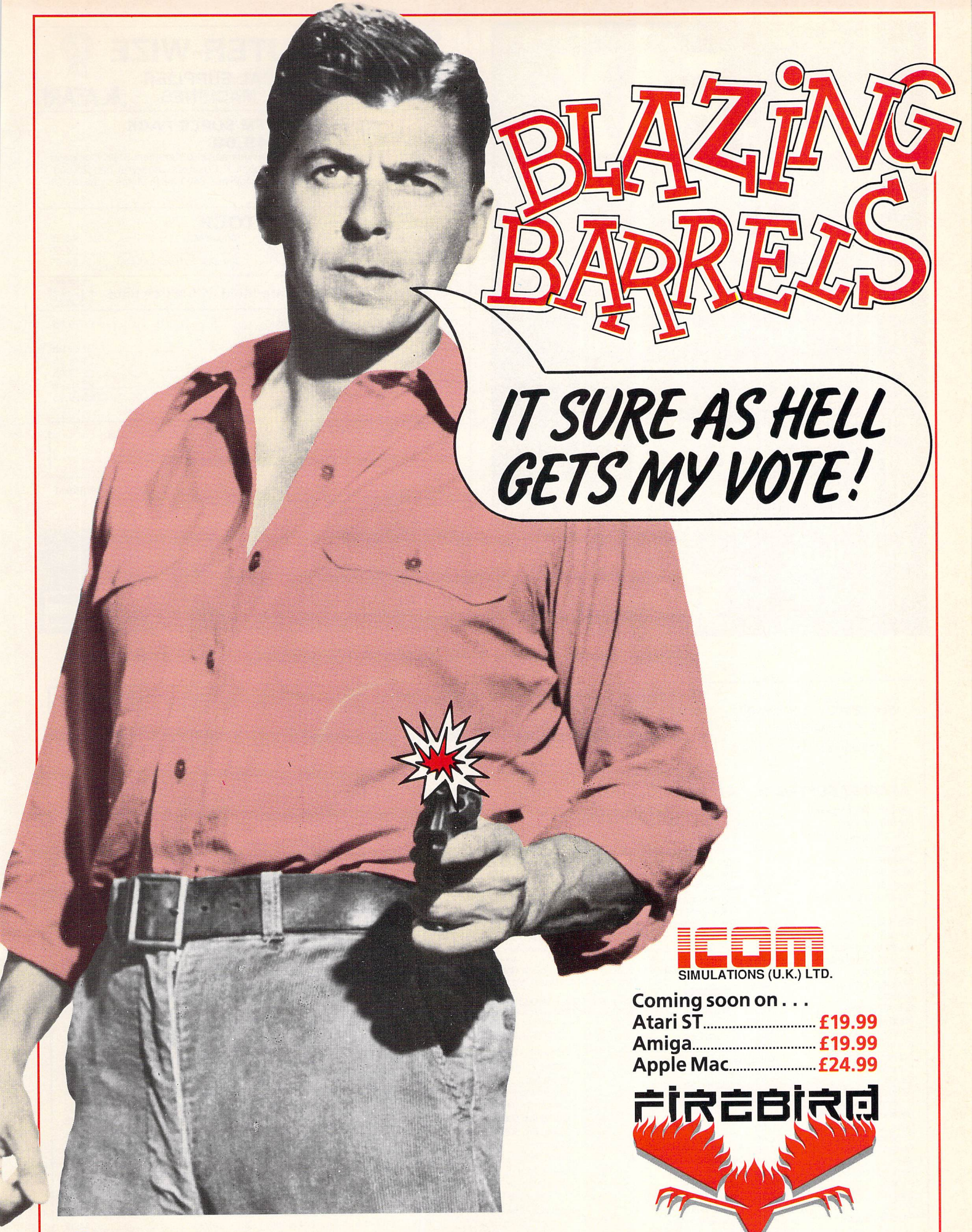
By far the most impressive part of the game is when Sinbad converses with some of the characters he meets. These include the beautiful, mysterious and seductive Libitina, Iris the old gypsy, the genie and the shaman. The full-size, animated pictures of the faces of the characters are superb. Conversations are carried out by selecting from a list of statements and responses – unfortunately, the dialogue is rather disrupted by the need to keep swapping discs.

Sinbad and the Throne of the Falcon is a bit of a curate's egg. The sound consists only of some rather ordinary music and a few crude spot effects. Fortunately the music can be turned off from within the program. Some of the graphics are excellent, some unremarkable, and what little animation there is does not impress. The disc swapping is an absolute pain.

On the plus side, this is a big game and the combination of arcade, strategy, interaction and mystery certainly means that there is something in it for everyone.

Bob Chappell

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



ICOM SIMULATIONS (U.K.) LTD.

Coming soon on . . .

Atari ST	£19.99
Amiga	£19.99
Apple Mac	£24.99

FIREBIRD

A LEGEND IN GAMES SOFTWARE

Telecomsoft, First Floor, 64-76 New Oxford St, London WC1A 1PS.

Firebird and Firebird Logo are trademarks of British Telecommunications PLC.

Send a FAX on your computer!

Now you can use ANY computer to send a letter instantly to ANY fax machine in ANY part of the world. And if you want you can send the same fax to up to FIFTY different addresses simultaneously! Just another of the growing number of services now available on MicroLink.

Details from 0625 878888

MicroLink electronic mail and much, much more!

COMPUTER-WIZE

YOUR LOCAL SUPPLIER FOR ALL MACHINES

AMIGA ATARI

ATARI 520 STFM SUPER PACK

£349.00

Including VAT and next day courier delivery assured. Contains 512K Computer with 1Mb built-in Disk Drive, Mouse, Joystick, Business Organizer (inc Spreadsheet, Word Processor & Database), Manual and £400 worth of free software (21 Game titles)

WE STOCK

3.5" Lockable Disc Box (holds 80 discs)	£13.95	Mouse Mat	£4.95
3.5" Disc Cleaning Kit	£4.99	Dust Covers	£4.50
		Joystick Extension Lead	£4.95

All our Atari Computers are fitted with a free plug

Cumana 1Mb 3.5" Disk Drives from	£129.95
Atari 12" High Res Mono Monitor with ST	£129.95
or on its own	£134.95
Philips 8833 14" Colour Monitor	£269.95
Amstrad DMP 400 Printer	£359.95
Amstrad LQ3500 Printer	£359.95

Anything not listed above – Please ring for a quote

STOP PRESS STOP PRESS STOP PRESS
Special Offer on all Games software
Please Ring for details

Software Orders taken for games not yet released. Payment not required until games in stock.
1st Class postage and packing is free within the U.K.

FREE **PHONE FOR FREE CATALOGUE**
NEXT DAY COURIER SERVICE ON ALL STOCK ITEMS

COMPUTER-WIZE, (AST11), No 10 WISEMAN GROVE, NEW OSCOTT, SUTTON COLDFIELD, BIRMINGHAM B23 5YG

021-377 6698 24 Hr Hotline

VISA

WORLDWIDE SOFTWARE
1 Bridge Street
Galashiels TD1 1RH

WORLDWIDE SOFTWARE

WORLDWIDE SOFTWARE
49 Stoney Street
Nottingham NG1 1LX

ATARI ST SOFTWARE

1943 Battle of Midway	14.35
Action Service	13.25
Adv. Dung & Dungeons (each)	17.95
Afterburner	16.45
Airborne Ranger	16.45
Alien Syndrome	13.25
Arkanoid Rev. of Doh.	13.25
ATF	13.25
Barbarian II	13.25
Bards Tale	19.95
Better Dead than Alien	13.25
Bionic Commando	14.35
Black Lamp	13.25
Blazing Barrels	16.45
Bombjack	13.25
Bubble Bobble	13.25
Buggy Boy	13.25
California Games	14.35
Captian Blood	16.45
Carrier Command	16.45
Chrono Quest	21.95
Circus	13.25
Corruption	16.45
D. Thomson Olymp Chall.	13.25
Defender of the Crown	21.95
Driller	16.45
Dungeon Master	16.45
Eliminator	14.35
Elite	16.45
Empire Strikes Back	13.25
Empire	18.95
Exolon	14.35
F.O.F.T	23.95
F15 Strike Eagle	16.45

ATARI ST SOFTWARE

F16 Combat Pilot	10.25
Fernandez Must Die	16.45
Fire & Forget	16.45
Flight Sim II	28.95
Flight Sim Scenery 7	17.95
Flight Sim Scenery 11	17.95
Football Manager II	13.25
Foundations Waste	16.45
Galdragons Domain	13.25
Games Winter Edition	17.95
Gary Lineker Hot Shot	14.35
Gary Lineker Superskills	14.35
Gauntlet II	14.35
Gunship	16.45
Hawkeye	13.25
Helter Skelter	11.20
Hollywood Poker (Adults Only)	7.25
Hotshot	13.25
International Soccer	13.25
Jet	28.95
Kennedy Approach	16.45
Leaderboard Collection Birdie	14.35
Leatherneck	13.25
Legend of the Sword	16.45
Leisuresuit Larry (Adults Only)	13.25

ATARI ST SOFTWARE

Live and Let Die	16.45
Luxor	10.95
Mafdet	10.95
Mars Cops	13.25
Maupiti Island	13.25
Menace	13.25
Mickey Mouse	14.35
Mindfighter	16.45
Motor Bike Madness	11.20
Mortville Manor	16.45
Nebulus	14.35
Netherworld	14.35

FAST DELIVERY ON ALL STOCK ITEMS BY 1ST CLASS MAIL IN UK SPECIAL OVERSEAS SERVICE BY AIR MAIL WORLDWIDE
CREDIT CARD ORDERS ACCEPTED BY PHONE OR MAIL CREDIT CARD ORDER TELEPHONE LINES

VISA

NORTH, SCOTLAND, N. IRELAND, OVERSEAS. 0896 57004 (24 HOURS)

SOUTH, MIDLANDS, WALES. 0602 480779 (24 HOURS)

JOYSTICKS/PERIPHERALS

Cheetah 125 Plus	6.95
Cheetah Mach 1 Plus	12.95
Speedking	10.99
Speedking with Autofire	11.99
Comp Pro 5000	12.95
Comp Pro 5000 Clear	13.95
Comp Pro 5000 Extra	14.95
Cruiser	7.99
Ram Delta	7.99
Mouse Mat	4.99
ST Dust Cover	6.99
3.5" disk drive Head Cleaner	6.99
Lockable Disk Box 100 x 3.5"	10.95
10 x 3.5" DS/DD disk	9.95

ATARI ST SOFTWARE

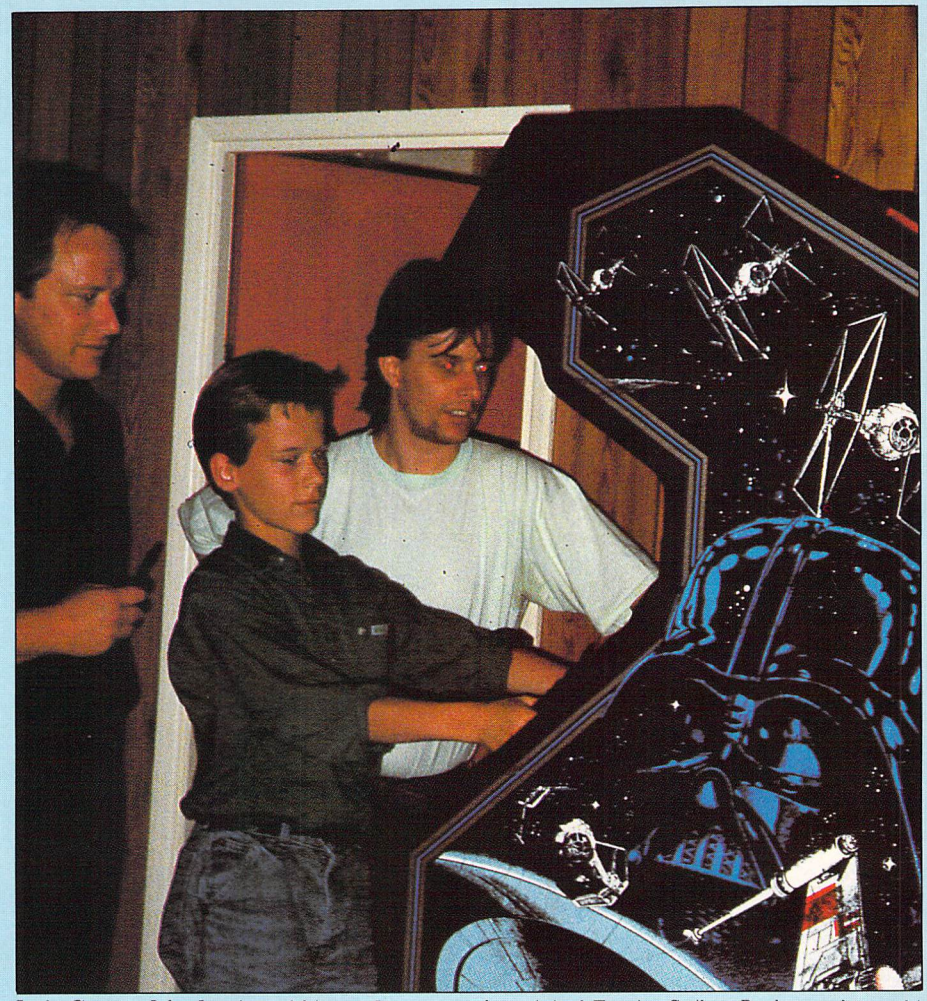
Nigel Mansell Grand Prix	18.95
Night Raider	14.35
Offshore Warrior	16.45
Olds	13.25
OOps	13.25
Operation Wolf	13.25
Outrun	14.35
Overlander	13.25
Pandora	13.25
Peter Beardsley Football	13.25
Platoon	13.25
Power Struggle	10.95
Powerdrome	18.95
Powerplay	13.25
Quadralien	13.25
Quartet Gold	14.35
R-Type	16.45
Rally Run	13.25
Red October	16.45
Return to Genesis	13.25
Return to Jedi	13.25
Road Blasters	14.35
Rockford	13.25
Scrabble Deluxe	13.25
SDI	16.45
Sentinel	13.25
Sidewinder	7.25
Sinbad & Throme of Falcons	16.45

ATARI ST SOFTWARE

Skychase	13.25
Space Harrier	13.25
ST Adv Creator	26.55
ST Five Star	16.45
Star Ray	13.25
Star Trek	13.25
Starfleet 1	18.95
Stir Crazy	13.25
STOS	22.95
Strike Force Harrier	16.45
Strip Poker II Plus	9.95
Summer Olympiad	13.25
★★★★★★★★★★★★★★★	
SUPER HANG ON	12.50
★★★★★★★★★★★★★★★	
Superman	16.45
Thundercats	13.25
Time & Magik	13.25
TT Racer	13.25
Ultima V	16.45
Universal Military Sim	16.45
Vampires Editor	14.35
Verminator	16.45
Veteran	10.95
Virus	13.25
Wargame Const. Set	17.95
Warlocks Quest	13.25
West Eur Scenery (Flt Sim II)	15.99
Where Time Stood Still	13.25
Whirligig	13.25
Zynaps	14.35

Please make cheques or postal orders payable to WORLDWIDE SOFTWARE.
All prices include postages & packing in UK. Overseas add £1.50 per cass/disk for AIR MAIL delivery. Credit Card orders accepted by phone or mail.
Advertised prices are for mail and telephone orders.

Pam Turnbull visits Vektor Grafix, the authors of Domark's latest arcade hit, The Empire Strikes Back



Andy Craven, John Lewis and his son Jon try out the original Empire Strikes Back arcade machine

Into the ??? dimension

CLOSE by the railway in busy downtown Leeds you will find a converted warehouse which now houses among its tenants two software companies renowned for 3D graphics. One, Real Time, has been around for many years now, its latest release being Carrier Command.

Literally just around the corner you will find Vektor Grafix, the company founded by Andy Craven and Danny Gallagher in May 1987, though Danny has now moved and is at present working on some Ocean releases. The company has based its reputation on two arcade conversions – Star Wars and The Empire Strikes Back.

Conversions are full of pitfalls due to copyright and comparison problems, but the tie up with Domark proved to be very successful. Indeed as Andy now admits, Domark took a risk with this relatively unknown company when it appeared with a program named Imperial Assault in a BBC Micro format. Yet the similarity to the Star Wars arcade game and the already written 3D system convinced them, and Andy and Danny were given eight weeks to produce a finished version.

The ST version was programmed by West German Jurgen Freudrich who worked with Vektor Grafix for two weeks, and the interchange of ideas proved very useful to both parties.

What makes Vektor Grafix stand out is its 3D system which is unique and has been rewritten twice since the original Star Wars days. This system affects totally how the company is run and programs are written.

The success of Star Wars saw Vektor Grafix negotiating the contract to convert The Empire Strikes Back, but this time on all formats and this across-the-range package is also a company speciality.

The arcade machine of Empire stands in the lobby and it is amazing to realise that the walkers are only about five per cent slower on the ST version than on the arcade which has a complete chip for that section.

Andy Craven, who was once a professional musician, became interested in computers after the birth of his first child, Terry. The hobby took over and he was soon lecturing in Leeds College of Building. His interest in computers is as much in serious software as in the games market.

This is where he met Danny, and from here they created Vektor Grafix. Andy now has a new partner in John Lewis who works primarily on the marketing and commercial side of the company.

Andy does not believe in importing programmers from other localities, and most vacancies are advertised in the local press. One reason is his dislike of the prima donna complex which some programmers acquire. The company's longest serving programmer, Kieren Gultniks, joined them soon after they started and at 17 is one of their greatest assets.

The 3D system is the pivot, as each new programmer must learn it and is responsible for updating and maintaining it. They now have been joined by George Ivanow, Derek Austin, Bill Pullan and latest recruit Ian Martin of Ace, Ace 2 and Skyrunner fame. Indeed Ian is the only programmer with a track record.

The recruitment policy is unique to Vektor. Should you wish to join them – and they are looking for new programmers at present – be prepared to

Turn to Page 50 ▶

◀ From Page 49

work with their proven system and on less money than you now earn. You must also be enthusiastic. Prove yourself, and you will earn your place in this very relaxed company.

The atmosphere is informal and there is no nine to five syndrome, but don't be fooled. Deadlines are the lifeblood of any software house and Vektor Grafix takes its responsibilities and reputation for reliability very seriously.

Both John and Andy believe the programmers are important as creative and innovative people and deserve respect and credit. Decisions are taken in consultation with all the programmers, though John can see this very personal form of dealing becoming more impersonal as the company expands.

Empire is the basis for two new companies developed through Vektor Grafix – Musix and Sprytz. The former uses Midi, Steinberg and an ST at present in a feasibility study to provide scores and sound for Vektor and other companies, and support for games on all formats using a system similar in concept to the 3D/PDS. Look out for a demo of this at the PC Show, which Sean Connoran is now preparing.

Future plans

Not willing to become totally reliant on the 3D side of the market they plan to be able to provide you with any sprite you require – 3D, multi-scrolling, or isometric, again using a system which will present a professional and reliable product on all machines.

John and Andy went in force to the CES show and were met by overwhelming enthusiasm and interest in their 3D system and ideas for the future – so much so that they convinced Dave Coch of Activision and are about to work solely with Mediagenic in the UK to produce four games over the next 12 months.

Only two of the game concepts are under discussion at present: The first has a variety of working titles – Tornado, Bomber or USAF. Indeed it was their demo of a 3D Tornado aircraft which so impressed the Chicago show. Little can be said about this at present, but it promises to be an international 3D flight simulator which should be something very special. It has convinced both John and Andy to learn to fly themselves as well as trying out the RAF's own flight simulators.

The second game is still at the specification stage. You could call it a World War III simulator, but this would be to simplify the concept. At present the idea allows you to be an active fly on the wall in the battlezone, in a tank, submarine or aircraft, the White House or military HQ.

Both Andy and John see these products as fitting well into the games market which is becoming more discerning from year to year.

They will not be writing Return of the Jedi also due out this year. As this is not primarily a 3D game, Concept in Liverpool will be responsible for the programming. So for the present at least, Empire is the end of Vektor Grafix' tie with Domark.

Flexidump

Includes Label making facility

Superb quality printer dumps for graphics, spreadsheets, text including Degas and NEOchrome formats. Vary dump size from 1mm square up to 10 metres in length, choose from a variety of densities and passes (Up to triple pass quad density). Other features include text insertion, upright or sideways dump, invert, frame, spool, auto calculates on 1:1 aspect ratio or deselect this and *stretch* the dump. Any part of a screen can be selected, graphics/editing, auto greyscaling for colour, on screen help. All this plus Label making facility. From computer art to production labels Flexidump is an unrivalled software package.

For use with Epson compatible dot matrix printers	£26.00	£29.90c
ATARI ROM CARTRIDGE suitable for two 27256 (32k) or two 27512 (64k) roms housed in an injection moulded case with label recess	£13.00	£14.95c
RUN "PC" SOFTWARE ON YOUR ATARI PC DITTO	£50.00	£57.50c
Special offer PC DITTO & 1Mb 5.25 DISC DRIVE with PSU complete with all leads	£180.00	£207.00b
SINGLE 3.5" 1Mb Disc Drive complete with all leads plug in and go	£82.60	£94.99b
SINGLE 5.25" 1Mb Disc Drive with PSU complete with all leads plug in and go	£135.00	£155.25b
3.5" Plus 5.25" Combined Disc Drive with PSU complete with all leads plug in and go	£192.00	£220.80b
Please note when ordering disk drives please state computer model		
READY MADE LEADS		
Atari to 7 pin rgb Ferguson, or Atari to Scart (not Sony) or Atari printer lead (screened)	£12.00	£13.80c
PHILIPS 8833 COLOUR MONITOR WITH LEAD	£240.00	£276.00a
AV7300 TV TUNER FOR 8833	£65.00	£74.75b
SWITCHING UNITS 1 micro to 2 printers or 2 micros to 1 printer centronics + lead	£31.00	£35.65d
3.5" D/S DDensity Verbatim branded discs box of ten	£17.00	£19.55c
3.5" DS/ DDensity unbranded discs box of ten	£12.00	£13.80d

SAGE BUSINESS SOFTWARE Accountant, Accountant Plus, Financial Controller *phone for details*

FOR YOUR CONVENIENCE FIRST PRICE **EX VAT** SECOND PRICE **INC VAT**

DEALER ENQUIRIES, GOVERNMENT AND EXPORT ORDERS WELCOME

HOW TO ORDER: Enclose your cheques/P.O. made payable to Care Electronics, or use ACCESS, VISA

Please add carriage. a=£11.50 b=£5.75 c=£1.15 d=£2.30

CARE ELECTRONICS, 800 ST ALBANS ROAD, GARSTON, WATFORD, HERTS WD2 6NL. TEL 0923 672102

The day Daniel's dad brought his office printer home.

My dad's firm is always busy so he has lots of LC-10 printers at his office.

In fact, he sometimes has so much work to do that he keeps a personal computer in his study so he can bring work home.

But when he's really busy, he brings home one of those Star printers too.

Of course, I know exactly how to use them because we have the colour version at school.

It can print documents in six different colours.

So I'm not surprised WHAT MICRO? called the LC-10 the 'Best Budget Dot Matrix Printer' on the market.

What's more it's a lot less expensive than other printers but much better quality.

(My friend, Philip, even has one for his Commodore.)

For a start the front control panel is child's play.

The six different fonts give you so many different style options when you print things.

It's pretty fast too with a draft elite speed of 144 cps and high density near letter quality at 36 cps.

There's also the LC-10's special feature called 'push-tractor' which gives the lowest tear-off position of the paper.

And you can park continuous paper and automatically load single sheets – and I think that's unique for this sort of printer.

You know, if I keep my paper round going for a few more weeks I'll soon have enough to buy my own LC-10.

And then for a small fee, dad can borrow mine.

THE star COMPUTER PRINTERS

Star Micronics U.K. Ltd.
Craven House, 40 Uxbridge Road,
Ealing, London W5 2BS.
Telephone: 01-840 1800.

A division of
Star Micronics Co., Ltd., Japan.

Please send me details of the Star LC-10 business printers.

Name _____

Company _____

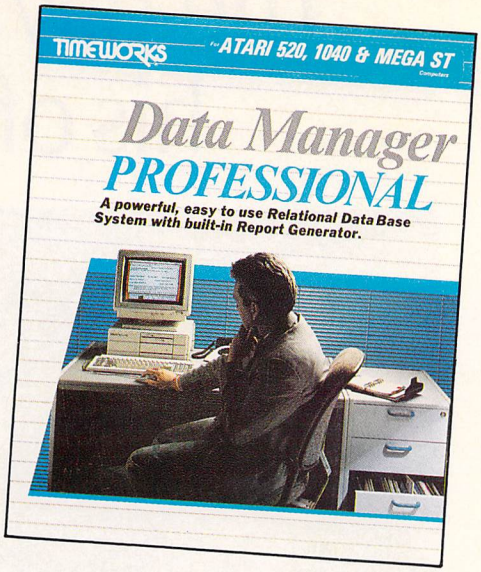
Address _____

_____

Postcode _____ Telephone _____

Or just call Belinda on 01-840 1829.

L10 ASU 11



Database deluxe

David Davenport tries out a powerful and versatile new relational database manager from Timeworks

IN the August 1988 issue of *Atari ST User* I reviewed Timeworks' Data Manager database management package. My overall impression of the program was a good one, but I felt that the lack of relational capability across several files might eventually become restrictive for a really ambitious user.

It seems Timeworks was thinking pretty much along the same lines, because it has now released Data Manager Professional, which has all the power of its forerunner but with some advanced relational functions added.

It is, in fact, a separate program in its own right, rather than an enhanced version of the original Data Manager, as the name suggests. It runs on either a colour or monochrome monitor on any ST. The basic principles of operation are essentially the same in both programs, but their user interfaces are quite different.

Modular design

Data Manager Professional's basic structure comprises three main sections – a definition module for creating new databases, a maintenance module for the upkeep and use of those already in existence, and a powerful report generator for compiling customised data reports from one or more of your database files.

These are linked by a fourth interfacing program, which also allows you to set the overall program configuration most suited to you. Here you can choose a default disc drive and give specific details and control codes relevant to how your printer works.

DMP is geared up to allow you to work with a hard disc, so if you have one it's at this point that you'd install it. It's then just a question of choosing Define, Maintain or Report, and off you go.

DMP can be operated almost completely under mouse control through the pull-down menu system, although the majority of common operations can just as easily be carried out through the keyboard's function keys; it's really just a matter of personal preference.

The main keyboard function keys are shown in a panel across the bottom of the screen for reference. With data input in particular it's often better to stick to the keyboard, rather than constantly chop and change.

Once the program is running you can change the colours of the desktop and their shade. Once you have a data file loaded you can alter the colour of data names, the colour of record field names, and their typestyles – in fact the whole screen display can be customised with a few key presses. There's also a Help menu, providing online help text on all the main program functions for new users.

Setting up a database with DMP is as easy as falling off a log. There's an excellent little addition to the main body of the manual called the Quick-Start Minimanual, which soon gets you familiar with the program's general mode of operation and takes you through the important processes of setting up and interrogating a simple database.

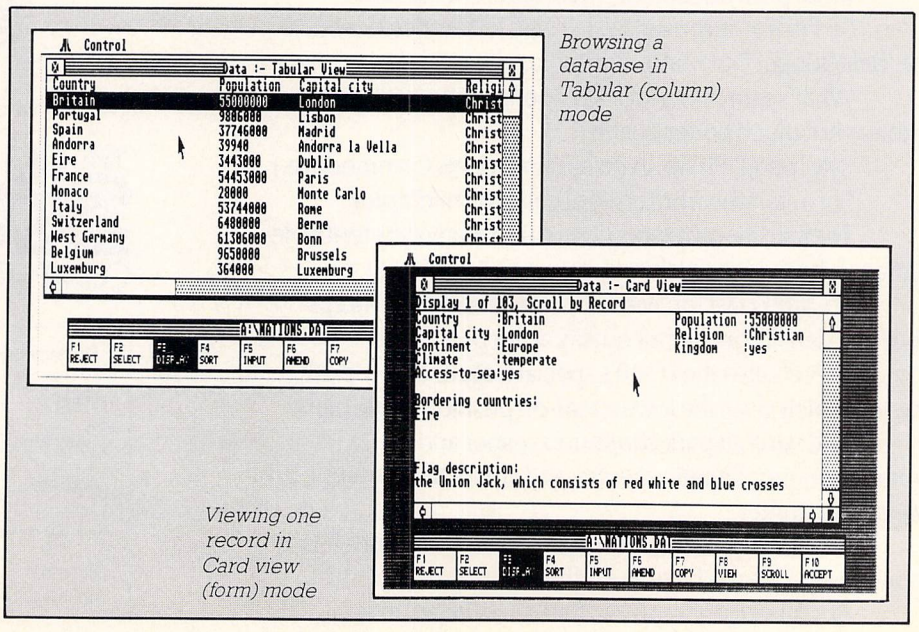
Data types

There are five basic field types: Numbers, text, blocks, classes and dates. Number fields are very flexible and may contain decimal points – they are real numerical fields, in that they can be used by the program in calculations.

Text fields consist of strings of alphanumeric characters, but can only be up to one line in length, whereas block fields can contain several lines, as is necessary for making general comments in a record.

Class variables can only be used for fields for which there is a finite set of possible values in the database, defined by you. This may seem odd, but it is often the case that such fields exist in your databases and you don't even realise it.

For instance, imagine a database of artwork in which each record has a field indicating whether the artwork is a drawing, a photograph or a painting. You could set up a text field and in every record fill it with the word Drawing, Photo or Painting, but this would take up a lot of unnecessary space overall in a database



Browsing a database in Tabular (column) mode

Viewing one record in Card view (form) mode

of perhaps several thousand records.

This is where a class field would be most practical. Providing the artwork can only fall into one of the three categories mentioned, you could just set up a class field with the three known artwork types as the classes, and the three values need only ever be stored once.

Each database record would then only require a special marker to be set to one of three values, rather than the whole text strings, saving valuable storage space. The other advantage is that when you are searching on a class field, the program knows which alternatives to offer you to choose from.

The last field type supported by Data Manager Professional is date fields, which are proper date fields in that they can be used to sort records into date order. You can decide which date format you prefer when you first configure the system.

A particularly helpful feature offered for use with date fields is the ability to type just a hash sign, at which point the program will automatically fill the field with today's date, as set each time the program is run.

So to set up a new database, just choose Define from the initial menu presented when the program starts up, and you will be presented with a resizeable window in the middle of the screen. Inside this window you can now start to lay out a typical record from your proposed database, as you would want it to appear for input purposes.

Mouse control

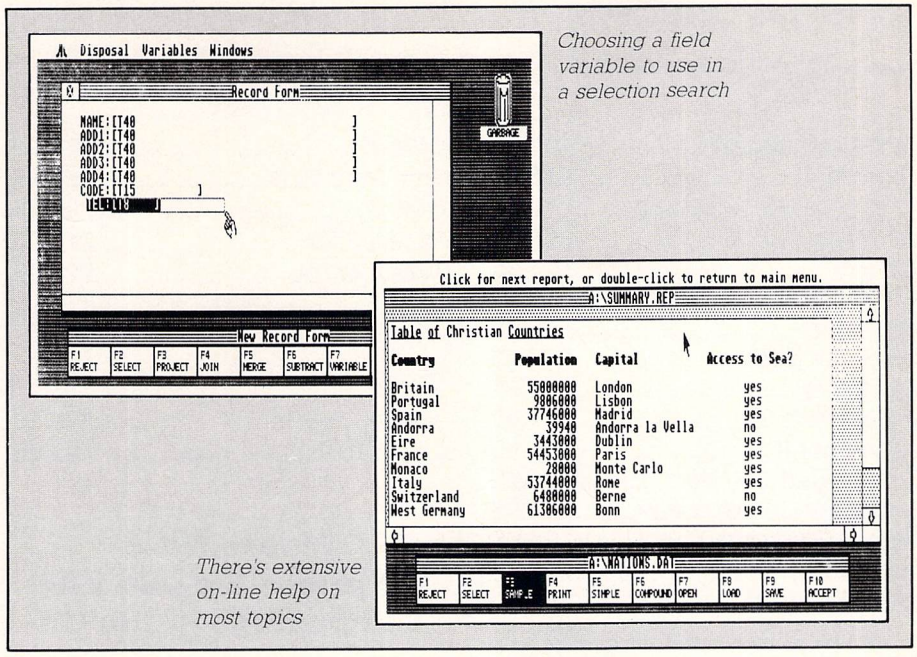
Practically all of this design stage can be carried out using just the mouse, including the positioning of the fields within the window and stretching them visually to suitable lengths.

Particularly impressive is the facility to delete fields or insert new ones at any point in a record. You can even alter record formats after data has been entered into the database, subject to a few restrictions which are still very permissive. This degree of flexibility is something usually only found in the most expensive professional packages.

If at any time during the set-up process you get something seriously wrong, or offer invalid input, the program will respond with an error message, but unlike those found in many packages, DMP's are jargon free and aimed at the layman. They are clear, concise and informative, telling you not only what's wrong, but also how to put it right again.

Once you've set up your record format you should save it to disc, then you can go straight on to entering data through the Maintain module of DMP. Data entry mode presents you with the record format you have designed, but you are free to enter and amend data as you wish.

Here again the data validation is excellent, so that it is impossible to enter the wrong kind of data into a field, and if you do foul up it's easy to retrace your steps and put things right – the sign of a well thought out program.



Choosing a field variable to use in a selection search

There's extensive on-line help on most topics

There are various built-in input aids too to help you save time on long update sessions. For example, pressing F7 will copy the contents of a record card on to the next record, and entering a hash into a date field will automatically set the field to the current date.

The hallmarks of a really useful database are power, flexibility and ease of use in its search facilities, and this is an area where DMP does itself proud. While in View mode you can scroll through the entire database record by record by just clicking on the scroll bars down the sides of the main working window, or equally easily move backwards and forwards using the keyboard cursor keys.

You can also switch from form mode into column mode at the press of a function key, whereby fields are displayed as columns, and a record therefore becomes one long line across – and often extending beyond – the width of the working window. This mode is best suited to those occasions when you wish to browse quickly through a database for something you could not easily pin down using any of the built-in search facilities, since it lets you scroll through records a screenful at a time.

To carry out a search by selection DMP first requires you to set up a selection rule. This means choosing a field to search on from those available, picking a relation, then specifying the actual value to be tested for in the search.

When this involves classes you are presented with all the possible class values to pick from, as defined by yourself when you set up the database.

The operators available for searches are extensive – *is* (=), *is not* (!=), *before* (<), *after* (>), *up to and including* (<=), *including and after* (>=), *includes* ([]), and *does not include* (][) – and they can be linked together into multiple conditions involving several files with the logical operators AND and OR. And if you can't find what you want with that little lot, it's almost certainly not there!

Instant editing

During a browse or search you are also simultaneously in edit mode, in that any record can be amended or deleted at the press of a key. This typifies Data Manager Professional's straightforward and unfettered approach to routine tasks – after all, there's a 50-50 chance that when you're looking up a record the intention is to amend it, so why should you have to enter a separate editing routine to do so?

Most database systems do still require this though, probably because of the rigidly structured way most programs are designed, each function having its own separate set of routines.

DMP's editing facilities go much further than single record editing though. There is a Search and Replace function that lets you change all occurrences of a string within a record, either automatically or selectively, although it won't work with number, class or date fields because of their special format.

There's even a special facility for making global changes across all records in the database or a selected subset of them – a particularly powerful operation that may be essential sometimes but should be used with caution.

For anyone wanting occasionally to compile simple statistical information from their databases there's also a Stat-

Turn to Page 55 ▶

DISCOUNT SOFTWARE

For the Atari ST

GAMES

Football Manager II	£12.95
Starglider II	£15.95
Virus	£12.95
Whirligig	£12.95
Lancelot	£11.95
BMX Simulator	£9.50
Crazy Cars	£11.95
F15 Strike Eagle	£14.95
Flintstones	£14.95
Golden Path	£7.95
Goldrunner II	£11.95
Hunt for Red October	£14.95
Mercenary Compendium	£14.95
Mission Genocide	£5.95
Pink Panther	£11.95
Power Struggle	£9.50
Scruples	£14.95
Spitfire 40	£14.95
Star Wars	£11.95
Stir Crazy	£14.95
Tetris	£11.95
Thrust	£5.95
Time & Magik	£11.95
Trantor	£11.95
Warhawk	£5.95

LANGUAGES

Hisoft Basic	£58.95
Fast ST Basic (Disc)	£31.50
Fast ST Basic (Rom)	£59.50
Hisoft Devpac ST V2	£41.95
Hisoft Power Basic	£28.95
Hisoft Pascal 2	£58.95
Lattice C (Metacomco)	£69.95
Pascal (Metacomco)	£59.50

WORD PROCESSING

K Word II	£38.95
First Word Plus	£58.95
Protext	£49.95
Protext Filer	£17.95
Protext Office	£24.95

SPREADSHEETS

Digicalc	£28.95
K Spread II	£49.95

Please Note
All prices include VAT and postage in the UK

DATABASES

K Data	£31.95
Superbase Personal	£68.95

COMMS

K Comm II	£32.95
Pace Linnet Modem	£144.95

BOOKS

Atari ST for Beginners	£12.95
Programmers Guide ST	£16.95
Atari ST Internals	£14.95
Intro Sound and Graphics	£14.95

GRAPHICS

Quantum Paint	£12.95
K Graph II	£32.95
GFA Artist	£34.95
STOS	£19.95
Timeworks DTP	£68.95
Advanced Art Studio`	£16.95

MISCELLANEOUS

Hisoft Twist	£28.95
Disector	£17.95
Digi Drum	£16.95
Pro Sound Designer	£43.95

ACCESSORIES

3.5" Head Cleaner	£5.95
Printer Lead (cent)	£6.95
520 Keyboard Cover	£3.95
1040 Keyboard Cover	£3.95
Quickshot Turbo Joystick	£10.95

PRINTERS

PANASONIC 1081: 80 Column, 120cps, good quality £169.95
MP135+: 80 Column,135cps, 27cps NLQ £149.95
MP200+: 80 Column, fast, 240cps, 40cps NLQ £279.95
MP201+: Wide 136 Column, & fast 240 cps draft £349.95

All of the above printers include a lead.
All MP Printers carry a two year guarantee

DISCS

3.5" Unbranded Bulk 10 ..... £10.95
3.5" Unbranded Bulk 20 ..... £19.95
Sony DS/DD Branded Discs 10 ..... £15.95

DISC BOXES

3.5" Lockable Holds 50 ..... £5.95
3.5" Lockable Holds 100 ..... £6.95
3.5" Lockable Holds 120 ..... £9.95

ALL GOODS OFFERED SUBJECT TO AVAILABILITY.
Overseas orders welcome – Please write for prices
CALLERS WELCOME! MON-FRI 9.30am TO 5pm SAT 10am TO 4pm
PLEASE SEND CHEQUES/POs TO:

M.J.C. SUPPLIES, (STU)

40a Queen Street, Hitchin, Herts. SG4 9TS.
Tel: (0462) 421415 for enquiries/Credit Card orders

VISA

Access

◀ *From Page 53*

istics feature. It will provide a brief statistical summary on any variable (field) either across the whole database, or on any subset currently selected, giving specific totals as well as the smallest, largest, and average values recorded.

Data is very rarely useful in the order it was recorded in, and consequently DMP also provides powerful sorting routines. They are ram-based and very fast, and allow you to sort records on any field into either increasing or decreasing order.

Multi-level sorts – sorts within sorts – are possible too on keyed fields, simply by repeating a sort on an already sorted data set, starting with the innermost field variable. Sorting provides an easy way of clearing the garbage from your database every so often by making duplicated data more obvious, and there's even a built-in routine within the sorter to strip out exact duplicates after a sort.

Relational power

The most attractive features of Data Manager Professional for experienced, heavy users of databases will almost certainly be its relational file handling capabilities. These allow you to work on more than one file at once to produce concordances, draw more general across-the-board statistics and conclusions based on data from several files, and either expand or streamline your data files whenever this would be helpful.

The five relational operations DMP offers are:

● Projection and Selection: These are both ways of streamlining a database to produce another which is more relevant to a particular task in certain specific areas. You can load one database then from it project a second which contains just some of the fields of the first. The selection process lets you create a second database containing only certain records from the first.

● Merging and Joining: These are facilities for linking two files together, but in different ways. To merge two files they must have exactly the same record format, and the merge will add the two lots of records together to form one larger database.

Joining on the other hand does not require an identical record format. When two files are joined, every record from the first file is compared with every record from the second, and whenever a pair is found to match (according to a selection rule you specify), a new record is made which holds all the data from both the originals. Again a third file is created to hold all the joined records.

● Subtraction: This involves removing the contents of one file from another, or to put it simply, if *a b c d* and *e* were records, in files represented by bracketed sets, then subtraction works like this:

```
(a b c d e) - (b c) = (a d e)
```

A third file *(a d e)* is made, but neither *(a b c d e)* nor *(b c)* are affected by this.

The define module has a further macro facility, which allows you to speed up long drawn out relational operations. The command sequence is stored on disc, and can be reloaded for playback whenever the sequence next requires to be executed. So by any standards, DMP's relational features are quite advanced.

Having your data accessible at the press of a few keys is very handy for one-off references, but for it to be of any use to anybody else in your organisation for regular consultation or decision making purposes – or yourself for that matter when you're away from your micro – you must be able to produce hard copies of your information in a clear, organised and usable format. This is where a report generator comes in.

Report generation

DMP's bult-in report generator is a particularly powerful and flexible one, and works just like a word processing mail merger in most respects. The difference is that the report contents are drawn from information in your database fields rather than a straight mailing list.

In other words, you design a customised report form to include just the information you require from each of your records, with each report field being a variable that's bound to a specified database field. During the report generation process these fields are automatically replaced by the contents of their corresponding fields from records in the database. It's data merging, to coin a phrase.

The data need not necessarily be used in its raw form either: Numerical fields can be used in calculation formulae within a report form so the results of the calculations appear in the final report. This enables you to produce powerful intelligent reports including averages, totals, amounts due, statistical information, and so on.

In fact special automatic facilities are available for inserting means and cumulative totals at regular intervals throughout a report. Page numbers can also be inserted wherever you need them, as can the current date at the time a report is run off.

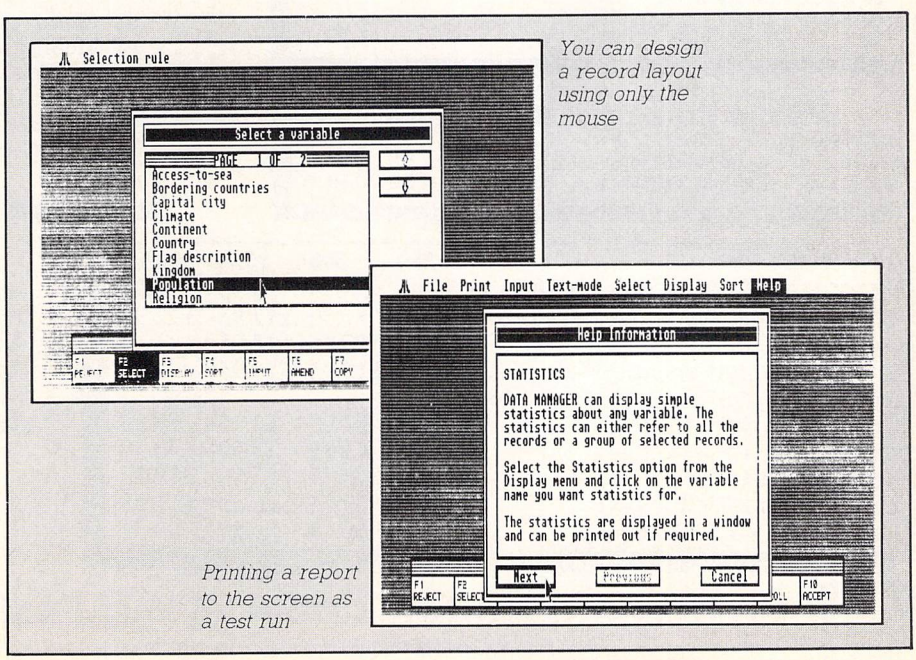
The generator has a broad enough range of features to allow you to actually produce mail merged letters in bulk relative to information held in your database. There's a special facility for use in this context, which does calculations on the contents of date fields to work out time periods in days, so you can produce letters containing phrases like: "It is now 60 days since your account payments fell overdue, so we must inform you...".

You're not limited to reporting across the whole of your database when producing reports, because you can select a subset of records first from within the Report module, using compound search criteria in exactly the same way as you can in the Maintain module.

For the actual design stage of a report DMP provides a word processor–like environment within a window just as it does for laying out record forms within the database proper, and again virtually everything can be done entirely under mouse control. There are also special block copy, paste and delete functions which work by dragging a rubber band box round areas within the working window.

Any field can be justified to the left,

Turn to Page 56 ▶



You can design a record layout using only the mouse

Printing a report to the screen as a test run

◀ *From Page 55*

right, or centre, and the report editor also provides a clever system of insertable anchor points to aid in standardising layouts.

When the report is being filled with actual data these anchor points turn into spaces whose horizontal position is fixed, so that if an expression is placed between two of them it will always occupy the same position irrespective of its length or that of any other expressions.

And for added clarity you can also choose to have certain parts of a report in different typestyles by inserting control codes in the appropriate places.

Test runs

Once you think you've got your layout exactly as you want it, you can go for a trial run by using the program's special facility to print a report to the screen. This makes for big savings on paper and – more importantly – time, allowing you to fine tune a report quickly, since you nip straight back into edit mode after a trial run.

Then once you know it's working as planned you can save the format to disc as a file with a .REP filename extension, to be reloaded whenever you need it. Reports can also be printed to disc as Ascii files for possible later reference, or perhaps to be polished up further in some way using the dedicated facilities of a word processor, or possibly even a spreadsheet where numerical information is concerned.

As for interfacing with other software generally, Data Manager Professional will allow database files to be imported and exported in standard Ascii format, so you needn't retype all the data you might already have stored using another package.

If you have the Timeworks' original Data Manager ST program and wish to upgrade, you should be able to make a smooth and painless transition thanks to CONVERT.APP, a dedicated utility, which Timeworks has included with DMP especially for this purpose. It seems that this time they thought of everything.

Conclusions

All in all, Data Manager Professional is an excellent package. It has real power for serious applications, full relational capability, superb reporting facilities, and manages to achieve all this while still remaining extremely easy to use. Within a business context it would make a very competent decision support tool.

The manual is well thought out, comprehensive, well indexed, professionally presented, and has an easy to follow beginner's section that gets you to grips with the package in hours rather than days.

And at under £70 it's outstanding value for money, so I'd have no reservations in recommending it strongly to anyone looking for a powerful, all-round database manager for the ST.

FACT FILE

Product: Data Manager Professional
Price: £69.95
Supplier: Electric Distribution, 8 The Green Street, Willingham, Cambridgeshire CB4 5JA.
Tel: 0954 61258

POINTS FOR:
Superb all-rounder. Powerful relational capabilities. Excellent report generator. Clear and readable manual with lots of examples. Good value for money.

AGAINST:
At this price, nothing worth mentioning.

ALL OUR PRICES INCLUDE CARRIAGE & VAT
HSV COMPUTER SEVICES LIMITED (AST)
23, Hampstead House, Town Centre, Basingstoke, RG21 1LG

DISKETTES	QUANTITY	10	20	30	40	50	100
3.5" SS/DD	135TPI	9.50	18.75	27.50	36.25	44.95	87.95
DS/DD	135TPI	9.95	18.95	27.95	36.95	45.95	89.95

DISKETTE STORAGE BOXES

10 X 3.5" Library Case	1.25
40 X 3.5" Hinged Lid Lockable	6.95
80 X 3.5" Hinged Lid Lockable	8.95

DISKETTE STORAGE BOXES WITH DISKS

40 Capacity Box with 20 3.5" Disks	SS/DD 23.75	DS/DD 23.95
80 Capacity Box with 40 3.5" Disks	SS/DD 43.25	DS/DD 43.95
80 Capacity Box with 80 3.5" Disks	SS/DD 79.25	DS/DD 80.95

ACCESSORIES

12" Monitor Stand	£12.95
14" Monitor Stand	£14.95
80 Col. Printer Stand	£12.95
Mouse Mat (Hard)	£6.95
Mouse Mat (Foam)	£5.95
3.5" Disc Cleaning Kit	£4.95
Minivac	£6.95

STATIONERY	250	500	1000	2000
9.5" X 11" 60GSM Micro -Perf all edges		£4.95	£8.95	£14.95
True A4 70GSM Micro-Perf all edges	£4.50	£7.50	£12.95	£22.95
True A4 90GSM Micro-Perf all edges	£5.25	£8.75	£14.95	
True A4 100GSM Micro-Perf all edges	£8.50	£15.95	£29.95	
(coloured-Cream, Blue, Grey or White)				
Labels 3.5" x 1.5" (1 across)		£2.95	£4.95	£9.50
Labels 3.5" x 1.5" (2 across)		£3.25	£5.50	£10.50
Labels 4.0" x 1.5" (1 across)		£3.25	£5.50	£10.50
Labels 4.0" x 1.5" (2 across)		£3.75	£6.50	£11.95
Labels 2.75" x 1.5" (3 across)		£2.75	£4.50	£8.50

DUST COVERS

Atari ST 1040 Keyboard	£4.50
Atari FM 520 Keyboard	£4.50
Atari STM 520 Keyboard	£4.50
Atari Mono Monitor SM125	£4.95
Atari Colour Monitor SC1224	£4.95

ATARI 1029 PRINTER RIBBONS
Black £2.50 Colours £3.50
Colours available Red, Blue, Green, Brown, Purple and Orange

Credit Card Hotline (0256) 463507 Faxline (0256) 841018

FREE PRIZE VOUCHER WITH EVERY GAME ORDERED

CUT PRICE SOFTWARE LTD.

FREE PRIZE VOUCHER WITH EVERY GAME ORDERED

ATARI ST GAMES	RRP	OUR
Elite (September)	24.95	15.95
Out Run (Out now)	19.95	12.95
Dungeon Master	24.95	14.95
Gauntlet 1 or 2	24.95	15.95
Fire & Forget	19.95	12.95
Federation of free traders	29.95	20.99
Foundations Waste	24.95	15.95
Bubble Bobble	19.95	12.95
Barbarian	24.95	15.95
Terrapods	24.95	15.95
Scrabble	19.95	12.95
Obliterator	24.95	15.95
Daley Thompsons	19.95	13.95
Netherworld	24.95	16.95
Verminator	24.95	15.95
F15 Strike Eagle	24.95	15.95
Better Dead Than Alien	19.95	12.95
Virus	24.99	15.95
Psion Chess	24.95	16.95
Bionic Commandos	19.99	12.99
Platoon	19.99	12.99
Star Goose	19.95	13.95
Quadralien	19.95	12.95
Rampage	14.95	9.95
Arkanoid	14.95	9.95
Tetris	19.95	13.95
Balance of Power	24.95	16.95
Star Wars	19.95	12.95
Leaderboard	24.95	15.95
Leaderboard Tournament	9.95	6.95
Arkanoid II	19.99	12.99
Buggy Boy	19.95	12.95
Blood Valley	19.95	12.95
Predator	19.95	12.95
Flintstones	24.95	15.95
Trivial Pursuit	19.99	12.95

ATARI ST GAMES	RRP	OUR
Defender of the Crown	29.95	18.95
Bridge Player 2000	19.95	13.95
U.M. Simulator	24.95	15.95
Star Trek	19.95	12.95
Alien Syndrome	19.99	12.95
Starray	19.95	14.95
Starglider I or II	24.95	15.95
Gunship	24.95	15.95
Flight Sim II	44.95	29.95
Gold Runner 1 or 2	24.95	15.95
Impossible Mission II	19.99	12.95
ST Soccer	24.95	15.95
Leatherneck	19.95	14.95
Kennedy Approach	24.95	15.95
Wizard Warz	19.95	12.95
Army Moves	19.95	12.95
Captain America	19.95	12.95
Trantor	19.95	12.95
Shackled	24.95	15.95
Rockfords	19.95	12.95
Oids	19.99	12.99
Battleships	14.95	8.95
Ace 2	19.95	12.95
Carrier Command	24.95	15.95
Captain Blood	24.95	15.95
ECO	19.95	12.95
Terrormex	19.95	12.95
Eliminator	19.95	13.95
Rimrunner	14.95	10.95
Starquake	19.95	12.95
Desolator	19.99	12.95
Football Manager	14.99	9.99
Enduro Racer	19.95	12.95
Scruples	19.95	12.95
Super Hang On	19.95	15.95
Time Stood Still	19.95	12.95

ST BUSINESS PRODUCTS	RRP	OUR
P.C. Ditto (UK version)	89.95	59.95
Superbase Personal	99.95	64.95
Superbase Professional	249.95	169.95
Fleet Street Publisher	115.00	74.95
Home Publisher	24.95	16.95
Pascal (Metacamco)	89.95	59.95
Lattice C (Metacamco)	99.95	69.95
Macro Assembler (Meta.)	49.95	34.95
Cambridge Lisp (Meta.)	149.95	99.95
BCPL (Metacomco)	99.95	69.95
Make (Metacomco)	49.95	34.95
Menu+ (Metacomco)	19.95	14.95
Mailshot Plus	49.95	34.95
VIP Professional	228.95	149.95
Home Accounts	24.95	16.95
STOS	29.95	19.95
K-Graph 2	79.95	49.95
K-Spread 2	79.95	49.95
K-Word 2	59.95	39.95
DB Calc ST	49.95	34.95
Protext	79.95	49.95
Word Perfect 4.1	228.85	149.95
G.F.A. Basic	65.00	45.00
G.F.A. Draft	99.95	69.95
G.F.A. Draft Plus	139.95	99.95
G.F.A. Compiler	45.95	29.95
Sage Bookkeeper	113.85	79.95
Sage Accountant	171.35	119.95
Sage Accountant Plus	228.35	154.95
Sage Financial Cntrllr	343.85	249.95
Disc Box 3.5 x 40	12.95	6.95
Disc Box 3.5 x 80	15.95	8.95
ST Programmers Reference Guide–Essential Reading	19.95	15.95

(Business orders include VAT)
Securicor delivery £6.95. Recorded £2.50

ATARI ST ADVENTURES	RRP	OUR
Legend of the Sword	24.95	15.95
Time and Magik	19.95	12.95
Stac ST Advntr. Creator	39.95	24.95
Lounge Lizards	19.95	14.95
Guild of Thieves	24.95	15.95
Bermuda Project	24.95	16.95
Knight Orc	24.95	15.95
De-Javu	24.95	16.95
Jinxter	24.95	15.95
Zork (1, 2 or 3)	29.99	19.99
Hitch Hikers Guide	29.99	19.99
Leather Goddess	29.99	19.99
Corruption	24.95	15.95
Julie's Grundies	Ask for Julie	
Stationfall	29.99	19.99

HOW TO ORDER:
All Prices include VAT
Game products postage Free
(U.K. mainland only)
Overseas orders add £1.00
Per disk Airmail add £2.00
Per disk Cheques/P. Orders
(Sterling only please)

Made payable to:

CUT PRICE SOFTWARE LTD.
Unit 6, Stort House
Riverway, Harlow
Essex CM20 2DW

Visa or Access orders
(24 hour Ansaphone)
(0279) 24433/31956

Collect vouchers for . . . Free Discs . . . Free Games . . . Free Day Trip to France . . . Free Weekend Breaks . . .

GFA BASIC Version 3 Interpreter

The SuperBASIC

This new version of GFA BASIC contains more commands than its predecessor, is faster, has a much-improved editor and a more comprehensive 500-page manual. However, it remains compatible with the earlier GFA BASIC 2 interpreter.

CHECK THIS RANGE OF FEATURES:

- **Nearly 400 BASIC commands**
- **Fully comprehensive 512 page ring-bound manual**
- **Simple full-screen Editor with fast line/page scrolling**
- **Syntax checking on entry of program lines**
- **Immediate toggle to graphics screen**
- **BASIC commands for Window & Menu management**
- **High speed graphics**
- **Clock display/set in Edit mode**
- **BASIC commands for Interrupt programming**
- **High speed emulation of M/C ADD, SUB, MUL, etc.**
- **Direct insertion and deletion of array elements**
- **Additional high speed (8 digit) sine & cosines**
- **Line A functions as BASIC commands**
- **'Folded' procedure option avoids cluttered listings**
- **Specifiable storage location of variables**
- **Optional WordStar-type editing facility**
- **Commands for simultaneous sorting of two arrays**
- **New loop types (DO...WHILE, LOOP...UNTIL, etc.)**

Price £65.00 (incl. VAT)

Upgrade from Version 2 : £40.00 (incl. VAT)

GLENTOP

Available from your local dealer or, in case of difficulty, contact :

Glentop Press Ltd
1 Bath Place
Barnet EN5 5XE
Tel. 01 - 441 4130
Telex: 22828

QUALSOFT

SPORTS STRATEGY

CODA

FOOTBALL MANAGEMENT GAMES THE ST DESERVES

Football management games, both Soccer and American Football, have the potential to produce excellent strategy games of some considerable sophistication. QUALSOFT produced League Division One in 1983, and Mexico 86 in 1985, but otherwise the implementation has been infantile. When Coda sent me HEADCOACH for the BBC Micro, 2 years ago, I saw an American Football computer game for the first time that measured up to the same standards. QUALSOFT is pleased to offer Atari ST users "World of Soccer" and "Head Coach v3", two games I honestly believe will fill a yawning gap for those looking for realistic simulations of the real games.

Malcolm Howard, QUALSOFT

WORLD OF SOCCER

International management is the ultimate challenge in soccer. To build a squad of players to defeat the ball playing skills of Brazil, the fluid play of Holland, the organisation of West Germany, the counter-attacking of Italy, and the many varied styles of many others, demands an insight into the game rare amongst managers let alone fans. Do you exploit a team's weaknesses, or play to your own strengths? Do you attack down the flank with wingers, or pierce the centre with powerful midfield running? Do you play a flat back four, or use a sweeper or libero?

In "World of Soccer", players are not just attackers/defenders/midfield but goal poachers, play makers, ball winners, wingers, left, right and centre backs, sweepers (19 types of player in all). The results of matches are determined by simulated soccer matches controlled by the skills of the opposing players. Strategy is determined by the skills you build into your squad, and tactics by the particular skills you use to defeat particular teams. Substitutions and tactical moves can be made during the match to change or reinforce your plans.

For four years, through the Qualifying and Final stages of the European Championship and the World Cup, you will guide the European team of your choice. You can prepare for the competitions with friendly matches of your choosing, developing your strategy to match the in-form players at your disposal. Success is there for the taking, but it will need earning.

Choose from 33 European squads. The 4 UK home countries have 16 man squads which can be increased to 36 with players of your own. A customisation program will allow squads for any of the 33 countries to be created.

HEAD COACH v3

On the field 220lb blocks of concrete-on-legs collide, while a small man in a suit paces the touchline stroking his chin. He's the Head Coach. He has more tactical skill in his little finger than the MCC can muster in the entire club. Third down and 9, he signals to his quarterback. The quarterback takes the snap back into the pocket, dummies to his star running back, wheels to the right skirting two defenders, motions to throw to his rightside wide receiver and then swings his pass back over the pack to his open Tight End. He catches and makes another five yards before being grounded. An eleven yard gain and another first down, thanks to 2 hours of rehearsal the previous Thursday afternoon. The crowd cheer the quarterback but the head coach knows that his Right Guard really deserves the credit. This is American Football, Chess with mobile human pieces.

It's your first season as a Head Coach in the NFL and you face two pre-season games. You must give as many of your 45 players a run out to see how they've come through the close season. Through these matches and the time spent at training camp you must devise your game plan to face your first NFL game. Over the next 16 games you will meet the likes of the Chicago Bears, the Washington Redskins, the Dallas Cowboys, the LA Raiders (hiss). Each game will need a new plan to exploit the weaknesses and nullify the strengths of such teams, and in the game you will probe their defense and try to stifle their offense. Success over these 16 matches will put you into the playoffs and in sight of the Superbowl. Failure will give you the best of the college draft, which will allow you to make up for the deficiencies you must by now have discovered in your side. Providing of course that the club keeps you on . . .

Let us be straight , Head coach v3 is NOT an arcade game. It's a sophisticated game based on American Football. For those who already understand something about the game, it's a chance to find out just how much they really know. For those to whom the game appeals but is something of a mystery, then Head Coach v3 is the ideal way to find out what the game is all about. In the match itself, you have a choice of 27 offensive plays and 21 defensive plays, and so you can bias your plays to suit the skills of your squad and negate those of the opposition. The training camp will give you an insight into the current performance of your players, even checking their speed in 40 yard sprints. There's only one thing that can prevent your team from eventually achieving a Superbowl place; YOU! But we warn you, this game is addictive!

"World of Soccer" and "Head Coach v3" are published by QUALSOFT at £17.50 and £19.95 respectively.

QUAL-SOFT **Tel: 0438 721936**
Dept. STU,
18 Hazlemere Road
Stevenage SG2 8RX

Please supply:
World of Soccer ❐ £17.50
Head Coach v3 ❐ £19.95

Name: _____
Address: _____
_____
Access No. (if applicable) _____

C what's new

The latest version of Mark Williams C is one of the most powerful and flexible systems available but it does have a few irritating faults, says our C expert Stephen Hill

OVER the past few years a number of approaches have been devised by software houses in an attempt to create the perfect programming environment. The easiest option has always been to provide a list of commands which allow you to control the various features of the package directly from the keyboard.

Typical examples of this technique can be found in operating systems such as MSdos and Unix, and interpreted languages like Forth. Another popular alternative has been to enable you to manipulate all the different components of the system from an arrangement of simple on-screen menus. As the ST comes complete with the Gem graphics environment, this approach has been adopted for the majority of programming languages available for these machines.

This has been especially true of compiled languages such as C, which usually revolve around an easy to use Gem-based workbench program. There are, however, a number of inherent disadvantages in these Wimp environments. What you gain in user friendliness, you generally lose in terms of flexibilty.

So if you want to do something really unorthodox you may well be forced to leave the workbench completely and access the compiler directly.

In addition, some people find that the Gem graphics create an irritating barrier between them and the programming language they are trying to use. Now Mark Williams has given such people a viable alternative by producing a new version of their impressive C development package for the Atari ST.

Installing MWC

Mark Williams C (MWC) comes on five single sided discs containing a Unix-compatible command interpreter along with many of the more useful Unix utilities like Make and Egrep. The package also includes a number of welcome extras such as a disc librarian, a resource construction set and an effective 68000 assembler.

Before using MWC you are strongly advised to create working copies of each of the program discs. To that end a useful program has been supplied on disc four which automates this procedure completely.

Most users will now need to tailor the system to their specific configuration with the Install program. If you are restricted to a single drive you can, however, omit this step. You must then create a resettable ram disc using a utility called RDY.

This is necessary because the complete development system takes over a megabyte of memory, though the package does run quite happily on an unexpanded 520ST. It is, therefore, recommended that you keep all your source programs in a ram disc, even if you're using MWC on something relatively powerful such as a 1040ST.

When you have installed this device, you inform the rest of the package of its existence by modifying a special configuration file known as Profile. If you think this procedure sounds rather complicated, you would be right.

I was delighted to be able to get the whole thing working within about four hours, although this did include a lot of time flicking through the manual. Compared to the procedures required by Laser C or Metacomco C – reviewed in the September 1988 and August 1987 issues respectively of *Atari ST User* – which took less than an hour, I found the process both time consuming and incredibly tedious.

The Unix-like shell

Once you've managed to install the package you can enter the command interpreter MSH which forms the centre of the development system. MSH is based on a Unix-like operating system called Coherent, and provides an excellent subset of the standard Unix commands.

Invariably your feelings toward MSH will depend on your opinion of Unix. I must admit that I did not start this review as one of Unix's greatest fans, as I've always regarded it as being rather too unwieldy for use on a micro.

As I learned more about it, however, I rapidly started to appreciate the flexibility which forms much of its appeal. It's probably easiest to consider MSH as a programming language in its own right, designed to give you complete control over the many options provided by the development system.

To that end, it supports a range of powerful facilities including device redirection and user defined procedures. You can also place a list of MSH instruc-

Turn to Page 61 ▶

```
int lim;
char s[];
{
        int c, i;
        for ( i=0; (c=getchar())!=EOF && c!='\n'; ++i )
                if (  i<lim-1 )
                        s[i] = c;
        if ( c == '\n' )
                s[i++] = c;
        if ( i<lim-1)
                s[i] = '\0';
        else
                s[lim-1]='\0';
        return(i);
}

copy(maxchar,s,d)
char s[], d[];
int maxchar;
{
        int i;
        for ( i=0; i<maxchar && (d[i]=s[i])!='\0'; ++i ) ;
}
-- ST MicroEMACS 1.8 -- ex1_14.c -- File: a:\ex1_14.c ------
```

Editing a file with Micro Emacs

HARDWARE OR SOFTWARE

COMPUTERS

CBM Amiga A500 with 3 free games or modulator	£395.00
CBM 64C Olympic Pack with cassette recorder, joystick and £100 free software	£149.95
CBM 64 Computer only	£129.95
CBM 1541C Disk Drive with free software only	£169.95
Spectrum Plus 2 Computer with free joystick and software	£139.95
Atari 130 XE Starter Pack with cassette recorder, joystick and free software	£139.95
Nintendo Games Console with free Super Mario Bros. game	£99.00
Sega Games Console with free "Hang On" game	£79.00
Atari 520 STFM with 1 Mb Drive & 5 P.D. Disks – now only	**£289.00**
Atari 520 STFM Super Package inc. £400 games	£389.00
Atari 1040 STF inc. Modulator	£489.00
Atari PC1 with Mono Monitor	£489.00
Atari W.P. Packs	Please ring for details

MONITORS

Atari SM-125 Mono 12" screen	£140.00
Atari SM-125 Bought with Computer	£125.00
Philips CM 8833 Med. Res Colour 14" inc. lead	£285.00
Atari SC 1224 Colour Monitor	£285.00

DISK DRIVES

Atari SF354 0.5Mb Disk Drive	£75.00
Cumana 1Mb Disk Drive	£109.95
Cumana 1Mb Amiga Drive	£99.95
Cumana 5.25 Atari Drive	£139.00
Supra 20Mb Hard Disk Drive	£549.00

ACCESSORIES

10 * 3.5 SS/DD Disks Branded	£14.95
10 * 3.5 SS/DD Disks Unbranded	£12.00
10 * 3.5 DS/DD Disks Branded	£19.95
10 * 3.5 DS/DD Disks Unbranded	£16.00
Mouse Mat	£4.95

PRINTERS

Citizen 120-D	£149.00
Epson LX-800	£275.00
Star LC10	£249.00
Star NB24-10 Printer+Sheet Feed	£599.00

All our software is marked at the recommended retail price but we give a full 10% discount on all orders.
All prices are correct at time of going to press. E&OE.

10 BEST ST GAMES

1	Dungeon Master	£24.99
2	Overlander	£19.99
3	Captain Blood	£24.95
4	Carrier Command	£24.95
5	Out Run	£19.99
6	Gauntlet II	£19.99
7	Football Manager II	£19.99
8	Corruption	£24.95
9	Empire Strikes Back	£19.95
10	Bionic Commandos	£19.95

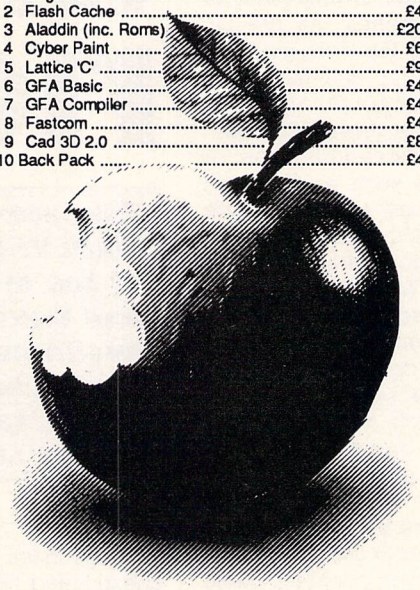
ST VIRUS – Ring for details!

10 BEST ST BUSINESS PROGRAMS

1	First Word Plus	£79.95
2	Timeworks DTP	£99.95
3	Campus Cad	£395.00
4	Signum II	£184.00
5	ST Accounts	£172.50
6	Trimbase	£89.95
7	Sage Accountant Plus	£228.85
8	Swift Calc	£39.95
9	Habaview	£74.95
10	Bookkeeper	£113.85

10 BEST ST UTILITIES

1	Degas Elite	£24.95
2	Flash Cache	£49.95
3	Aladdin (inc. Roms)	£209.00
4	Cyber Paint	£69.95
5	Lattice 'C'	£99.95
6	GFA Basic	£45.95
7	GFA Compiler	£45.95
8	Fastcom	£49.95
9	Cad 3D 2.0	£89.99
10	Back Pack	£49.95



Don't be tempted until you've had a byte at YORCOM.

OPEN 9AM TO 5.30PM MONDAY - SATURDAY
MAIL ORDER & CREDIT CARDS WELCOME.

YORCOM
THE YORK COMPUTER CENTRE

THE YORK COMPUTER CENTRE 9 Davygate Centre York Y01 2SU Telephone (0904) 641862

◀ From Page 59

tions in a batch file and then execute them at any time directly from the keyboard.

Another important aspect of the language is the inclusion of a small but useful set of control structures. In my opinion these add a whole new dimension to the process of program development. I also liked the History feature which enabled you to recall any of the last few commands and then re-execute them by pressing a couple of keys.

Testing, testing

Testing your routines couldn't be easier, as any Tos-based program can be executed straight from the shell simply by typing its name. You can also run Gem programs from MSH by preceding them with the command gem, although this did occasionally crash the computer when the memory was particularly tight.

One minor irritation is that there are no facilities for genuine screen editing. Rather than being able to jump around the screen using the arrow keys, you were in fact limited to simple line editing using Delete and Backspace. It's also worth noting that, like Unix, most commands are in lower case. This occasionally caused some confusion when the Caps Lock key was inadvertently pressed, as the interpreter repeatedly rejected anything subseqently entered.

In order to cram a Unix-like shell into the ST, Mark Williams has been forced to supply most of the standard utilities on a separate disc. Unless you have either a hard disc, or plenty of memory, this will invariably slow down the entire system considerably, and would be a major annoyance to many people, especially those restricted to a single drive.

Overall I found MSH to be potentially very useful, but rather slow in its execution. It was also fairly complicated, and unless you have previous experience of Unix it would take a considerable amount of effort to completely familiarise yourself with this system.

Certainly on a Mega ST it is excellent as you can hold all the many utilities in a large ram disc and access them at any time practically instantaneously. The system also inevitably exhibits dramatic speed improvements when used in conjunction with a hard disc.

The compiler

The C compiler itself incorporates an impressive range of options ranging from Peephole optimisation to the ability to choose between relative and absolute addressing for your object programs. Most of the common C functions are supported along with several modern extensions such as void and enumerated types.

Normally the compiler is called from within the MSH environment using the cc command. This loads and runs the various segments of the compiler and then calls the linker to create an executable program. The cc command is relatively intelligent and allows you to compile whole lists of programs using a single line.

If that wasn't enough, you can also compile object files, C source files, and 68000 assembly language programs in the same operation. These will be sent to the various components of the system and will be combined into one large program automatically by the linker.

In addition, there's a special option to allow you to generate a C program as a file of assembly language statements. This can be modified by hand to optimise

Turn to Page 62 ▶

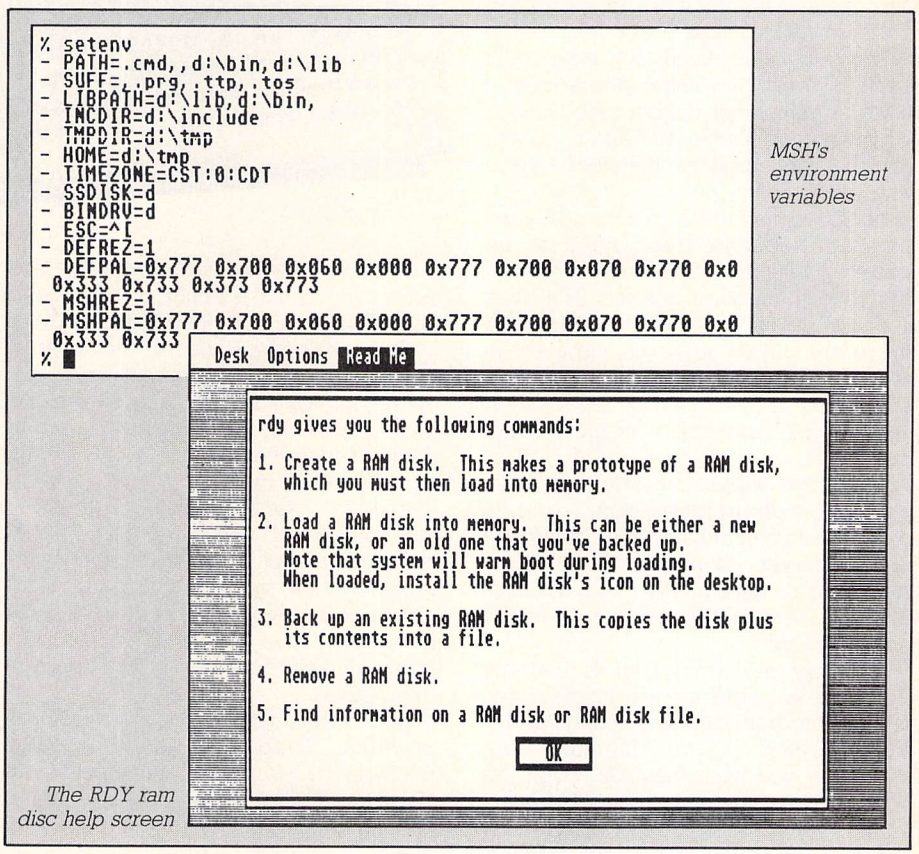
MINI EDITOR

The editor supplied with this package is a cut down version of the Emacs editor and is called Micro Emacs or ME. It can be loaded at any time directly from MSH, and is the sort of editor which relies entirely on the keyboard and makes no real concessions to the inexperienced user.

To my eyes it looks very old fashioned indeed with most commands being executed using complicated control key combinations. In terms of raw power it scores reasonably well with a comprehensive set of commands ranging from the usual search and replace to a powerful macro facility. You can also edit several files simultaneously using up to 11 separate windows. Other features include a crude form of auto-indent, and the ability to call up any of the MSH commands without having to leave the editor.

While none of this is exactly Earth shattering stuff, once you get used to the control sequences, the editor is more than adequate for most purposes, and certainly no worse than many others I've used.

Incidentally, it is important to realise that ME was written completely in Mark Williams' C. The entire source code has been supplied on one of the discs, and this enables you to readily customise the editor precisely to your own needs.



MSH's environment variables

The RDY ram disc help screen

◀ From Page 61

critical sections and then assembled into an executable program.

Gem programmers will be pleased to note that the compiler includes full support for all the standard Gem libraries. Unlike some of its competitors, Mark Williams has provided a simple option to allow you to create your own Gem desktop accessories. A full worked example of this can be found in the documentation supplied with the package.

Unfortunately, the compiler and linker together occupy more than 500k of memory. This means that although you can just about squeeze a working copy of the system on to a single disc, you are forced to omit most of the include files and all of the Gem libraries.

Compiler and linker

Any users of the package on a standard 520 must therefore place all their source files on a ram disc, and then repeatedly swap between the linker and compiler discs. If you've got double sided drives the situation is slightly better, as you can place all the compiler and linker files on a single disc.

As the compiler is split into several different sections, these need to be loaded one after another every time a program is compiled. As the ST's discs are notoriously slow, the compiler therefore takes several minutes to compile even the smallest of C programs. Compared to the speed of Laser C this level of performance was most unimpressive.

The linker supplied with the package uses its own unique format and is therefore incompatible with anything else on the market. Having said that, it does appear to do its job fairly well, although like the rest of the system it wasn't especially fast.

My only real complaint is that the floating point libraries are not included into the program as a default and need to be specified in the command line whenever you want them. Although this does tend to reduce the size of some of your routines, it is still depressingly easy to forget this option completely, and then be forced to tediously relink the entire program all over again.

I'm delighted to say that MW have supplied an excellent resource construction program as an integral part of the system. In many respects this is undoubtedly one of the best of its kind I've seen.

Among its unique features is the ability to create resource files using either a powerful Gem-based graphic environment, or directly from a file of simple text commands. RSC files can be converted easily from one format to another, which allows you to make minor corrections to an RSC file using any standard text editor.

The only real problem I encountered was one of speed. Some of the drawing operations appeared to take eons to be performed. I also found the pixels used in the icon editor very difficult to see on my high resolution monitor.

Another potentially useful utility is the assembly level debugger, DB. This is really only capable of debugging programs with a significant assembly language component, as it has no facilities for viewing the original C source program alongside its assembly language translation.

Mark Williams promises a version of its powerful CSD source level debugger for the ST in the near future, although this will only be available separately for an additional charge, possibly in the region of £60.

The documentation supplied with the package is split into two sections. The first provides you with a simple tutorial to introduce the editor, shell and Make utilities respectively. This appears to be both well written and easy to understand.

Unfortunately, it doesn't really go into enough detail for you to rely on it totally, and you therefore need to dip into the Lexicon. This makes up the bulk of the manual, and consists of a list of articles in alphabetical order describing the actions of the system's components.

Although this is fairly comprehensive, and includes large entries on the AES and VDI libraries, I still have a number of minor misgivings with this approach. I found that when searching for a specific piece of information I often ended up desperately flicking back and forth through the manual from entry to entry to no avail.

AND IN CONCLUSION

On paper, Mark Williams C appears to be extremely impressive indeed as it supplies you with practically everything you could conceivably need for serious development work on the ST. The only real difficulty lies in the fact that the implementers appear to have assumed that any genuine user of the package will have either a hard disc or more than a megabyte of memory.

Considering that Mark Williams also produces a range of C compilers for a variety of other machines, this is not a completely unwarranted assumption, as hard discs are now relatively inexpensive for computers like the IBM PC. Unfortunately the price of hard discs for the ST takes them beyond the reach of the majority of users.

In my opinion many people would find the overall performance of this package a little disappointing, particularly on a 1040ST. Mark Williams C will work quite happily on a standard 520, but in practice you might be generally far better off looking elsewhere, as you would be limited in the size and the number of the programs you could compile.

Despite these problems, the package does have a great deal of potential, especially if you have access to a hard disc.

It's certainly not the easiest system to get into, and unless you are already conversant with Unix and Emacs, it would be wise to allow at least a week to familiarise yourself with the package before attempting to use it in any serious way.

In many respects, however, this is undoubtedly one of the most flexible and powerful C development systems currently on the market, and you could easily find that the extra effort would be more than amply repaid.

I don't think the system is at all suitable for casual users of the language, but for anyone wishing to write large C-based applications on an ST, Mark Williams may well have provided an ideal solution.

FACT FILE

Product: Mark Williams C
Price: £129
Supplier: Electric Distribution, 8 Green Street, Willingham, Cambridgeshire CB4 5JA.
Tel: 0954 61258

POINTS FOR:
Very powerful, flexible and comprehensive system. Good resource construction kit.

AGAINST:
Lots of disc swapping with a 520ST – better with more memory and double sided drives. Complex Unix-like shell takes time to master.

COMPETITORS REVIEWED:
Lattice C, August 1987.
Laser C, September 1988.

GULTRONICS

01-436 3131

217-218 Tottenham Court Road, London W1
Fax 01-636 1075
LONDON'S LEADING ATARI CENTRE

COMPUTERS

Atari PC1	£POA
Atari PC2	£POA
Atari PC3	£POA
Atari PC4	£POA
Atari 520 ST-FM	£259
Atari 520 ST-FM + 1 Meg Summer Pack	£349
Atari 1040 ST-F	£399
Atari 1040 ST-FM	£449
Atari Mega 2	£750
Atari Mega 4	£999

COMPUTERS & MONITORS

Atari 520 STFM + SM124	£399
Atari 520 STFM + SC1224	£549
Atari 520 STFM + Philips 8833	£515
Atari 1040 STF + SM124	£499
Atari 1040 STF + SC1224	£679
Atari 1040 STF + Philips 8833	£639
Atari Mega 2 + SM124	£849
Atari Mega 2 + SC1224	£1029
Atari Mega 2 + Philips 8833	£979
Atari Mega 4 + SM124	£1099
Atari Mega 4 + SC1224	£1279
Atari Mega 4 + Philips 8833	£1229

DTP LASER PACKS

Atari 1040 STF + SM124 + Megafile 20	£999
Atari 1040 STM + Philips 8833 + Megafile 20	£1149
Atari Mega 2 + SM124 + Megafile 20 + SLM-804	£2449
Atari Mega 4 + SM124 + Megafile 20 + SLM-804	£2699

DISK DRIVES

Atari SF354	£99
Atari SF314	£149
1Mb 3.5" Drive	£99
Cumana 1Mb 5.25"	£149
Atari SH204/205	£P.O.A.
Atari Megafile 20 Hard Disc	£499
Cumana 20, 40, 60 hard disc	£P.O.A.

MONITORS

Atari SM124	£125
Atari SC1224	£279
Philips CM-8833	£249
Philips CM-8852	£279
Philips CM-8853	£P.O.A.
Philips CM-8873	£499

ACCESSORIES

Leads	£P.O.A.
Mouse Mat	£5.95
3.5" storage box	£9.95

PRINTERS

Epson LX800	£229
Epson FX800	£395
Epson FX1000	£499
Epson EX800	£519
Epson EX1000	£699
Epson LQ500	£339
Epson LQ850	£559
Epson LQ1050	£725
Epson LQ2500+	£895
Citizen 120D	£149
Panasonic 1081	£159
Panasonic 1082	£169
Panasonic 3131	£249
NEC 2200	£299
NEC P6	£P.O.A.
NEC P7	£P.O.A.
Star LC10	£179
Star LC10 Colour	£230
Star LC24	£P.O.A.
Star NX-15	£299
Star NB 24-10	£P.O.A.
Star NB 24-15	£P.O.A.
Toshiba P321SL	£435
Toshiba P341SL	£519
Toshiba P351SL	£679
Juki 6200	£P.O.A.
Juki 6100	£299

LASER PRINTERS

Atari SLM804	£1099
Epson CQ3500	£1439
Toshiba PageLaser 2	£2399
Star Laser	£1839
Panasonic Laser Printer	£P.O.A.
H.P. Laser Printer	£P.O.A.

UTILITIES

1st Word Plus (Atari)	£59
ST Writer (Elite)	£69
Word Perfect (Sentinel)	£199
First Word Plus (Electric)	£65
Word Writer (Timeworks)	£65
Publishing Partner	£129
Fleet St Publisher	£95
Timeworks Desktop Publisher	£79
Swiftcalc	£65
Data Manager	£65

GULTRONICS

Tel: 01-436 3131 (5 lines)

Showrooms At:
223 Tottenham Court Road, London W1
15 Tottenham Court Road London W1
43 Church St, Croydon, Surrey
All prices include VAT
MAIL ORDER WELCOME
Free UK Mainland Delivery
We can beat any price quoted from any other dealer at your time of purchase
The above prices are only available through mail order

All prices correct at time of going to press and are subject to change without prior notice

Audio Marketing UK Ltd., Audio House, 278, Abbeydale Road, Wembley, Middlesex

CONSULT GULTRONICS BEFORE COMMITTING!

TRYBRIDGE SOFTWARE DISTRIBUTION

Title	Atari ST
Aaargh	14.95
Adv Art Studio	4.95
Alien Syndrome	11.95
Alt Reality	11.95
Arkanoid Rev of Doh	11.95
Backlash	11.95
Ballyhoo	7.95
Barbarian 1 or 2 Pal	9.95
Bards Tale 1 or 2	16.95
Bermuda Project	14.95
Better Dead	11.95
Beyond Ice Palace	11.95
Bionic Comm	13.95
Black Lamp	11.95
BMX Simulator	9.95
Bombjack	11.95
Borrowed Time	7.95
Bubble Bobble	11.95
Buggy Boy	11.95
Captain Blood	14.95
Carrier Command	14.95
Chessmaster 2000	16.95
Combat School	11.95
Corruption	11.95
Daley Thompson 88	11.95
Dark Castle	14.95
Defender of Crown	18.95
Degas Elite	16.95
Dungeon Master	14.95
Elite	14.95
Empire	14.95
Empire Strikes Back	11.95
Enlightenment	11.95
EPT	14.95
Exolon	16.95
5 Star ST	14.95
Flight Sim 2	26.95

Title	Atari ST
Flt Disc 7 or 11	13.95
Flt Disc European	13.95
Flt Disc Japan	13.95
Flying Shark	11.95
Football Manager 2	11.95
Foundations Waste	11.95
Galdregons Domain	13.95
Garfield	11.95
Garrison 1 or 2	14.95
Giganoid	
Golden Path	14.95
Guild of Thieves	14.95
Gunship	14.95
Hacker 1 or 2	7.95
Helter Skelter	9.95
Heroes of Lance	16.95
Hollywood Hijinx	7.95
Hotshot	11.95
Hunt for Red October	14.95
Ikari Warriors	9.95
Impossible Mission 2	13.95
Iron Lord	26.95
Jet	24.95
Jewels of Darkness	11.95
Jinxter	14.95
Knightorc	11.95
Kristal	19.95
Land of Legends	
Leaderboard Birdie	13.95
Leather Goddess	19.95
Legend of Sword	14.95
Living Daylights	11.95
Mars Cops	11.95
Mercenary Comp	14.95
Mindshadow	7.95
Moonmist	7.95
Motor Bike Madness	9.95

Title	Atari ST
Music Con Set	16.95
1943	13.95
Netherworld	13.95
Nigel Mansell	16.95
Oids	11.95
Oops	11.95
Operation Wolf	11.95
Outrun	13.95
Overlander	11.95
Pandora	11.95
Pawn	14.95
Pepsi Mad Mix	10.95
Peter Beardsley	14.95
Phantasm	11.95
Planetfall	7.95
Platoon	11.95
Pool of Radiance	16.95
Powerdrome	16.95
Pro Copy	29.95
Pson Chess	16.95
Quadralien	11.95
Return to Genesis	11.95
Road Blasters	13.95
Rocket Ranger	14.95
Rolling Thunder	13.95
Sargon 3 Chess	16.95
Scrabble Deluxe	13.95
S.F. Harrier	14.95
Shadowgate	14.95
Silent Service	14.95
Space Harrier	11.95
S.T.A.C.	26.95
Star Fleet	19.95
Starglider 1 or 2	14.95
Star Ray	14.95
Star Trek	11.95
Stealth Fighter	13.95

Title	Atari ST
Stir Crazy	11.95
Street Fighter	13.95
S.T.O.S.	19.95
Strip Poker 2	9.95
Summer Olympiad	11.95
Supercycle	7.95
Super Hangon	11.95
Tass Times	7.95
Testdrive	16.95
Three Stooges	14.95
Thundercats	11.95
Time & Magik	11.95
Time Stood Still	11.95
Trinity	7.95
Trivial Pursuits	11.95
TT Racer 2	14.95
Univ Military Sim	14.95
Uridium	11.95
Verminator	14.95
Virus	11.95
Whirligig	11.95
Wizball	11.95
World Games	7.95
Xenon	11.95
Zork 1 or 3	9.95
Zynaps	13.95

NEW RELEASES

Chronoquest	**14.95**
Eliminator	**13.95**
Fed Free Trade	**14.95**
Game Over II	**14.95**
Skychase	**14.95**
Soldier of Light	**11.95**
Ultima V	**14.95**

Please send cheque/P.O./Access, Visa number and expiry date to:

Trybridge Ltd,

72 North Street, Romford, Essex RM1 1DA.

Please remember to state the make and model of your computer when ordering. P&P INC. UK. Europe add £1 per item. Elsewhere add £2 per item for AIR MAIL. Telephone order: 0708 765271

PROGRAM Magic

"Spectacular speed, solid, good value" *ST/Amiga Format*

"Very quick, simple, equally suitable for small businesses, clubs, charities and education. Good value" *ST/Amiga Format*

"I have no hesitation in recommending this program, simple-to-use, very powerful, flexible, suit office or home." *APC Magazine*

♦DGCALC♦

At last, an inexpensive and genuinely easy to use spreadsheet program. Command and menu driven, 512 rows, 52 columns, programmable function keys, text overflow and much, much more. Simple enough for the beginner, powerful and fast enough for the professional.

A calculated best buy **£39.95**

♦HOME ACCOUNTS♦

Ideal for both home users and small businesses. Fully GEM based, simple to use, this complete home accounting package will cater for up to 13 income accounts (e.g., bank, credit card, HP) and 60 categories of household expenditure (e.g., mortgage, rates, food, etc.) with optional budgeting. The program will automatically handle 100 Standing Orders, etc., and allow you to produce your own statements to check bank account(s)/charges, credit cards, etc. ... Process up to 300 transactions per account per year. Comprehensive reporting facilities include: detailed statements, budget forecasts, pie and bar charts, etc.

You'll wonder how you ever managed without it! **£24.95**

♦MAILSHOT♦

A powerful menu-driven mailing program using a unique system for on-screen scrolling of labels. This WYSIWYG (what you see is what you get) system means that any label format you define on screen will be identical when printed.

As well as powerful sorting and searching (search for anything, anywhere!), Special Routines include: detection of duplicate labels, surname sorting and many, many more. For business users, MAILSHOT PLUS is also available.

Why set your sights lower? **£24.95**

SEND FOR ***FREE*** BROCHURE PACK

Access VISA

ORDER NOW - 24 HR CREDIT CARD HOTLINE **0395 45059**

DIGITA INTERNATIONAL

TOP QUALITY PROGRAMS AT MAGICAL PRICES

All software written in the UK. Prices include VAT & P&P (add £2.00 for export)

PLEASE RUSH ME BY RETURN (enter quantity)

		PRICE
_____	DGCALC	£39.95
_____	HOME ACCOUNTS	£24.95
_____	MAILSHOT	£24.95
_____	MAILSHOT PLUS	£49.95
_____	Please send FREE Brochure Pack	

Please debit my ACCESS/VISA CARD

No. _____

Expiry Date _____

Signature _____

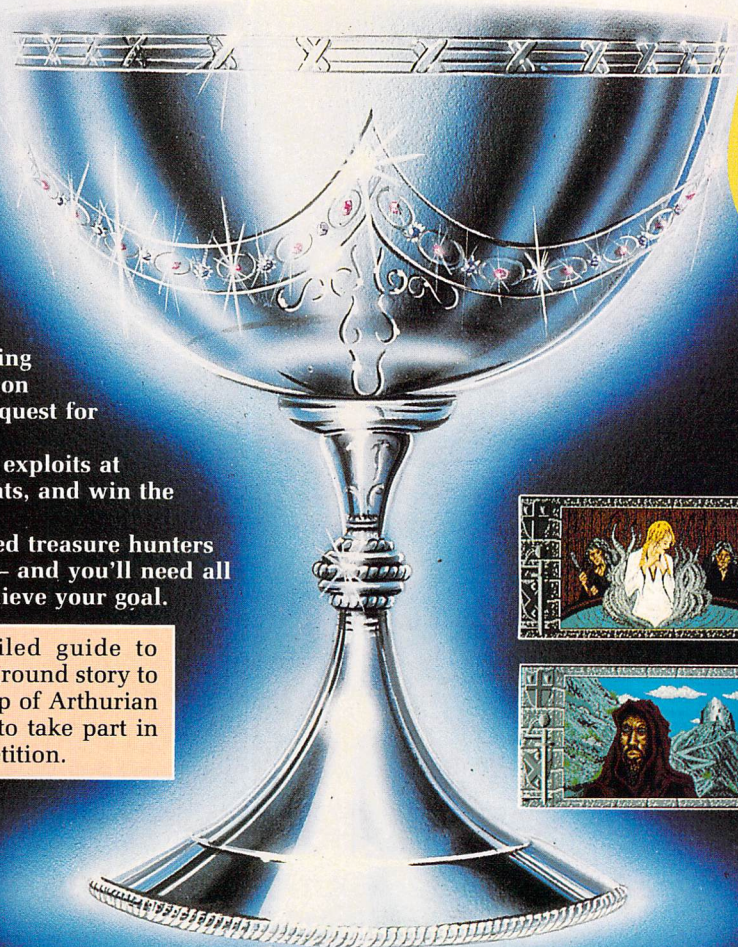
Post to: DIGITA INTERNATIONAL LTD.
KELSEY HOUSE, BARNS ROAD,
BUDLEIGH SALTERTON, DEVON EX9 6HJ

Name _____

Address _____

Lancelot

WIN *this solid silver Grail, worth £5,000, in the exciting Quest for the Holy Grail competition. Full details in every box.*



Travel back to the Age of Chivalry when knights were bold, galloping across the countryside and rescuing damsels in distress.

Level 9 recreate the time of wizards and the Knights of the Round Table in their greatest adventure yet. Lancelot consists of three interlinked adventures, spanning the complete saga from the foundation of the Order to its finest hour – the quest for the Holy Grail.

Guide Lancelot through his many exploits at Camelot, battle with wayward knights, and win the love of Guinever and Elaine.

The challenge which has fascinated treasure hunters through the centuries is now yours – and you'll need all your strength, wit and valour to achieve your goal.

Inside every box there's a detailed guide to playing Level 9 adventures, a background story to the classic legend, a parchment map of Arthurian England – and full details of how to take part in the Quest for the Holy Grail competition.

Screen shots from Atari ST version

MANDARIN SOFTWARE

Level 9

Format	Tape	Disc	Price
Atari ST		●	£19.95
Amiga		●	£19.95
Amstrad PC, IBM PC and compatibles		●	£19.95
Amstrad CPC/PCW/ Spectrum Plus 3		●	£19.95
Commodore 64	●	●	£14.95
Spectrum	●		£14.95
Amstrad CPC	●		£14.95
*Atari XL/XE	●	●	£14.95
BBC Master		●	£14.95
*Apple II		●	£14.95
Macintosh		●	£19.95
MSX 64K	●		£14.95

*These formats and all tape versions are text only.

Note: Tape versions have three cassettes in every package

Please send me Lancelot on ☐ *cassette* ☐ *disc*
for: _____ *(state machine)*
☐ *I enclose a cheque for £*____ *(including VAT and p&p) made payable to Mandarin Software*
☐ *Please debit my Access/Visa number:* *Expiry date:* /

Signature _____

Name _____

Address _____

_____

_____ *Postcode* _____

Send to: Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

Enquiries: 0625 879940 Order Hotline: 0625 879920 ML11

Get right to the heart of your ST

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

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

And the tremendous response from ST owners around the world is real proof that The Complete Atari ST has become the perfect learning tool for everyone interested in finding out more about this powerful workhorse.

Bring yourself up to date

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

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

Here's what you may have missed:

August

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

September

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

October

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

This month

More pages to add to your collection on:

ST Graphics

Primary, secondary and complementary colours

ST Languages

The art of using loop structures in Basic

ST Hardware

How to trace and cure common faults

ST Adventures

Variety of plot is the spice of fantasy

COMING NEXT MONTH

* A step-by-step guide to solving adventures
* Writing programs using new and old ST Basic
* Designing your own fill patterns using Gem
* How to extend C by creating DIY functions

Please turn to the order form on Page 125

MICROSNIPS LTD

PHONE ORDERS WELCOME

37 SEAVIEW ROAD · WALLASEY · MERSEYSIDE L45 4QN

ATARI LEADING NORTH WEST SPECIALIST ATARI DEALER

THE COMPUTER COMPANY THAT SHOWS YOU THE WAY

COMPUTERS

520 STFM Super Xmas Pack
* 1mg Drive * New £400 software pack inc. business organiser * CX-40 joystick * Free Mouse Mat * Canon PW1080A Printer + Fanfold Paper + Printer Lead + 5 Free Disks
If bought individually at MRP £1056.39 **£579.95**

520 STFM Super Xmas Pack inc. 5 Free Disks * Free Mouse Mat inc. £400 Software **£399**

520 STFM inc. 1mg Drive + Mouse Mat **£299**

1040 STFM * 5 Free Disks * Software + Free Mouse Mat + Dustcover **£499**

520 STFM * inc. 1mg Drive, Med. Res Colour Monitor + Lead * 5 Disks * Mouse Mat * £400 Software. If bought separately MRP £1117.94 **£649.95**

DRIVES

Super 3½" 1Mg Drive + 5 Free Disks	**£99.95**
SF 354 ½Mg Drive	**£129.95**
SF 314 1Mg Drive	**£179.95**
20Mg Hard Disk FOR ST.	**£499.95**
SH 205 Hard Disk	**£574.00**
Cumana 1Mg Drive 3½"	**£109.95**

MONITORS

Philips 8802 Colour	**£239**
Philips 8852 Hi-Res Colour	**£289**
Philips 8833 Med/Hi-Res Colour	**£269**
Thompson Med/Hi-Res Colour	**£279**
Ferguson MC09 TV/Monitor	**£209**
Akhter Med/Hi Res Colour (as 8833)	**£250.00**
SM 125/124 Mono Monitor	**£129.95**
Atari SC 1224 Colour	**£379.95**
Philips High Screen (Med/Hi)	**£249.95**

ALL MONITORS NOW INCLUDE ST LEAD

ACCESSORIES & CONSUMABLES

Sony 3½" DSDD (Boxed in 10's)	**£16.99**
Sony 3½" SSDD (Boxed in 10's)	**£14.99**
Nashua 3½" SSDD (Boxed in 10's)	**£14.99**
Lockable 3½" storage box (Holds 100)	**£9.95**
ST Mouse	**£24.95**
Luxury Dust Cover	**£6.95**
Surge Protector Plug	**£11.95**
Apollo 4 way anti-surge socket/3m cable/plug	**£14.95**
Mouse Mat	**£4.99 and £6.99**
Microsnips brand dust covers ST	**£4.99**
120 D dust dover by Microsnips	**£4.99**
Panasonic 1081 Dust cover by Microsnips	**£4.99**
Star NL 10 dustcover by Microsnips	**£5.99**
DMP 2000/3000 dustcover by Microsnips	**£5.99**
Star NL10 Ribbons (2)	**£9.95**
Brother HR10/EP44 (multistrike) Ribbons (2)	**£9.95**
Citizen 120D Ribbons (2)	**£8.95**
DMP 2160 Ribbons (2)	**£7.95**
*** ALL RIBBONS STOCKED ***	
2000 Sheets Fanfold paper (plain)	**£15.95**
2000 Sheets Fanfold paper (ruled)	**£15.95**
1000 Sheets (85 gm)	**£12.95**
WS 4000 V21/23 Modem	**£159.95**
WS 2000 Modem	**£119.95**
New Freeze Frame back-up device	**£47.50**

LET MICROSNIPS SOLVE YOUR PRESENT PROBLEM!

Relatives or friends overseas? Let Microsnips send a gift, from £5 to £500, on your behalf – zero vat prices, no fuss, no worries –

PHONE FOR DETAILS

Part Exchange Welcome
Credit Terms Available

£10 per month – £240 credit (Subject to status)
Details on application.

CANON PW-1080A PRINTER

* 160 CPS in draft mode, 27 CPS NLQ
* Full ASCII character set + 32 special European Characters
* 2K byte printer buffer * Ribbon life 3 million characters
* Centronics interface * Friction and Tractor
* Very low noise – less than 60 dBA

MRP £375.00 **Our Price £159.95**
(or with lead and 2000 sheets fanfold £179.95)
£7.00 mth on budget account

PRINTERS

Panasonic KX-P1081	**£179.95**
Juki 6000 Daisywheel	**£139.95**
Citizen 120D inc interface	**£149.95**
Canon PW 1080A 1600CPS	**£159.95**
Star LC10	**£229.95**
Star LC10 Colour	**£279.95**
Amstrad DMP 2160	**£159.95**

CABLES

ST Monitor Cable 13 Pin Din Plug to open end 520ST to Centronics Printer	2M	**£5.95**
25 way D Plug to 26 way Centronics plug St Hard Disk Extension Lead	2M	**£9.95**
19 way D Plug to 19 way D Socket ST Pair of MIDI Cables	1M	**£14.95**
5 pin Din Plug to 5 pin Din Plug x 2 ST Coiled Floppy Disc Drive Cable	2M	**£13.95**
14 pin Din Plug to 14 pin Din Plug ST Floppy disk drive ext. cable	2M	**£13.95**
14 pin Din Plug to 14 pin Din Socket ST to Disc Drive – Shugart interface	2M	**£14.95**
14 pin Din Plug to 34 way IDC socket adaptor & cable ST to Colour Monitor	2M	**£28.95**
13 pin Din Plug to 2X Phono Plugs 520STM/1040ST to Scart TV/Monitor	2M	**£5.95**
13 pin Din Plug to Scart plug	2M	**£10.95**
ST to both Colour and Mono Monitors 13 pin Din Plug to 2 x 13 pin Din Sockets - Switched Unit allows simultaneous connection.	2M	**£21.95**
ST to NEC Multisync/Taxan 770+ Monitor 9 way D Plug to 13 pin Din Plug via switch box (3 display modes)	2M	**£23.95**
ST to Philips 8873 Monitor 13 pin Din Plug to 9 way D Socket via switch box (3 display modes)	2M	**£23.95**
ST to Modem/RS232c 25 way D/Plug to 25 way D Socket (25 lines)	2M	**£14.95**
4 Player Joystick Adaptor		**£4.95**
Fourplay 4 Player Adaptor Unit + 2 Joysticks		**£14.95**

ALL OUR PRICES INCLUDE VAT

BOOKS

Internals	**£14.95**
Gem Programmers	**£14.95**
Tricks and Tips	**£14.95**
ST Basic Training	**£12.95**
Peeks and Pokes	**£12.95**
Basic to C	**£14.95**
3D Graphic Prog	**£16.95**
Disk Drives	**£16.95**
Basic on the ST	**£6.50**
ST Applications	**£16.95**
ST for beginners	**£12.95**
ST 68000 Ref Gd.	**£15.95**
Advanced Prog	**£10.95**
Graphics Sound	**£12.00**
Graphic @ Sound	**£14.95**
1st Book Atari ST	**£15.95**
ST Application	**£22.95**
ST 68000 Machine	**£14.95**
ST Prog Guide	**£16.95**
Programming in C	**£19.95**

SOFTWARE

Auto Dual	£19.95	**£14.95**
Advanced OCP Art Studio	£24.95	**£19.95**
Atari PC ditto	£89.95	**£71.20**
Backpack		**£32.95**
Battleships	£14.99	**£11.99**
Bubble Bobble	£19.99	**£15.95**
CAD 3D 1.0		**£22.95**
Cyber Studio		**£62.95**
Computer Hits 4	£29.95	**£23.95**
Carrier Command	£24.95	**£19.95**
Defender of the Crown	£29.95	**£23.95**
Degas Elite		**£16.50**
Devpak ST V II	£59.95	**£44.95**
EPYX – World's Greatest	£29.95	**£24.95**
Easy Draw II	£59.95	**£49.95**
Endura Racer	£19.95	**£14.95**
Fast Basic (ROM) **£69.95** (Disc)		**£31.95**
Fleet St Publisher	£115.15	**£86.95**
First Word Plus	£79.95	**£64.50**
Flash (Communications)		**£23.50**
F15 Strike Eagle	£24.95	**£19.95**
Football Manager II	£19.99	**£15.99**
3D Galax	£19.99	**£15.95**
Garfield		**£19.99**
Gunship	£24.95	**£19.95**
Hisoft Basic V 2 Latest Version	£79.95	**£69.95**
Hades Nebula	£9.95	**£6.95**
Lattice 'C' Compiler	£99.95	**£79.95**
Mickey Mouse	£19.99	**£15.95**
Metacomco Pascall II	£99.95	**£79.95**
Music Construction Set	£24.95	**£19.95**
Overlander	£19.95	**£15.95**
Protext	£79.95	**£69.95**
Paintworks	£34.99	**£29.95**
Power Basic	£39.95	**£34.50**
Pro Midi	£16.95	**£13.95**
Quantum Paint	£19.95	**£14.95**
Rolling Thunder	£19.99	**£14.99**
Saved by Hisoft	£29.95	**£23.95**
STOS	£29.95	**£24.95**
Space Quest	£19.95	**£15.95**
Space Pilot	£19.95	**£15.95**
Sub Battle	£24.95	**£19.95**
Spectrum 512		**£54.95**
Strip Poker 2	£14.95	**£11.95**
Super Sprint	£14.95	**£9.95**
ST Desktop Publisher	£99.95	**£79.95**
Sinbad and the Eye of the Falcon	£24.95	**£19.95**
ST Protector		**£9.95**
ST Replay		**£49.95**
Start Magazine (USA) inc disc		**£12.95**
Swiftcalc + Datamanager – special package		**£75.00**
Street Fighter	£24.95	**£19.95**
Test Drive	£24.95	**£19.95**
Tetris	£19.95	**£15.95**
The Worlds Greatest Epyx	£29.99	**£23.95**
Trivial Pursuit	£19.95	**£15.95**
Trimbase	£89.95	**£71.20**
Virus	£19.95	**£16.95**
Vector Ball	£24.95	**£19.95**
Whirlygig	£24.95	**£19.95**

ALL LATEST RELEASES STOCKED

MAIL ORDER PRICES ALSO OFFERED FOR PERSONAL CALLERS PRODUCING THIS ADVERTISEMENT

Important note for Overseas Customers!
Books have no tax – Europe add £5 Non Europe Add £10 We reserve the right to charge carriage at cost.

Postgiro International accepted, NOT Postbank Postcheque.

We apologise for any alterations or omissions since going to press.

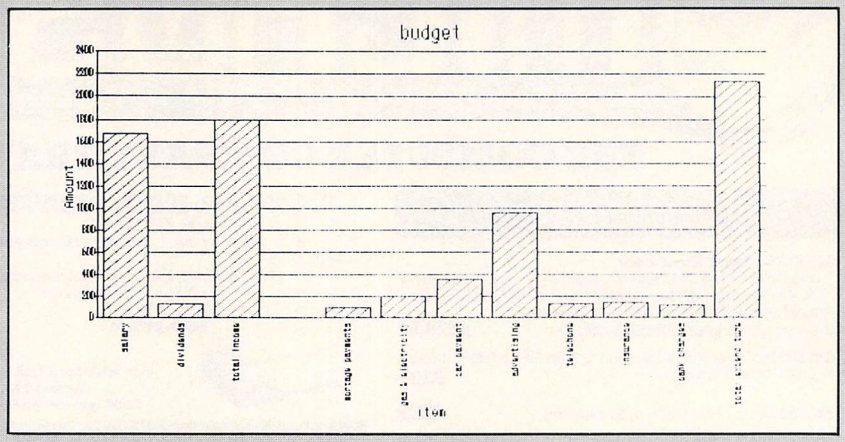
Postage and Packaging. Items under £50 add £2.00. Items under £100 add £5.00. Items over £100 add £10.00 for Group 4 Courier ensuring delivery to you the day after despatch.
Overseas customers (Europe): Full price shown will cover carriage and free tax. Non-European add 5% to total. In the event of Postal Disruptions - Courier Delivery available at small extra charge.

37 Seaview Road, Wallasey, Merseyside L45 4QN 051-691 2008 051-630 5396 FAX: 051-639 2714

What is a spreadsheet?

BRIEFLY, a spreadsheet is an electronic tabulated worksheet that can be tailored to produce and monitor cashflows, profit and loss accounts and even help to balance your cheque book. A spreadsheet can also be used to classify and calculate non-monetary arithmetic data, such as examination scores.

The sheet is made up of a large number of cells – spaces – organised as rows and columns, containing numbers, text or calculations defined by the user. When one of the cells is changed it is reflected in the state of the others so it is easy to predict the outcome of certain circumstances, like sales or bank balances and so on.



Vertical bar graph of part of the budget spreadsheet

Teaching an old dog new tricks

Mark Smiddy evaluates Timeworks' Swiftcalc and asks if it still sets the standard

A LOT of water has passed under the bridge since Timeworks first introduced its Swiftcalc spreadsheet for the ST. Since then at least four rivals have appeared to compete in a very crowded marketplace. Masterplan and the Lotus 1-2-3 clone VIP, are two that spring to mind.

Still, Timeworks has a reputation for producing good quality software, and maybe the old dog has learnt a few new tricks.

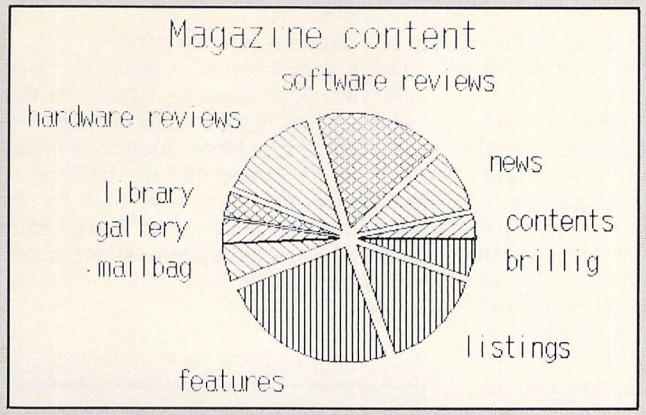
Swiftcalc is supplied on two discs and is accompanied by a 170 page manual. It provides normal spreadsheet operations – global formatting, merging and extracting functions, file transfer to graph drawing facilities, plus extensions for financial, scientific, trigonometric and simple database functions.

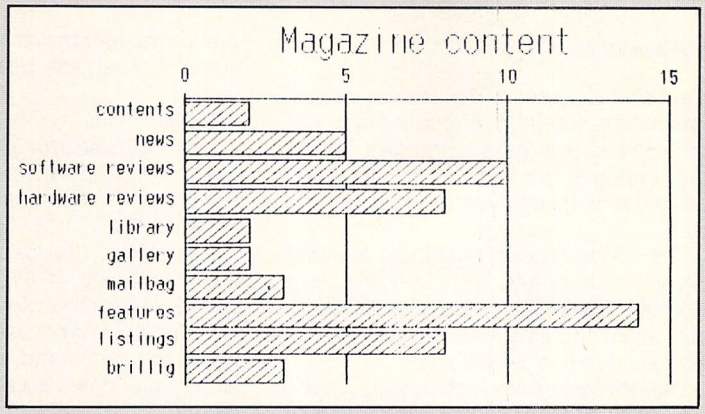
It can even be integrated with Data Manager and Word Writer to produce impressive looking reports and documents.

At startup the screen is divided into seven columns and 17 rows with seven drop-down menus. This gives a better overall default spread on screen than Masterplan's 9 by 13 spread. In fact the screen is well laid out and clearer than average, lacking the clutter of some later rivals.

Swiftcalc offers the option to widen the columns to accommodate various data and thereby alter the sheet's entire operating appearance. The bottom two lines of the display give information such as the current cell – which is also clearly highlighted, its contents and a memory jogger of which button to press.

You can assign names to cells – for instance, Sales can refer to cell A17. This is done using the rather strange /name





Swiftcalc can use its spreadsheet and graphics functions to cope with non-monetary data

command. A pull-down set of Help screens is particularly useful while getting to grips with some of the more unique aspects of Swiftcalc's usage.

Current cell contents are not shown in editable form, the designers opting for a clearer, if unfamiliar arrangement showing the contents to be empty, numeric, text or calculation. This can be an annoyance while designing the initial sheet, but once again saves clutter when you come to use it.

When it comes to the crunch, though, spreadsheets are serious business applications, so anything to make the task of, say, financial forecasting easier is essential. It is in this major area where Swiftcalc scores well over many of its rivals with a nice set of monetary analysis functions – enough to keep most bookkeeping systems well up to date.

There's even set of simple maths and basic statistical functions, in addition to the usual simple arithmetic facilities should you require them.

Unusually for this sort of application, Swiftcalc is small, at least by ST standards – less than 190k. This compares with more than 250k for say, Masterplan. The advantage is that it runs quite comfortably in 512k, unlike some of its contempories which run out of memory after entering just a few formulae.

This economy has been gained at the expense of the graphics and sideways printing features, which are contained as separate modules on a second disc. Although this may sound rather clumsy, it works quite well in practice – provided you remember to create the relevant graph or print file before exiting, since these programs cannot read spreadsheet data directly.

In fact, the graphics and printing modules are what separates Swiftcalc from the rest of the field. Sheets can be printed from within the program, but this facility is limited to the width of the paper. With the sideways printing module it's possible to print out sheets hundreds of columns wide should you wish to do so.

Quite apart from that, the graphics module is very powerful, although it does suffer from being a little difficult to get to grips with. However, with a little practice it is possible to create some very impressive graphical analyses of your data.

> ***"If you really need an integrated system on a budget, it is worth a closer look"***

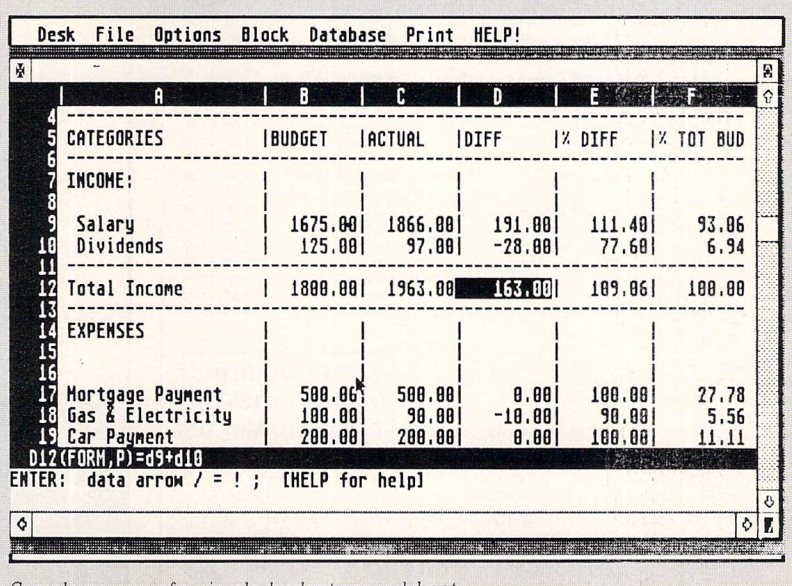
The graphical analysis functions incorporate a wide range of symbols, signs and graph types. The program supports horizontal or vertical bar graphs, overlay graphs, histograms and pie charts among many.

Swiftcalc is powerful and malleable when it comes to toggling between entering data on the graph, changing graph style and drawing it on screen or to printer. This provides you with the flexibility to change data or graph type to suit the representation required.

The graphs can also be operated in a number of colours and hatching styles. It is therefore nice to know that Swiftcalc can be run on colour medium or monochrome high resolution monitors. While these facilities may not quite match up to the pliability of Glentop's superb Graphic Sheet, they outperform many of Swiftcalc's closer rivals.

Sadly, for all of its good points, Swiftcalc does suffer a few hang-ups. Its worst feature is its slow speed. It makes extensive use of Gem and appears to have been coded entirely in an early version of Lattice C, where a smattering of assembler could have speeded response

Turn to Page 78 ▶



Sample screen of a simple budget spreadsheet

◀ *From Page 77*

in several key areas. This is most noticeable when scrolling through the sheet using the cursor keys – the key repeat often means the screen shoots past unavoidably, though you soon get used to this.

The update speed is nothing to write home about either, although this is a problem from which many such packages suffer. By their very nature spreadsheets can never be truly fast.

The second major omission is Gem's drag feature. More recent packages like Masterplan use this facility to highlight a block of two or more cells for copying, deleting and so on. In Swiftcalc, dragging merely results in the screen scrolling around the sheet. You must define blocks of cells by their cell addresses – for instance A5:E22 – something I found tedious and prone to error.

Perhaps the strangest feature of all is the use of slash commands – there are 20 in all, accessed by pressing / plus a letter. It's not unusual on other micros, but I doubt their usefulness in a Gem environment, since they're ambiguous at the very least. Besides which all of the functions covered are directly accessible from the pull-down menus, as well as a combination of Alternate plus the appropriate letter.

In many ways – though inferior in itself – Digita's Digicalc makes greater use of the keyboard, which in turn makes access and handling much quicker. It appears that the Swiftcalc programmers have opted for the Gem environment, but failed to use it to its best effect. There have been some awkward moments, as I decided whether to use a function key, an alternate command, a / command or simply pull down a menu option with the mouse.

Swiftcalc is well supported by its manual – as you would expect from Timeworks – especially the excellent reference section. The manual covers everything from getting to know Gem to generating graphics from data resource. However, I feel that a function keystrip and easy view reference card would have been a valuable addition. This would ease the gradient of the learning curve as you get to know the package.

The function key definitions, odd alternate commands and formula and extended commands are perplexing at first. They would have been made more user friendly if they were also available on a separate reference card.

In the end, I feel a lot could be done with Swiftcalc to improve it, however this is unlikely now in view of the competition. In its favour is a large, friendly manual, excellent packaging and the back-up of the Timeworks company. It is by no means the best or the worst. If you really need an integrated system, on a budget, it is worth a closer look.

FACT FILE

Product: Swiftcalc
Price: £79.95
Supplier: Electric Distribution, 8 Green Street, Willingham, Cambridge CB4 5JA.
Tel: 0954 61258

POINTS FOR:
Clear display. Easy to use. Powerful printing and graphing features. Can be integrated with other Timeworks packages.

AGAINST:
Very slow. Use of Gem could be better. Only one sheet active at once. Becoming outdated.

BEST BYTE

SPECIAL OFFERS TO ATARI ST USERS – UPTO 40% OFF RRP

Atari ST	RRP	Our	Atari ST	RRP	Our	Atari ST	RRP	Our
5 Star Compilation.	24.95	14.90	Games-Winter Edition	19.99	15.35	Quantum Paint	24.95	14.90
Action Service	19.95	11.90	Garfield	19.99	11.90	STAC	39.95	25.50
Alien Syndrome	19.95	11.90	Great Gianni Sisters	19.99	15.35	Scrabble Delux	19.95	11.90
Artura	19.99	15.35	Guild of Thieves	24.95	14.90	Shadowgate	24.99	14.90
BMX Simulator	14.99	9.50	Gunship	24.95	14.90	Sidearms	19.99	15.35
Barbarian II	14.99	9.50	Heroes of the Lance	24.99	19.15	Sidewinder	9.99	6.40
Bermuda Project	24.95	14.90	Hostages	24.95	14.90	Soldier of Light	19.99	11.90
Better Dead than Alien	19.95	11.90	Hotball	24.95	14.90	Sorcery +	19.95	11.90
Beyond Ice Palace	19.99	11.90	Hyper Bowl	9.99	6.40	Space Harrier	19.99	11.90
Bombjack	19.99	11.90	Ik +	19.99	11.90	Spitfire 40	24.99	14.90
Captain Blood	24.95	14.90	Impact	14.95	9.50	Star Goose	19.95	11.90
Carrier Command	24.95	14.90	Impossible Mission II	19.99	15.35	Star Ray	19.95	11.90
Chrono Quest	29.95	17.90	Kennedy Approach	24.95	14.90	Starglider 2	24.95	14.90
Chubby Gristle	19.95	11.90	Killdozer	19.95	11.90	STOS	24.95	19.90
Corruption	24.95	14.90	Lancelot	19.95	11.90	Super Hang On	19.99	11.90
Cybernoid	19.99	15.35	Leaderboard Birdie	19.99	15.35	Terrorpods	24.95	14.90
Double Dragon	19.99	11.90	Legend of the Sword	24.95	14.90	The Kristal	29.99	17.90
Driller	24.95	14.90	Live & Let Die	19.99	11.90	Thundercats	19.99	11.90
D.T. Olympic Chall.	19.95	11.90	Luxor	14.95	9.50	Time and Magik	19.95	11.90
Dungeon Master	24.95	14.90	Masted	14.95	9.50	Universal Military Sim	24.95	14.90
Elimental	19.95	11.90	Mindfighter	24.99	14.90	Vampire Empire	19.99	15.35
Eliminator	19.99	15.35	Mortville Manor	24.95	14.90	Veteran	14.95	9.50
Elite (Out Now!)	24.95	14.90	Motorbike Madness	14.99	9.50	Victory Road	29.95	11.90
Empire Strikes Back	19.95	11.90	Nebulus	19.99	15.35	Virus	19.95	11.90
Espionage	19.95	11.90	Nether World	19.99	15.35	Vroom	19.95	11.90
Exelon	19.99	15.35	Offshore Warrior	19.95	11.90	Where Time Stood Still	19.95	11.90
F15 Strike Eagle	24.95	14.90	Oids	19.95	11.90	Whirligig	19.95	11.90
Fast Basic (Disc)	45.99	32.50	Oops!	19.95	11.90	Xenon	19.95	11.90
Fed. of Free Traders	29.99	22.95	Operation Wolf	19.95	11.90	Zynaps	19.99	15.35
Fire and Forget	24.99	14.90	Outrun	19.95	15.35			
Fish	24.95	14.90	Overlander	19.99	11.90			
Fleet Street Publisher	115.18	75.90	Pac Mania	19.95	11.90			
Football Director II	19.99	11.90	Pandora	19.95	11.90			
Football Manager 2	19.99	11.90	Platoon	19.95	11.90			
G.Lineker Hotshot	19.99	15.35	Pool of Radiance	24.99	19.15			
G. Lineker Superskills	19.99	15.35	Pro Copy (new version)	34.95	26.90			
Galdregon's Revenge	19.95	11.90	Quadralien	19.95	11.90			

3.5" DSDD Disks unbranded135TPI 95p each. Min 10

Microdealer Cover Up token with every £5 (RRP) spent (while offer lasts).
See our full page adverts in ACE and Games Machine for full range on other micros. All items include first class postage and usually sent within 24 hours. Mail Order only.
Send cheque/P.O./Access card details or phone Access hotline **0732 770508.**
Overseas orders add £1.50 per item, outside Europe add £3 per item (Air Mail)

Best Byte (AST11), 2 Quarry Gardens, Tonbridge, Kent TN9 2SG

NEW!

NORTHERN ATARI CENTRE NOW OPEN

ST & PC HARDWARE & SOFTWARE

Lots of Software – too many to list!

Tel: (0274) 662638

Monday-Friday 10.00am to 6.00pm
Saturday 1.30pm to 5.00pm

GOULD COMPUTER SERVICES

3 Gain Lane, Thornbury, Bradford 3

Just a few minutes from Leeds ring road, Pudsey

WE HAVE MOVED

3½

Lifetime Guaranteed, double sided, double density, 135 TPI, bulk wrapped discs with labels

Quantity	Price
10	£8.99
20	£17.89
25	£22.29
50	£43.99
105	£84.99

5¼

Lifetime Guaranteed, double sided, double density, 48TPI, bulk wrapped discs with labels

Quantity	Price
10	£3.49
20	£6.50
25	£7.99
50	£15.50
105	£31.00

NEW DISC PACKAGE DEALS!

3.5" Discs

40 Discs + 40 Cap. box	£39.99
80 Discs + 80 Cap. box	£74.99
120 Discs + 120 Cap. box	£114.99

5.25" Discs

50 Discs + 50 Cap. box	£17.99
100 Discs + 100 Cap. box	£34.99
140 Discs + 140 Cap. box	£45.99

LOCKABLE DISC STORAGE BOXES

3.5"		5.25"	
40 capacity	£5.49	50 capacity	£5.49
80 capacity	£7.49	100 capacity	£7.49
120 capacity	£9.99	140 capacity	£9.49

Plastic Storage Box – holds 10 (State 3.5" or 5.25") 75p

UP TO 35% OFF ALL ST/AMIGA SOFTWARE

ALL PRINTERS NOW WITH FREE BOX OF PAPER

Branded discs: Sony, TDK, Verbatim, Dysan 3.5" Discs fully guaranteed media – Best Prices in UK!

HARDWARE

AT LEAST 10% OFF ALL HARDWARE

Commodore Amiga A500 with 10 Discs + Mouse Mat	**£369.99**
Atari – New 520 STFM Summer Pack Plus 10 Discs + Mouse Mat	**£369.99**
Epson LQ-500 24 Pin Letter Quality Printer	**£349.99**
Cumana 1Mb Disc Drive–State Atari/Amiga + 5 Blank Discs	**£109.99**

*** All computers with Virus killer disc! ***

P&P Free on all orders over £15, under £15 add 75p P&P (UK Only)
Overseas Disc Orders Add £3 P&P. All prices include VAT

CESTRIAN SOFTWARE

52 Brook Street, Chester CH1 3DN
Telephone: 0244 312666 (3 Lines)
Callers Welcome

Access

VISA

UNBEATABLE PRICES

Busting into the protection racket

Steve Baker examines some of the methods used to counteract software piracy, and suggests constructive alternatives that are fairer to honest users

LET me say at the outset that this article does not set out to tell would-be pirates how to break the law. Rather it is a tale of an arms race between pirate and publisher. And it is interesting to note how we, the honest computer users, suffer at each and every stage. Let me tell you a story ...

I have a copy of Hacker II – quite an interesting game – and of course, copy-protected. The instructions suggest that having a printer on line during play would be of some advantage.

My printer is an Epson MX-80 and you need to use the Atari control panel to configure it. Hacker didn't have a copy of the control panel desk accessory on the disc, so, having checked that it had enough space, I copied the accessory software on to the Hacker disc. To my horror I discovered that all the other files on the disc vanished as soon as I did this and the game wouldn't load any more.

When I tried to take the game back to the shop I was accused of having bought it and copied it before bringing the original back and reclaiming my money.

I was furious, and being a bit of a programming enthusiast decided to write a program that would let me make backups of all my games in case this happened again. I failed. Why I failed makes for an interesting tale, as I'm about to explain.

There are many ways in which software publishers seek to protect their "intellectual property" rights, most of which fall into one of several broad categories:

Logical dongles

A dongle is a small chunk of circuitry that plugs into the computer somewhere – usually the cartridge or printer port – and is provided with a piece of software. When the program is started up, it checks to make sure the dongle is plugged in. If not, it reminds the user and bombs out.

The disadvantages of the dongle are that the cost of a chunk of custom hardware must be added to the price of the software. Sometimes this hardware is incredibly crude – just a length of wire inside a normal printer connector that forces one of the pins of the printer port to a zero state. The software checks that this pin is pulled low to detect the presence of the dongle.

Devices of this nature are relatively easy for the electronically-minded pirate to duplicate, so are fast going out of style in favour of so-called active dongles.

An active dongle is a small logic circuit that accepts one or more code words sent to it and responds with a different set of codes. The software knows what the rule is for generating the result and so can check that each code word is replied to correctly. This sort of device can be almost impossible to fake.

The advantages of dongles to the consumer is that the disc containing the software can be copied freely, the code may be put on to hard disc and if you use the same sort of machine at home and at work you can take the dongle from one machine to the other and run the software on any one machine at any time.

The big disadvantage is that the cost of the dongle will certainly raise the cost of the product by a few pounds, and because you can usually only have one dongle plugged in at any one time, there is much dongle-swapping when switching from one program to another.

This constitutes a serious restriction on computers with multi-tasking capabilities if you want to run two or more dongle-protected programs at the same time.

By far the most common sort of copy protection is the so-called uncopyable disc, and the way these work is often very subtle.

The first copy-protected discs on other computers used simple tricks like hidden files. Each file on the Atari has some flag bits associated with it, including a read-only bit that you can change using the

Show Info menu from the desktop.

One of these bits sets the file as hidden, but on the ST this doesn't stop it from being copied by picking the A disc icon up from the desktop and dropping it on to the icon for disc B.

This is because this command copies the individual tracks and sectors of the source disc on to the corresponding tracks and sectors of the destination disc, and thus makes an exact clone – hidden files and all.

The reason that discs can be made uncopyable at all is that the ST operating system only knows about tracks 0-79 and sectors 1-9 on either one or two sides of the disc.

This brings me to the next sneaky trick, which was to rely on the fact that disc drives, although only rated at 80 tracks, can in fact read and write one or two more. So the software publisher had only to put some vital information on track 81, let's say, and the operating system would fail to copy that data. Consequently the resulting disc wouldn't work.

This turned out to be a real pain because some early 520STFMs have third-party drives that can't go past track 79, and so sometimes fail to run older games protected in this way. A better trick had to be found.

Another property of disc drives is that they vary somewhat in rotational speed and this determines how much data can be packed on to a single track. Standard ST discs have nine sectors of 512 bytes each on every track, but provided the drive is functioning well it can easily hold 10 sectors. So all the software publisher has to do is leave some vital information on sector 10 and it won't get copied.

All of this works really well against the naive or ill-equipped pirate, but already there are public domain programs to let you format and copy discs with 10 sectors and 81 or more tracks. (In fact if you can get hold of one of these you can increase the amount of data you can store on a disc by 10-12 per cent – highly recommended). Another stage in the arms race begins.

To understand the next trick, you need to know a bit more about disc formats. On each physical track of a floppy disc is written not just your data, but also a small header record in front of each disc sector. This contains the track and sector number, the side number and the length of the following sector.

Misleading

Interestingly though it is quite possible to write "lies" into this header. For example, the third sector on the second track could be formatted with a header record that proclaims it to be the eighth sector of the tenth track.

The operating system will never find this bogus sector, because whenever it makes the drive read physical track number two, it also tells the disc controller chip that the data is headed with a track two header, and the hardware simply ignores the misnamed sector. Whenever the controller is looking for sector eight, track 10, the drive heads are sitting over track 10 and the bogus sector is still not seen.

In addition, it is quite possible for software publishers to leave out sectors altogether, number sectors with values like 234 (way out of the normal range of sector numbers), the side number can be set to silly values and the sector length can be reduced or increased.

When you try to copy such a disc, the ST just complains about corrupt discs, missing data and so forth. The game, of course, knows where sectors are missing and does not attempt to read them – it may even check to make sure they are missing – and knows where to look for mis-labelled sectors. To copy a disc like this you would need a program to seek out those hidden sectors.

If you wanted to search out the hidden sectors you could try the READ SECTOR command – but if you don't know what to search for you'll still be more or less down to trial and error.

There are 720 sectors on a single-sided disc, and each one could be labelled in many false ways. The ST's disc drive is controlled by a chip called a WD1772. This controller chip uses one byte each for track, sector and side information, giving a possible 17 million ways to number each sector. At 1/10th second per sector it could take you about 40 years to deduce what was on the disc!

There are ways to reduce this search time considerably, by using a command called READ TRACK on the WD1772. This reads both the data and the header records, and with some considerable programming effort you can produce a tool to find out what all the false sectors are labelled and thus read them. So is this a way to pirate discs? Well it might have been – but the arms race continues ...

Once you have worked out what is on a disc you need to create another one exactly the same – with the same false sectors – so you have to write a special formatting program. It would have to create the false sector headers and then copy the data from the original disc into them.

Restriction

Formatting a disc entails telling the disc controller what the pattern of headers and data is, and what information to write into the headers, and the only way to write to the header fields is by formatting.

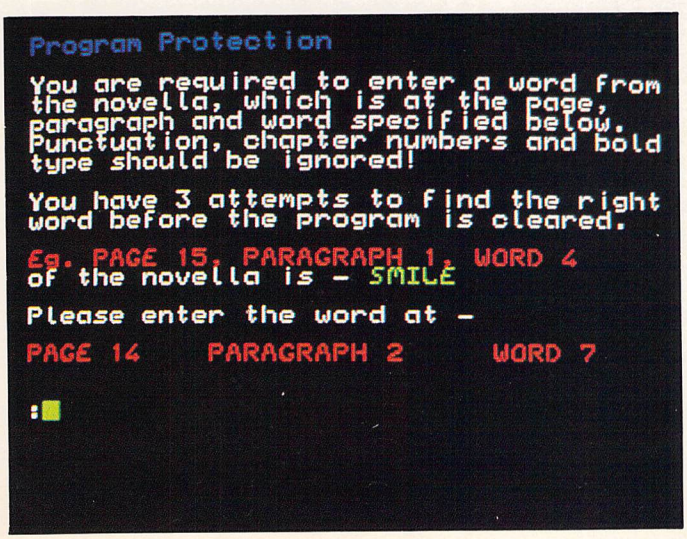
The interesting wrinkle here is that the WD1772 treats data values in the range 245 to 255 specially when formatting, and uses them internally to determine which format data is to build a header and which to build a data area. This means you simply cannot write data in this range on to the disc during formatting.

If the publisher formats his discs on something that doesn't use the WD1772 controller chip this restriction may be removed, so that he can make header records with track and sector numbers in the range 245 to 255 in the certain knowledge that no Atari ST formatted disc can possibly duplicate it!

To my mind this is an insurmountable problem to the pirate unless he is determined enough to build a custom disc interface with some other disc controller chip in it.

The latest dirty trick that I have seen is to embed things that look like sector headers in the body of the data part of a sector. This fools many copying programs into creating extra sectors that there is no room for on the track. The arms race is obviously still going strong.

Another ingenious technique I have



The protection system used in Rainbird's Starglider 2

Turn to Page 83 ▶

ATARI
THE LEADING NORTH WEST SPECIALIST ATARI DEALER

LADBROKE COMPUTING
INTERNATIONAL

33 Ormskirk Road,
Preston, Lancs., PR1 2QP.
Tel: (0772) 21474 (1 line)
(0772) 203166 (5 lines)
Bul/Board (0772) 27236
6.00pm to 9.00pm

DEALER ENQUIRIES WELCOME

HARDWARE

BUSINESS SYSTEMS

MEGA ST 2	£1034.99
MEGA ST 4	£1379.99
DTP SYSTEM 1	£2874.99
DTP SYSTEM 2	£3449.99
PC2 SD	£689.99
PC2 HD	£1092.49
PC3 DD	£747.49

520 STFM's Summer Pack

520 STFM + 1Mg internal drive+joystick +over £400 of latest release software for only £385

1040 STF's £480

Includes internal Modulator

External Modulators for the 1040 STF's £54.99

SM124 Mono mon £139

SC1224 colour £375

Philips 8833 colour monitor £289

Tv's and others phone

Any of above bought with a computer Deduct £10.

CUMANA 1MG DRIVES

Why pay a little less for an inferior second drive when we can supply you with a top quality Drive for only £104.99

PERIPHERALS

Triangle 1Mg drive		£119
Pro Draw Tablet		phone
Image Scanner		£89
Hawk Scanner		£1250
CRP Tablets	A4	£414
	A3	£818

Atari 520 STM's phone for Availlability.

Commadore Amiga+3 software titles+Mouse. £399

MUSIC

We stock Music Software and Hardware for the ST including a range of AKAI samplers and synths. Suitable for Hobbyist and Professional applications. Come in for a demo of the power and versatility of the Akai Hardware.

PRINTERS

Star LC10	£225
Star LC10 Colour	£275
Citizen LP10	£199
NEC 2200	£375
Epson LQ500	£375
Star LC10/24	Phone
Epson LQ800	Phone
Gachen	£199
SLM804 Laser	£1350

The Atari SLM 804 Includes a 90 day Warranty. All Printers Come Complete With Cables ETC. Interfaces Are Separate.

HARD DISKS

Atari	20mg	£575
Supra	20mg	£575
Triangle	20mg	£499
Triangle	40mg	£699

UPGRADES

2.5 and 4Mg Upgrades are available to fit the old 520 STFM boards only.

Upgrade boards	£135
Boards + DRAM	phone
1 Mg STM (fitted)	£105
1 Mg STFM (kit)	£90
STFM Upgrade fitting service.	£15

If any of the above Upgrades are purchased with Hardware then deduct £5 from total. Prices will be held as long as possible.

Our Atari trained engineers will repair all hardware in minimum time at competitive rates.

DUST COVERS

Computers	£3.99
Monitors	£4.99
Disk Drives	£2.99
Hard Disks	£4.99
Printers	£7.99

SOFTWARE

SPELL AND ADD WITH OSCAR £12.99 EACH

Spell teaches keyboard skills, spelling and motor coordination while Add teaches addition, subtraction, multiplication and division.

AB ANIMATOR £14.99

Animated Graphics Tool for the ST. Supports GFA and FAST Basics. Compatible with DEGAS and NEOCHROME files. Full Facilities such as Draw, Fill, Grid Copy etc. Includes FREE basic routines and demo progs.

TRILOGY £12.99

Quick list plus picstrip + Master Mat. Directory Database Compiler with customised format and copy protect prog on same disk. Full screen picture manipulator. Supports GFA, FAST and ST BASICS. Compatible with DEGAS, NEOCHROME and AB ANIMATOR. Grab all or part of a picture in all resolutions.

PICSTRIP £6.99

Full screen picture manipulator. Supports DGA, FAST and ST BASICs. Compatible with DEGAS, NEOCHROME and AB ANIMATOR. Grab all or part of a picture in all resolutions.

MAGNETIC MEDIA

3.5" D/S Q/D			5.25" D/S D/D 96 TPI		
10	10+box	100+box	10	10+box	100+box
£14	£15.50	£140	£6.50	£8.00	£70

High Quality VHS Video Tapes.

Each	£2.99	For 4	£11.40
For 2	£5.80	For 10	£26.00

All Disks are Top Quality SONY products and are covered by an unconditional lifetime guarantee.

We also stock a full range of quality P/D ST Software at £3.99 per Disk(discounts for Software club members).

Send S.A.E. for catalogue.

LADBROKE COMPUTING SOFTWARE CLUB

Forget bargain hunting let Ladbroke Computing do the hunting for you.

For an annual membership fee of just £10 we will GUARANTEE a saving to you the member of 15% off MRRP (members only). We will also keep you up to date on new releases in the Software and Hardware worlds and of any special offers, up to 30% reductions, in the future.

Phone for Application form or write to address below.

TO ORDER Simply send, or phone your order, stating full name, address, VISA or ACCESS No's, Cheque or Money Order.
Make payable to :
LADBROKE COMPUTING INTERNATIONAL. SEND SAE FOR FULL CATOLOGUE.

Our mail order dept. gives the same excellent service to our customers as our premises at the above address has done for the past 8 years. All Software/Hardware has been tested prior to delivery thus ensureing that customers receive working items and the frustration of returning faulty goods is now a thing of the past.

This kind of quality service does cost a little more but in the long run it is far cheaper.

All prices fully inclusive of VAT, Delivery, there are NO hidden extras. WYSIWYG.

For next day delivery add £3. Prices correct at time of going to press and are subject to change without prior notice.

◀ *From Page 81*

heard of, but never seen, is to burn a microscopic hole in the disc with a laser. The sector hit by the hole becomes corrupted, and the software checks for this by first reformatting that track, then writing to the affected area, then re-reading it.

If that sector comes out still corrupt the odds are that this is the original disc because the same re-format, re-write, read technique on a copied disc would result in the sector being OK. I sincerely hope this protection method is never used on ST software, because there is strong evidence that the sharp edge of the laser hole can damage disc heads.

All forms of copy protected discs are a real pain in the neck – you can't back them up, you can't run the software from a hard disc, and they eventually wear out.

A determined campaign in the US led in the main by Jerry Pournelle has resulted in the virtual elimination of copy protection in IBM PC software. Jerry simply said that he would stop buying software that was copy protected – if everyone does this the publishers will stop doing it overnight. Perhaps we need a similar campaign in the UK.

Does this mean that I want the pirate to have a free hand? Far from it. I am a professional programmer myself and would hate to see my hard work ripped off by some miserly pirate. But I believe there are at least three ways to minimise the costs of piracy.

Purple prose

Firstly provide a code card, which is a sheet of paper provided with the packaging of the program that has a large grid of apparently random characters printed on it. When booted, the software prints a row and column number at random and asks the user to type in the character from the card at that grid location. If you get it right the program runs, otherwise it bombs out.

The card is printed in low-contrast colours on some vividly coloured paper to make it un-photocopyable. This system is provided in the Dizzy Wizard game for example, and seems to work well. I have not found a photocopier that would produce more than a grey mess when trying to copy the purple ink from the dark red cardboard.

Secondly you could use the large amount of text in the mini-novel that comes with most quality games these days. Simply ask the user to type in a word from a specified page and line each time the game starts. Assuming you ask for one of a large range of words, the pirate would be forced to photocopy the entire book in order to be able to run the game.

The nicest alternative though is to make the game so cheap, or the packaging, posters, mini-novels and accessories sufficiently desirable to make the game worth buying in its own right. Perhaps many pirates would still copy the game – but you have to ask yourself whether they would have bought it if they couldn't copy it?

The really great thing about key cards and suchlike is that the programs can be backed up, run from hard disc, moved on to double-sided discs to save disc swapping in two-disc games and so on and so on.

These methods leave the user with infinitely more flexibility as well as insurance against master disc corruption.

I could cope with budget software for the Spectrum corrupting on me when it cost less than £2 a go, but with budget ST software at around the £10 mark, and most serious business packages costing upwards of £30, I do get very resentful. So please software publishers, give it a try.

UNBEATABLE
3½" Verbatim DISC PRICES

	10	20	50	100	200
Single Sided	£11.98	£22.38	£52.28	£97.98	£183.78
Double Sided	£13.98	£26.98	£64.98	£121.58	£227.28

PHONE 24 HOUR DISC VALUE

• Life-time Guaranteed, Double Density 135 tpi **Verbatim** discs for your machine (single-sided available)
• Don't be put off by the low price, these discs are **branded 'Datalife'** top quality media, direct from the Verbatim warehouse
• "No quibble" money back guarantee
• Absolutely no Extras, price includes VAT, label sets, plus **first class** post to your door.

Superb anti-static lockable Storage Boxes supplied with Two Keys and Plastic Dividers:
40 disc size £5.58; 80 disc size £6.58

DOCTOR SOFT 0903 776000
OR CHEQUE/P.O. TO P.O. BOX 66 EAST PRESTON WEST SUSSEX BN16 2TX

ATARI ST USER Classifieds

Use this space to sell your unwanted Atari products to our readers. They're all looking for a bargain!

● K-SEKA assembler and extensor (game) £15 Tel: 0242 528399.

● Casio CZ2305 Midi keyboard, midi leads, optional P.S.U, super conductor, music studio, exellent condition £195 plus delivery Tel: Neil 061-627992.

● Atari 520 STFM 4 months old, 11 games, joystick, dust cover, disc box, mouse mat, joystick extension leads, Public Domain binder, disc cleaner, magazines, all for £400 Tel: 0222 731886 anytime.

● Atari 520 STFM with double sided 3.5 inch disc drive, joystick blank discs and storage box, 4 months old £225 O.N.O Tel: 0635 68535 after 7pm.

● Atari 520 STM 5.25" D/D Philips colour monitor two joysticks over £600 worth of original software including Fast Basic, 1st Word. Total system worth over £1200 new will consider offers around £650. Possible splitting Tel: 0904 6225252.

● 'MT-32' realtime voice/patch editor + librarian. All the expensive features for £12.95. Send cheque/Postal Order for disc and manual to: G.White, 9 Gowanhill Gdns, Stirling, Scotland.

● 1 Meg ST/M/FM upgrade will swop for hires monitor Tel: Mark 0495272358.

● 520 STm keyboard with mouse and mains adaptor, SM 125 high resolution mono monitor. £280 O.N.O. Tel: 0494 461688 Paul Sinclair.

● Wanted touch typing tutor for Atari 520 STFM. Tel: Doctor Welsby 031 447 1001 Bleep 707

● Bombjack, Starglider, Guantlet, Outcast, all for only £35 Tel: 0375 71706

● U.M.S. Battles disc- naseby (1645), Wilsons Creek (1861), Fontenoy (1745). Full documentation £8. Cheque to Mr. J Cox, 7 Seymour Road, Berkhamstead, Herts, HP4 3RQ.

● Atari 520 STM, disc drive, monitor, LX80 printer, joysticks, software, books, magazines £400 O.N.O Tel: Dave on 01-316 4360 anytime.

● Guantlet, Beardsley, Sentinel, Startrek, Hardball, Pool, Golden Path, Crazy Cars, Starglider, Xevious, GPL Football, LCP, Strike Force Harrier, All £8.50. Fast basic cartridge £30 Tel: 091 232 7775 Ext 4029, 4164 Steve Foulks. Originals plus manuals.

● Atari 1040 STF, SM125 monitor, Panasonic KXP1081 printer, external drive, television modulator, over fifty discs, Devpac assembler accept £800 O.N.O Tel: Mike 0480 860482 (Home).

● Epson FX-100+ printer, worth £535, many features will sell for £200 Tel:0923 243767 after 6pm.

Ads will be accepted under the following conditions:

- This service is EXCLUSIVELY for the use of private readers. No trade ads will be allowed.
- To avoid encouraging software piracy, all ads will be carefully vetted before they are accepted.
- Ads can only be accepted on this form (or a photocopy of it).
- There is no maximum to the number of words you include. If there is insufficient room on the form, continue on a separate sheet of paper.
- The cost is 20p per word, with a minimum of 10 words.
- *We GUARANTEE your ad will go in the next available issue of Atari ST User.*

PLEASE PRINT THIS AD IN THE NEXT AVAILABLE ISSUE

Cheque enclosed for £_____ (minimum £2 for 10 words), payable to Database Publications Ltd.

Name_____

Address_____

_____

POST TO: Atari ST User Classifieds, Europa House, Adlington Park, London Road, Adlington, Macclesfield, Cheshire SK10 4NP.

1/88.23

POOLSWINNER II

THE ULTIMATE POOLS PREDICTION PROGRAM

Boxed, with detailed instruction booklet

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available – 22000 matches over 10 years.
- **PREDICTS** Not just SCOREDRAWS, but AWAYS, HOMES and NO SCORES.
- **SUCCESSFUL** SELEC guarantee that Poolswinner performs significantly better than chance.
- **ADAPTABLE** Probabilities are given on every fixture – choose as many selections as you need for your bet. The precise prediction formula can be set by the user – you can develop and test your own unique method.
- **SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- **LEAGUE AND NON-LEAGUE** All English and Scottish League teams are supported, and also the non-league sides often used on pools coupons.
- **PRINTER SUPPORT** Full hard copy printout of data if you have a printer.

PRICE £18.00 (all inclusive)

NOW AVAILABLE

FIXGEN 88/9 AT LAST: No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish League fixtures for 1988/89. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner. Yearly updates available.

POOLSWINNER with FIXGEN £19.50 (for both)

COURSEWINNER V3

THE PUNTERS COMPUTER PROGRAM

NOT JUST A TIPSTER PROGRAM, Coursewinner V3 can be used by experts and occasional punters alike. You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc, etc. It outputs most likely winners, good long odds bets, forecasts, tricasts etc. The database includes vital course statistics for all British courses. You can update the database – never goes out of date. *FULL PRINTER SUPPORT.*

PRICE £18.00 (all inclusive) includes Flat AND National Hunt versions.

AVAILABLE FOR

All supplied on tape ... (Automatic Conversion to disc)
AMSTRAD CPCs
BBCs
COMMODORE 64/128
SPECTRUM

DISCS ... (Add £3.00)
AMSTRAD PCW
IBM Format
COMMODORE AMIGA
ATARI ST

Send Cheques/POs for return of post service to ...

selec SOFTWARE

VISA Access

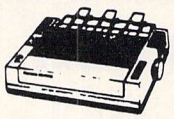
phone 24 hrs

62 ALTRINCHAM RD, GATLEY, CHEADLE, CHESHIRE SK8 4DP. ☎ 061-428 7425

(Send for full list of our software)

WeServe of Hampshire

Panasonic KXP1081



with ST cable and paper
£159 (£138.26 + VAT)
120cps Epson and IBM (multi NLQ)

	Exc VAT	Inc VAT
KXP1080 Fabric Ink Ribbon	4.25	4.90
KXP1080 Dust Cover	4.00	4.60

Citizen 120D
(120cps)
with ST cable and paper
£135.00 (£117.39 + VAT)

Star LC10
with ST cable and paper
£205.00 (£178.26 + VAT)

Philips CM8833
with ST cable
£249.00 (£216.52 + VAT)

Star LC10 Colour
with ST cable and paper
£259.00 (£225.22 + VAT)

LOW ST PRICES

	Inc. VAT
1040 STF	£349.00
1040 STF + SM125	£465.00
1040 STF + CM8833	£589.00
520 STFM	£258.00
520ST Special Pack	£349.00
SM125	£125.00

DISKETTES
(lifetime warranty)
(100% certified error free)

	Inc. VAT
10 3.5" 135tpi DS/DD	£9.90
25 3.5" 135tpi DS/DD	£23.00
40 Disk box hinge and lock	£5.95
80 Disk box hinge and lock	£6.95

Phone for our best price before placing your order
EDUCATIONAL AND GOVERNMENT ORDERS WELCOME

All products have a 12 month no quibble guarantee.
Prices subject to variation without prior notification.
We are closed some Saturday afternoons.
Carriage 92p (80p + VAT) Securicor £6.90 (£6.00 + VAT)

Access

WeServe
Larger items delivered by Securicor

VISA

ST/U Dept
128 West Street,
Portchester, Hants.
PO 16 9XE
Tel: 0705 325354

Off to see the Wizard

Neils Reynolds on the story behind Shades, the fast-growing multi-user game

Neil Newell, Easy Rider

DEEP in the wooded wilds of Southern England, far beyond the Stockbroker Belt where no Yuppie has ever ventured, lives a mysterious being who has created a strange and mystical land. He is the Arch Wizard Hazeii – adopting the name of Neil Newell for everyday use – and the land is Shades.

No longer a figment of his imagination, Shades has been made accessible to any mere mortal who has the use of a telling bone, a modem and who is enrolled in the fabled society of MicroLink/Telecom Gold or Micronet.

The Arch-Wizard first became interested in multi-user adventures when he encountered the original MUD game running on a mainframe at Essex University.

However, he soon felt that the game could be improved in many areas, and what started as a hobby was soon taking up all his time. So it was that the Land of Shades came into being and mild-mannered Neil Newell became Hazeii, Arch Wizard.

Shades is a vast sprawling landscape where lost souls, knights, wolves, witches and wizards prowl looking for treasure or trouble – or both. You create your own personality within the game, travelling through the mysterious kingdom, forging alliances and fighting battles in your quest for treasure.

You strive to work your way through 13 ranks of Innocents, Soothsayers, Necromancers and Warlocks until you attain the rank of Wizard or Witch – depending on your inclination.

In this true multi-user game, other travellers you meet in Shades may be computer generated, but are more likely to be insomniacs attached to a telephone line anywhere in the country. The character you are talking with could be your next door neighbour or a lighthouse keeper in the Orkneys – players have been known to log on from Europe and even New Zealand.

There is no denying the party atmosphere of Shades. Even those who are not accomplished adventurers can enjoy the game, talking to other players, acting out fantasies or just getting used to the game at their own pace. Help can be asked of fellow travellers, but then you are never sure whether their advice can be relied upon...

There is much on offer to serious adventurers too with brain-curdling problems to solve, a whole babble of beasties and nasty characters to deal with and promotions to achieve – by fair means or foul.

So the adventure does not become too crowded and all players have a good opportunity at treasure-grabbing, up to 16 independent games can be running at one time and you can choose which of them to join.

You are also told who is playing in which game, so that if you have an especially good relationship with another player – or a vendetta to pursue – you can join it, if there's room.

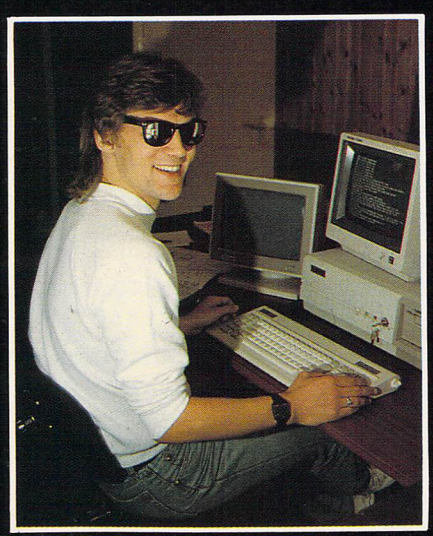
Starting out is made easy for the novice by a special introduction area. This leads you into the game with a full information centre about the Land of Shades. Progressing through this you eventually arrive in the Land proper and your quest begins.

Shades currently has a user base of more than 6,000 players. Of these only 40 have achieved the ultimate rank of Wizard – they are given special powers and privileges so they can then directly affect the game themselves.

Indeed, even the all-powerful Hazeii himself treads the paths of the Land (sometimes invisibly) and his wrath is said to be terrible if roused by those with ideas above their station.

The fantasy is constantly under development and new locations are currently being designed and built into the game as the Arch Wizard concocts ever more fiendish devices to entrap the unwary travellers in the Land of Shades.

Shades is available on:
MicroLink/T.Gold..... key >Shades
*Micronet/Prestel.....key *Shades#*



Neil Newell, Arch Wizard

NEW FROM ROMANTIC ROBOT

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

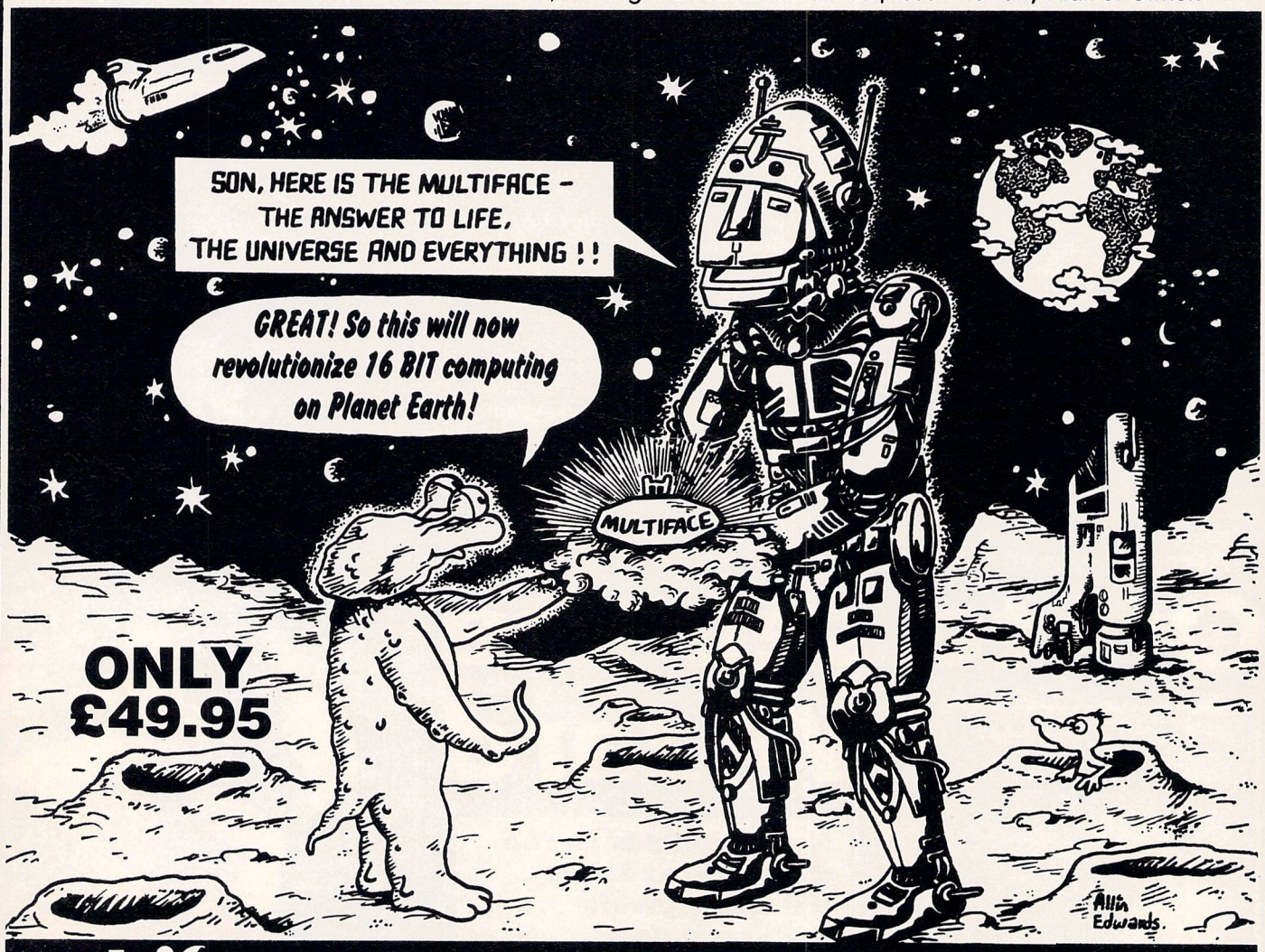
MULTIFACE ST is the ultimate PERSONAL COPIER. It copies programs, screens, disks — all at a touch of a button. Its most powerful MULTI TOOLKIT lets you study & modify any program any time — just touch the same magic button.

How is it done?

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

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

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



multiface st THE ULTIMATE PERSONAL COPIER

Please send me a MULTIFACE ST at £49.95 plus p&p — UK £1.00, Europe £2.00, Overseas £3.00

I understand my order will only be processed when the MULTIFACE ST becomes available on the 1st November 1988. I will allow up to 28 days for delivery thereafter.

I enclose a cheque/PO/cash for £..... or debit my [Access] [VISA] No |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_| Card exp.....

Name & address:

ROMANTIC ROBOT UK LTD 54 Deanscroft Ave, London NW9 8EN ☎ 24 hrs [Access] [VISA] 01-200 8870 USE

Mail Order
For all your software needs

Cottage Software

All prices include VAT and delivery (within UK)

GAMES /STRATEGY

Arcade Force Four	£17.50
Bad Cat	£15.95
Beyond Ice Palace	£15.95
Black Lamp	£13.95
Bubble Bobble	£13.95
Bubble Ghost	£13.95
Captain Blood	£16.95
Chessmaster 2000	£16.95
Dizzy Wizard	£13.95
F.15 Strike Eagle	£16.50
Football Manager 2	£13.95
Foundations Waste	£17.95
Gauntlet 2	£14.95
Leaderboard	£17.95
Leisure Suit Larry	£14.95
Little Computer People (Comp)	£24.95
Mach 3	£13.95
Mortville Manor	£17.75
Mousetrap	£10.95
Obliterator	£16.95
Outrun	£14.95
Police Quest	£13.95
Pool	£6.95
Sentinel	£13.95
Sidewinder	£7.60
Spidertronic	£13.95
STAC	£27.95
Terramex	£13.95
Time and Magik	£13.95
War Games Construction	£19.50

BUSINESS/UTILITIES

1st Word Plus (English)	£55.95
3-D Graphics	£30.95
Accountant	£128.95
Aegis Animator	£42.95
Art Director	£34.95
Bookkeeper	£85.95
CAD 3D 1.0	£19.95
Calligrapher	£54.95
COLR Object Ediror	£18.95
Cyber Control	£45.95
Cyber Paint	£53.95
Cyber Studio	£67.95
D.Base 2	£75.95
Desktop Publisher (UK)	£67.95
Devpak ST	£38.95
Digidrum	£17.50
Easy Draw 2	£41.95
Fast ASM Assembler	£15.95
Fllm Director	£40.95
First CADD	£36.95
Fleet St. Publisher 1.2	£88.95
Forth/MT ST	£35.95
GFA Basic Compiler	£31.95
GFA Basic Interpreter	£31.95
GFA Draft	£68.95
Graphic Artist V1.5	£155.00
GST ASM	£15.95
GST C Compiler	£15.95
Hisoft Basic	£59.95
Hisoft Power Basic	£28.95
Job Costing	£73.95
K-Data	£34.95
K-Graph 2	£34.99
K-Minstrel	£19.95
K-Occam	£42.95
K-Rikki	£13.95
K-Spread 2	£55.95
Lattice C 3.4	£68.95
Lazerbase V1.03	£73.95
Logistix V1.15	£84.95
Mailshot Plus	£36.95
Mark Williams C	£94.95
MCC Assembler	£35.95
MCC Pascal	£65.95
Modula 2 DEV	£109.95
Modula 2 STD	£69.95
Nominal Ledger	£35.95
P.C.B. Designer	£140.95
Pro Sound Designer	£43.95
Pro Sprite Designer	£16.95
Quantum Paintbox	£13.50
Signum!	£145.95
Spectrum 512	£45.95
ST Accounts	£129.95
AT Doctor	£14.50
ST Toolbox	£24.95
Superbase Personal	£74.95
Word Perfect	£169.95
Word Up	£42.95
Wordwriter	£58.95

HARDWARE

STOS
Games Programming System – **£19.95**

A-MAGIC TURBODIZER
Latest Video Digitizer
Only £135

HANDY SCANNER
Scans any picture
Only £265

BOOKS, MODEMS, MONITORS SOUND SAMPLERS, PRINTERS DISK DRIVES, DISKS, DISK BOXES ETC.
Various Prices

Just because you don't see it – doesn't mean we haven't got it
For full details, send a large stamped, addressed envelope
Please make cheques and postal orders payable to:
'COTTAGE SOFTWARE'
Please endorse cheques with bankers card number

ATARI ST **ATARI ST**

P.O. Box No. 8, Shaw, OL2 8QN. Telephone: 0706 845365

The truth about TELEX

How much does it cost to go on Telex?

You could go the conventional way and buy a dedicated Telex machine. The cheapest will cost you £1,604 (the Whisper), the dearest £2,892 (the Cheetah). You will also need a separate telephone line, costing £101 to install, plus £404 a year rental. That's a total outlay over the first year of a minimum of £2,109. (All prices include VAT.)

Or you could do what more and more Atari ST users are doing – use your computer to double as a Telex machine. And just use your ordinary telephone!

How do I turn my Atari ST into a Telex machine?

All you need is a modem and appropriate communications software (see the advertisements in this issue), a telephone, and a subscription to *MicroLink*.

Telex is just one of a growing number of services available to Atari ST users on *MicroLink*. With MicroLink you can also read the news as it happens, go teleshopping, create your own closed user group, send telemessages and electronic mail right round the world, download free programs directly into your micro . . . and much more.

But why use Telex?

Because it's a standard means of instant communication between businesses. Today there are 150,000 Telex machines in use in Britain – and more than 2 million worldwide. Telex dramatically speeds up business communications – it's just as quick as using the phone but far more efficient, because you have a hard copy of every "conversation" for your records.

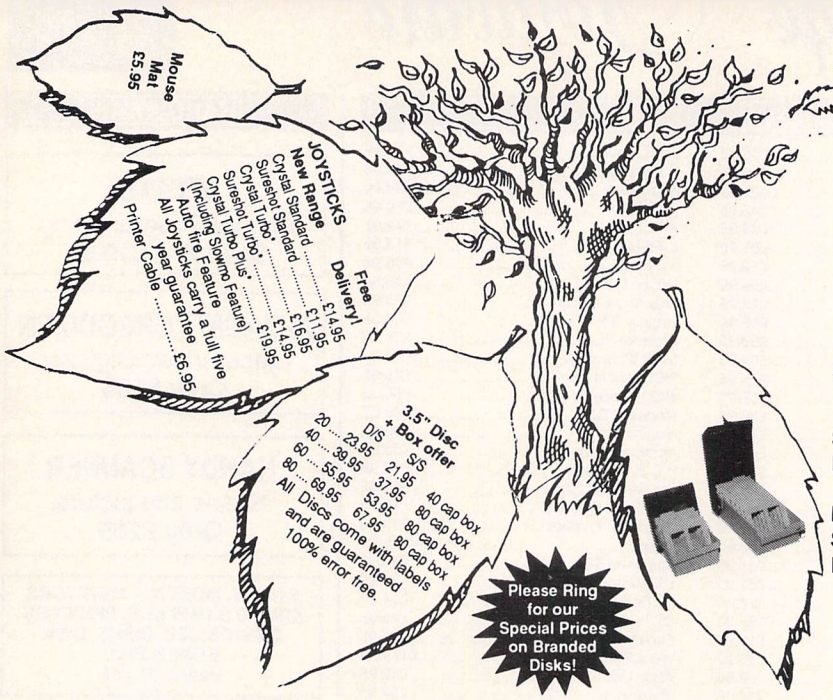
But there's a big bonus you get when you use *MicroLink* for Telex that the conventional way doesn't offer.

With *MicroLink* you don't HAVE to be in your office to send or receive Telex messages. You can just as easily use your computer at home (or even a portable). So now you can check whether there are any Telex messages waiting for you – anywhere, anytime. How's that for your business efficiency?

For details:
Tel: 0625 878888

THE NUMBER 1 DISK SUPPLIER

AS THE LEAVES DROP . . . SO DO OUR PRICES!!!



STORAGE BOXES – BEST RANGE – BEST PRICE

All boxes are lockable, and are supplied with 2 keys. Made from anti-static plastic, they are a top quality product at rock bottom prices

	1+	3+	5+	7+
120 x 3.5"	£8.95	£7.95	£7.49	£6.99
100 x 3.5"	£7.95	£7.49	£6.99	£6.49
80 x 3.5"	£6.95	£5.95	£5.49	£4.99
40 x 3.5"	£5.95	£4.95	£4 .49	£3.99

MIX 'N' MATCH FOR BEST PRICE!

3.5"Top Quality Bulk Packed Disks

	25	50	100	150
Single Sided 135T.P.I.	22.95	41.95	79.95	116.95
Double Sided 135T.P.I.	24.95	43.95	81..95	119.95
Rainbow Pack of five colours			New Lower Prices	
Single Sided 135T.P.I.	23.95	46.95	91.95	129.95
Double Sided 135T.P.I.	26.95	52.95	98.95	145.95

Rainbow disks are available in five colours.

All discs are supplied with labels and are certified 100% error free

ACCESS VISA

CENTEC DISK SUPPLIES

UNIT 3, THE METRO CENTRE, BRIDGE ROAD, ORPINGTON, KENT BR5 2BE
TEL: (0689)35353 (6 Lines) (24 Hours) Fax 0689 77737

All disks are sent by Trackback or Courier service at no extra cost

Please note we operate a call stacking system. Outside office hours a telephone answering machine will take your order.
Remember – all prices include VAT and delivery! There are no hidden extras to pay! Personal callers welcome: Monday – Friday 9.30am – 4.30pm

E. & O.E.

ATARI ST USER

MAIL ORDER OFFERS

Murder! at MORTVILLE MANOR

Julia, an old friend of yours has mysteriously died at Mortville Manor. So, strongly suspecting foul play, you set off to determine how she died.

Throughout the game characters talk to you in heavy French accents, while haunting digitised sound effects such as hooting owls and church bells are sprinkled in strategic places.

As reviewer Bob Chappell said: "This two-disc adventure has got the lot – text, digitised music, sound effects and colour graphics".

For only £17.95, saving £7, order your copy today and see if you can solve the mystery at Mortville Manor.

RRP £24.95

OUR PRICE

£17.95

TO ORDER PLEASE USE THE FORM ON PAGE 125

MUG THE INDEPENDENT MicroLink User Group NEWSLETTER

Online Magic

ANOTHER new service for MicroLink subscribers is the Shades multi-user game. It's similar to standard computer adventure games, where the player wanders a fantasy land killing gnomes, gathering treasure and rescuing maidens, but with the added advantage that the user can talk, co-operate with or slay other players. By dint of determined playing, people can build up points and status in the game, acquiring skills and magic as they go.

And as it's available from many other Telecom Gold systems, there can be some strange characters about.

Strike? What strike?

AS the rest of the country got used to empty doormats during the recent postal strikes, MicroLink and its users were making the most of the situation. Electronic communications, quicker than snail mail at the best of times, came into its own.

Three things happened to enhance this. Firstly, the allocation of personal telex numbers is well underway. Before this, all telex users had to share a communal number with their mailbox ID being quoted – non-standard and prone to confusion. Now they can have an individual number with their own answerback code, enabling them to use MicroLink exactly as they would a telex machine. There have been some delays in the introduction of this service, but the users say it's worth the wait.

Secondly, there's a bounty of £10 payable to any MicroLink subscriber who recruits a new user. There's quite an opportunity here for any latent salespersons – it doesn't take long to set up a demonstration at work or home, and everyone knows that electronic mail (email) really gets going when all your friends are on it.

Lastly, MicroLink has announced the availability of a fax service for all subscribers and offers the chance to send text from a computer to up to 50 fax machines simultaneously. At the moment, there's no mention of fax reception or graphics, but the technology's there.

MUG meetings

TALKING of strange characters, the first of what promises to be many meetings was finally arranged between regular MicroLink bulletin board users. It was interesting to put faces to regular correspondents, and the conversation flowed freely into the night, unhindered by connect charges or telephone bills.

More are planned, most in London but with some interest being shown in more northerly venues. Everyone who attended the first agreed it was a success, and some of the later events will probably go down in MicroLink folklore.

As mentioned in previous news pages, the best way to find out when the next one will happen is to ask on the CHATTER or MUG sections of the MicroLink bulletin board (key BB at the > prompt), or send a message to MAG95816. As it doesn't take long to arrange such things by electronic mail, and as anyone can suggest a time and place, out-of-town MicroLinkers who would like to take the opportunity to meet some fellow users are welcome to mention that they're passing through London. We'll do our best to be there!

Show business

MICROLINK was at the recent PC Show in Earl's Court, London, sharing a stand with several other tentacles of the Database empire. As well as the chance this afforded for users to meet some of the MicroLink officials, the hot news from the various new product launches was available on the system within hours of it happening. Subscribers were among the first people in the UK to read a detailed account of the many new Amstrad computers, followed up by information gathered from Amstrad technical staff themselves.

People at the show also took advantage of the computers and modems liberally sprinkled about the place to post items of news on the bulletin board, which gave those who couldn't (or didn't want to) go the chance to find out what was happening and get questions relayed to the exhibitors. Useful, and organised entirely by subscribers. Hopefully the exercise will be repeated at future computer (and maybe more general interest) events.

Bits...

BY special arrangement with MicroLink and Telecom Gold, a business sent a telex to 2,500 addresses in only three goes: Two of 1,000 addresses and one of 500. This might well be a record, and certainly beats typing the thing in thousands of times on a conventional machine....

★ ★ ★

FOR those not totally converted to the pleasures of the modem and with a memory capable of remembering the days when there was a reliable postal service MicroLink now offers an online postage rate calculator. By keying in the weight of a package and the class (first, second, surface or airmail), the cost of postage can be obtained. Since at that point the user is logged on to MicroLink anyway, it is a simple matter to also send an Email message to the recipient warning him that sometime in the next six months a package will arrive...

Patter of tiny hooves

IN another attempt to bring the entire range of human activity to the keyboard, MicroLink is offering various information services to the data-hungry. For the sports fan who is not satiated by the meagre coverage of the Olympics on television, newspaper and radio, a link to a computer in Seoul provides results as they happen. There could well be a serious use here, for people who want to record results in computer-readable form.

Turfnet should be a more durable service. It provides accurate tips and data on form for those who enjoy a flutter on the horses. MicroLink is quick to point out that the information available in this way is 24 hours ahead of that published in the sports pages of the national press, and consequently better able to cope with weather changes or equine sickness.

Suggestions of material for inclusion in the MUG Newsletter should be sent to Rupert Goodwins on MAG95816

STOP!!! LOOK NOW NEW!! FOR ST

The best reason for buying an Atari

MAIL ORDER ONLY

POOLS-SYSTEM!!™

TRADE WELCOME

SEE US AT THE ATARI CHRISTMAS SHOW Nov 25-27 Alexandra Palace London. Stand No. 52

INCORPORATING (POOLSBUSTER & POOLSPLANNER)

Others call their pools programs ultimate, we call ours **"THE" POOLS PROGRAM**

There were and still are a couple of pool programs for the Atari ST that guarantee to you performance better than chance (?) or promise to you power? to forecast the pools the way you want. Others are asking you for disk for free demos while weeks are going by and you are missing your chance for a dividend. Nevertheless **POOLS-SYSTEM** still remains the only one in the market that delivers the goods. Lets have a look at some facts. **FACT,** user friendly and still the only one that does not require you to be some kind of a football expert or hot shot system analyser. **FACT,** POOLS-SYSTEM is the only one that performed even slightly during the difficult & unpredictable Australian season. **FACT, 13/8/88,** 4 aways out of the recommended first 6. 10 homes out of the recommended first 15. **20/8/88,** start of the English season, the system trapped 9 out of the 14 score draws & all 4 no score draws. **27/8/88,** 9 out of the 12 score draws & 3 out of the 6 no score draws. 4 homes out of the recommended first 6. **3/9/88,** 6 homes out of the recommended first 7, 4 aways out of the recommended 6, 5 out of the 7 score draws & 2 out out of the 3 no score draws. 40 correct results out of the 58 possible. **FACT,** all forecasted printouts available at any time for any checks. So do not waste your time with any other programs or systems. They are not going to entertain your hopes or wishes. And to top all the facts, we guarantee that **POOLS-SYSTEM** performs better than any other pools program in the market on any computer, because we **GUARANTEE** to you that using the **POOLSBUSTER IN COOPERATION WITH POOLS-PLANNER YOU ARE GOING TO WIN THE POOLS MORE THAN ONCE A YEAR.**

STOP PRESS!! WHAT DOES THE CUSTOMER SAY: "I was very impressed with the general standard of the programs & their ease of use. I had a look around the program & worked out how to input the data without the use of the manual, which shows just how good the program structure is set out. To get to the point. The very first entry I did came up trumps with 2 lines of 21.5 points. It brought me a win of £11.80. Not bad for a first attempt. Thanks for an amazing program. Regards P.J.L. – Solihull. (Name and address withheld for obvious reasons.)

☆ POOLSBUSTER COSTS ONLY £35.00 INCLUSIVE P&P H
H POOLSPLANNER COSTS ONLY £20.00 INCLUSIVE P&P H
H FOR A LIMITED PERIOD. BUY BOTH PROGRAMS AND SAVE YOURSELF £15.00 H
H POOLS SYSTEM (POOLSBUSTER+POOLSPLANNER) COSTS £40.00 INCLUSIVE. H

Apolonia Software™

presents COMPUSHOP 1 – The best prices for the Atari ST and the Amiga Hardware and Software. Just have a look at some examples:

SOFTWARE LANGUAGES/BUSINESS

Pools-System	£40.00
HiSoft Basic – Atari	£69.00
Power Basic – Atari	£46.00
APL68000 – Atari	£86.25
Fast ST Basic (Rom) – Atari	£76.68
Fast ST Basic (Disk) – Atari	£38.27
Runtime Disk (Fast Basic) – Atari	£10.64
Back Pack (Rom) – Atari	£44.85
Lisp (Metacomco) – Atari/Amiga	£143.75
Pascal (Metacomco) – Atari/Amiga	£83.95
Expert Systems (Infogrms) – Atari	£75.90
Forth MT (Abacus) – Atari	£42.55
FTL Modula 2 (HiSoft) – Atari	£62.10
FTL Editor Toolkit – Atari	£39.97
GFA Basic Interpreter – Atari	£40.25
GFA Basic Compiler – Atari	£40.25
Lattice (Metacomco) – Atari	£89.70
Devpac ST-V2.00 – Atari/Amiga	£49.95
Logistix (Grafox) – Atari	£95.45
Masterplan (Ditek) – Atari	£69.00
VIP Professional Gem – Atari	£110.40
Superbase Professional – Atari	£190.23
Superbase Personal – Atari/Amiga	£77.23
Fleet Street Publisher – Atari	£98.51
Signum (Signa) – Atari	£160.00
1st Word Plus (GST) – Atari	£65.00
Wordwriter (Timeworks) – Atari	£65.00
ST Doctor (Computer Concepts)	£16.00
Disk Doctor (Antic) – Atari	£22.92
Prosound Designer – Atari	£52.97
Promid (Sampler Player) – Atari	£15.00
Pro Sound with Midi – Atari	£61.23
Quantum Paint (Eidersoft) – Atari	£19.47
Quantum Paint Proff. (+Toolkit)	£27.28
ST Omnires (Soft.Colour/Mono Switch)	£33.48
Turbo ST (Software Blitter) – Atari	£33.48
PC-Ditto – Atari (IBM emul)	£60.98
Flash-Bak & Flash-Cache (Highspeed hard disk utilities) for the Atari ST	£28.43
Saved! (The Desk Accessory) – Atari	£24.20
Hi-Soft **WERCS.** (Wimp Environment Resource Construction Set. Easy to use and powerful **RCS.** Works in any resolution. Intuitive environment & complete facilities	£24.20
Twist the best software switcher. Up to 14 programs resident at the same time – Atari	£24.20
Stac the best adventure creating program for the Atari. Creating your own adventures for fun or sale	£29.08
Acquisition – Amiga	£183.90
Digipaint (PAL) – Amiga	£34.91
Digiview 3.0 (Inc Adapter) – Amiga	£136.00
Digi Droid – Amiga	£56.50
Photon Paint – Amiga	£53.50
Express Paint V.2.0 – Amiga	£46.30
Faccii – Amiga	£19.00
F-Basic – Amiga	£55.50
X Cad Amiga	£333.50
Prowrite V.2.0 – Amiga	£65.00
Kindwords – Amiga	£39.50
Analyzel V.2.0 (Brown Waugh) – Amiga	£107.75
Scribble! (Brown Waugh) – Amiga	£85.00
Organizel (Brown Waugh) – Amiga	£85.00
BBS-PCI (Brown Waugh) – Amiga	£85.00
Publisher 1000 (Brown Waugh) – Amiga	£160.00
Music Studio (Activision) – Amiga	£29.00
Latice C (Metacomco) – Amiga	£230.00
Latice C Proff (Metcomco) – Amiga	£230.00
Studio Magic – Amiga	£50.00
Prosound Designer (Complete) – Amiga	£65.00
Prosound (Software only) – Amiga	£27.00
Prosound Designer with Midi – Amiga	£76.50
Promidi (Midi sampler for PSD) – Amiga	£27.00
Prosound Toolkit – Amiga	£27.00

HARDWARE

Atari 520 STFM (New) 1Mb drive with free £400 worth of software plus Compushop 1 starter kit £349.00
Atari 520STFM as above + Pools System £359.00

Atari 1040 STFM (New) ≠ Compushop 1 Starter	£449.00
Atari 1040 STFM as above + Pools-System	£459.00
Atari 1040 STFM + Mono Mon	£539.00
Atari 1040 STFM + Mono + PLSTM	£549.00
Atari Mega ST2 + Compushop 1 Starter	£775.00
Mega ST2 as above + Pools-System	£785.00
Mega ST2 + Mono + Starter	£865.00
Mega ST2 + Mono + Starter + Pools-System	£875.00
Mega ST4 (4Mb Ram) + Starter	£1060.00
Mega ST4 + Starter + Pools-System	£1070.00
Mega ST4 + Mono + Starter	£1140.00
Mega ST4 as above + PLSSTM	£1150.00
Mega ST2 + Mono + Laser Printer + Fleet St Publisher + 1st Word + Starter	£1999.80
Mega ST 2 as above + PLSSTM	£2009.00
Mega ST 4 + Mono + Laser Printer + Fleet St Publisher + 1st Word + 20Mb Hard Disk + Starter	£2699.00
Mega ST4 as above + PLSSTM	£2710.00
Triangle 1Mb 2nd Drive – Atari	£95.00
Triangle Dble 3.5" Drive – Only for the Atari STs and STMs – not for the STFMs	£179.00
Triangle 5.25" Drive 40/80 Track – Atari	£130.00
Triangle 5.25" with PC Ditto – Atari	£199.00
Triangle 1Mb 2nd Drive – Amiga	£85.00
Triangle Internal A2000 3.5" Kit	£79.00
Cumana 1Mb 2nd Drive – Atari	£112.90
Cumana 1Mb 2nd Drive – Amiga	£125.00
Atari 20Mb Hard Disk Drive (SH205)	£548.00
Triangle 20Mb Hard Disk Drive – Atari	£435.00
Triangle 40Mb Hard Drive – Atari	£603.18
Supra 20Mb Hard Drive	£402.97
Supra 30Mb Hard Drive	£633.40
Miracle WS2000 Modem – Atari/Amiga	£115.00
Miracle WS4000 Modem – Atari/Amiga	£169.00
Linnet Modem – Atari/Amiga	£140.00
Series Four 2123S Modem – Atari/Amiga	£260.00
Nightingale Modem (Man dial) – Amiga	£110.00
RS232 Modem Cable – Atari/Amiga	£12.00
Printer Cable – Amiga/ST	£12.00
ST to Scart Cable	£12.00
Atari SLM804 Laser Printer + SLMC804	£1129.99
Epson LX800 Dot Matrix 9 Pin Print	£277.50
Star LC10 – Mono/Dot Matrix/9 Pin	£240.00
Star LC10 – Colour/Dot Matrix/9 Pin	£260.00
Star LC24 – 10/24 Pin-Multifont	£387.55
Star Laserprinter 8 (1Mb Standard)	£1740.89+VAT
Eidersoft Graphic Tablet – Atari/Amiga	£239.03+VAT
Amiga 500 + Starter Kit	£318.00 + VAT
As above + Modulator	£336.00+VAT
Amiga 500 + 1084 Colour Mon + Starter	£548.30+VAT
Amiga 500 Business Pack (A500 + Mono Monitor + Printer + The Works + Transformer-Mono Text IBM-PC Emul	£559.23+VAT
Amiga 500 as above but with A1084 Colour Monitor Instead of the Mono Monitor	£674.00+VAT
Amiga Modulator A520	£23.50
A501 Exp. Board with Clock	£110.00
Amiga 1084 Colour Monitor	£245.21+VAT
Amiga 2000	£976.50+VAT
Amiga 200 + 1084 Colour Mon	£1151.75+VAT
Amiga 20MB Hard Drive for 2000	£620.00
Micron 2Mb Mem. Expansion -A2000	£370.42+VAT
Micron 2Mb Mem. Expansion -A500/A1000	£391.72+VAT
Pro Ram2000 (8Mb Ram) Unpopulated	£198.00+VAT
Flicker Fixer	£281.50+VAT
Genlock A500/A2000-(A8802)	£212.60+VAT
Proff. Genlock A500/A2000-(A8806)	£605.00+VAT
Perfect Vision (Real Time Vid.Digit.)	£151.13+VAT
A1010 1Mb 2nd Drive (All Amigas)	£117.94+VAT
Midi Interface (Standard Serial) – Amiga	£25.00
Philips SCM8833 Stereo Col. Mon	£239.10+VAT
CM8852 High Res Col Mon	£269.20+VAT
Amiga 1900M Mono Monitor	£84.10+VAT
Atari SM124 Mono High Res	£114.94+VAT
Monitor Station (Tilt & Swivel for all 12" & 14" Monitors	£18.95
Monitor Master (The best in the market for any Atari ST, 520, 1040, Mega STs – Colour Mono switch box)	£30.00
Mouse Master (Unique Mouse & Joystick switch – allows connection of 2 joysticks & a mouse or any other controller – with any combination that you'll require – no unplugging cables – the best mouse/joystick port controller) – Atari/Amiga	£21.00
Mouse Path (The best mouse mat around, special anit-static & unique surface for a better grip & short distance travel, perfect for any mouse on any computer	£5.50
Monitor Stands (very elegant and specially made to fit any Atari or any Amiga Computer)	£24.00
Unistand Printer Stand	£9.50
PVC Dust Cover – Mega STs	£7.50
PVC Dust Cover – 520 STFM, 1040 STFM	£4.00
PCV Dust Cover – SC1224, SM125	£5.00
Disk Boxes: 40x3.5" Disks	£8.95
Disk Boxes: 80x3.5" Disks	£10.95
Disk Boxes: 100x3.5" Disks	£12.95
Disk Boxes: 120x3.5" Disks	£13.95
Disk Boxes: 50x5.25" Disks	£8.95
Disk Boxes: 120x5.25" Disks	£13.95

NEW Atari PC3 IBM-PC compatible with switchable clock speed–4.77 MHZ or 8 MHZ. 8088 Micro Processor. EGA, CGA+Hercules Graphics modes built in Twin Drive. 640 K Ram. MS Dos 3.2 operating system. Optional 8087 Maths Co-Processor Socket. Detachable XT Style Keyboard. Includes parallel & RS232 serial ports. 256K Screen Ram. Supplied with Mouse. Mono Screen resolution of 720*350. Colour screen res. 640*350. Palette of 64 colours. 16 can be displayed at the same time. Works with any CGA, MDA, EGA or multi frequency monitor. Comes with free software & free manuals. RRP £647.49. Our Price is only £580.00 inclusive!!!

Atari PC3 as above + EGA Mono Monitor. RRP £747.49. Our Price is only £670.00 inclusive!!!

Atari PC3 + EGA Mono Monitor + 30Mb Hard Disk. RRP £1092.49. Our Price is only £819+VAT

All prices are inclusive of VAT & Delivery unless otherwise stated.

These are only some examples, for more information call **COMPUSHOP1 on 01-738 8400.** If you do not see it, it does not mean we do not have it. Please call us and you will not regret it. Prices are always fluctuating up or down. Please call for the latest information and for availability.

STOP PRESS. LOOK! 3.5" Discs (DSDD): 10 for £11.00, 20 for £21.00, 40 for £40.00 and 50 for £47.50.

FOR THE BEST PRICES FOR ALL ATARI-AMIGA HARDWARE (Computers, Peripherals and Accessories) call **COMPUSHOP1, at 01-738 8400** (make cheques/POs payable to Apolonia Software and send to

APOLONIA SOFTWARE, DPT ASTU, SOUTH BANK BUSINESS CENTRE, UNIT 25(M), THAMES HOUSE, 140 BATTERSEA PARK ROAD, LONDON SW11 4NB.

Mail Order only. Speedy delivery. No hidden extras.

APOLONIA SOFTWARE – THE COMPANY THAT CARES!

PUBLIC APOLOGY

We at M.D. Office Supplies would like to take this opportunity to apologise to all our competitors. We shall with IMMEDIATE effect supply COMPUTER DISCS, STORAGE BOXES, ETC, AT INCREDIBLE PRICES.

OUR SPECIAL OFFER PRICES ARE UNBEATABLE

5.25" DISCS & BOXES

25 Double Sided 96 TPI with 50 Capacity Disc Box £12.49
50 Double Sided 96 TPI with 50 Capacity Disc Box £17.49
75 Double Sided 96 TPI with 100 Capacity Disc Box £22.49
100 Double Sided 96 TPI with 100 Capacity Disc Box £28.49
125 Double Sided 96 TPI with 140 Capacity Disc Box £39.99

All boxes come complete with dividers, two keys and are antistatic

3.5" DISCS & BOXES

20 Double Sided 135 TPI Discs with 40 Capacity Disc Box . £20.95
30 Double Sided 135 TPI Discs with 40 Capacity Disc Box . £29.95
40 Double Sided 135 TPI Discs with 80 Capacity Disc Box . £36.95
50 Double Sided 135 TPI Discs with 80 Capacity Disc Box . £43.95
60 Double Sided 135 TPI Discs with 80 Capacity Disc Box . £49.95
75 Double Sided 135 TPI Discs with 80 Capacity Disc Box . £59.95
100 Double Sided 135 TPI Discs with 80 Capacity Disc Box £82.95

All boxes come complete with dividers, two keys and are antistatic

PRICE AND QUALITY GUARANTEE

All our discs are top quality and are certified 100% error free. Should you ever see a **comparable** product advertised in this magazine at a lower price we will not match it we will beat it **Guaranteed**

STORAGE BOXES

3.50" Lockable – Holds 40 ..... £5.95
3.50" Lockable – Holds 80 ..... £6.95
3.50" Lockable – Holds 120 ..... £8.95
5.25" Lockable – Holds 50 ..... £5.95
5.25" Lockable – Holds 100 ..... £6.95
5.25" Lockable – Holds 140 ..... £8.95

MIX AND MATCH
Buy any two, deduct 50p from each, buy 3, deduct £1.00

ACCESSORIES

3.5" HEAD CLEANER £3.95
5.25" HEAD CLEANER £3.95
DELUXE MOUSE MATS £3.95
DISC NOTCHER (DOUBLER) £3.95

Professional Printer Stand (Spacesaver)
80 col £22.95 132 col £24..95

BRANDED DISCS

		10	30	50	100
3M	DS DD 48 TPI 5.25"	£9.95	£28.90	£43.95	£79.95
3M	DS DD 96 TPI 5.25"	£12.95	£37.90	£52.95	£119.95
VERBATIM	DS DD 48 TPI 5.25"	£9.45	£28.50	£42.95	£78.45
VERBATIM	DS DD 96 TPI 5.25"	£11.95	£36.50	£49.95	£114.95
3M	DS DD 135 TPI 3.5"	£18.50	£45.00	POA	POA
VERBATIM	DS DD 135 TPI 3.5"	£19.50	£46.50	POA	POA
SONY	DS DD 135 TPI 3.5"	£18.95	£47.50	POA	POA

TRADE ONLY: For lowest rates in the UK please ring for prices (min 250 discs)

5 Year Guarantee

JOYSTICKS

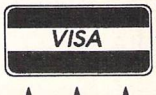
5 Year Guarantee

They're new – They're fast – They're Furious – They're too hot to handle
Crystal standard £14.95 Crystal Turbo £19.95

M. D. OFFICE SUPPLIES

18 Cresent Way, Farnborough, Kent BR6 9LS.
Tel: 0689 61400. Fax: 0689 50628

All goods are supplied subject to availability. All prices inclusive of VAT and Carriage
Educational, Government & Corporate Orders Welcome
All Goods despatched 1st Class



MUSIC ON THE ST

SST from Sonus and Master Tracks Junior from Passport are put under the microscope

Midi without

AFTER the last couple of months' worth of heavy artillery – score-writers and the like – let's get back to basics and look at a couple of budget-priced sequencers.

There are two kinds of inexpensive sequencer – ones designed down to a price and ones cut down from a price. The first kind includes Super Conductor – reviewed way back in the June 1987 issue of *Atari ST User* – although that also has lots of features you'd expect to find in more expensive software.

The second kind of package includes the two programs under the hammer today. Both SST and Master Tracks Junior are cut down versions of pro-level sequencers: MasterPiece (£150) in the case of SST and Master Tracks Pro (£250) in the case of Master Tracks Junior.

What is so intriguing about cut-down programs is to see what has actually been cut out. In most cases it tends to be Midi frills and icing and you often get a large bulk of the parent program.

Super Sequencer ST

SST has 24 Tracks – MasterPiece has 32 – which you can chain into 18 sequences – 24 with MasterPiece – to form a finished song. If you like to work with lots of small sections you may find this restrictive, but other than having fewer tracks, SST works in virtually the same way as MasterPiece.

Both programs use dongles and both manuals are very good, in fact they're almost identical.

The programs work rather like a super tape recorder with Record, Playback, Fast Forward and Rewind Controls. Operation is easy and, as with many sequencers, recording is heavily biased towards real-time input.

You can record in step-time but this involves entering a note and advancing the clock counter which is not ideal although it's a better system than some.

So what do you get with MasterPiece that you don't get with SST? Well, all their screens are similar but when you pull down a few SST menus you'll notice that some options are missing and a few have reduced facilities.

You can't load and save configuration settings which allow you to set up default options to suit your way of working. There are no Set-ups (a Program Change and Midi Volume setting for each channel normally sent at the start of playback) and you can't Append or Ditto (copy to itself) a track although you can still Append a Sequence.

I liked the Scale Velocity option in MasterPiece which lets you program Diminuendos and Crescendos. There is a Level Velocity option, however, which lets you set all volume data to the same value.

SST's Transpose can only transpose a complete Track while MasterPiece lets you transpose single notes or a specified group of them. Quantise is missing Alignment and Tolerance settings which help retain the feel, and in the Filter menu most options are either filtered or not. In MasterPiece you can set a range of values, and because they aren't so complex, these features are easier to use in SST.

MasterPiece has a Clock On Hold function which lets you start a track with a rest and it lets you name cue points which could be useful – names are always better than numbers. Much of this exotica can be very useful under certain circumstances, but if you didn't know about them you probably wouldn't miss them.

The only other feature to mention is the event editor. It's a powerful utility, but it comes on a separate disc although the editor supplied with both programs is identical. To do any editing you must save your music file, boot the editor and load the file into it. I prefer to edit as I go, but this arrangement makes it more practical to write now, edit later.

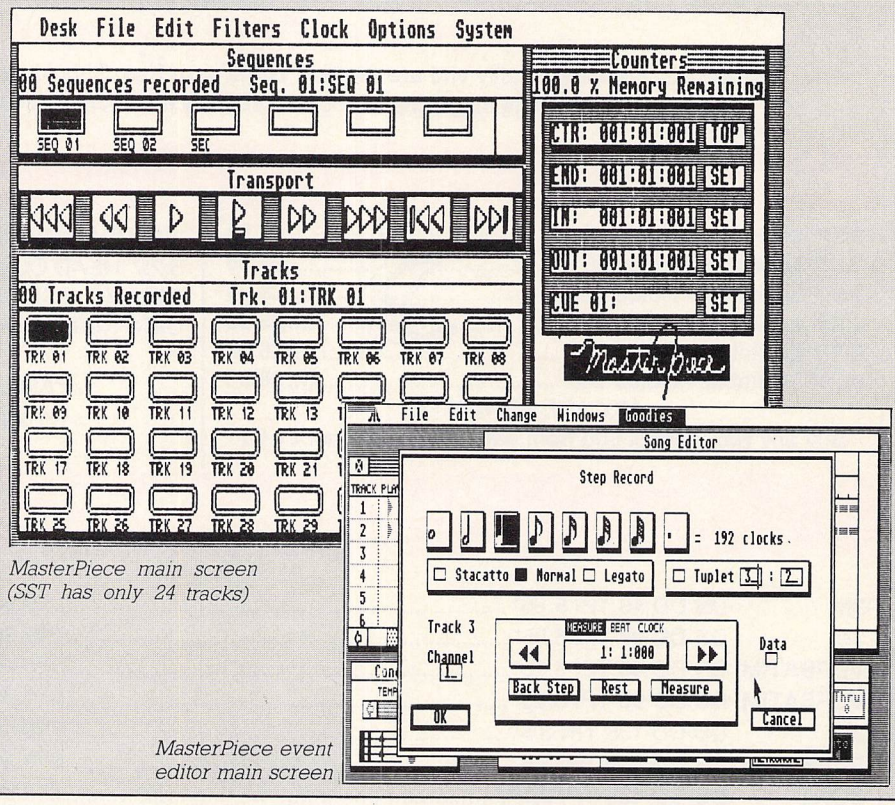
Latest developments on the ST music scene

I HAVE noticed quite a few magazines featuring reviews of ST Replay and Pro Sound Designer over the past few months. We reviewed these way back in the July 1987 issue of *Atari ST User*. I mention this as a lead-in to news of the latest product from the ST Replay team.

It's an up-market sampler containing entirely new hardware and software. It will feature 10 bit sampling with 12 bit output. If that sounds odd it's so it can play back four samples at once without any loss of resolution. Sampling rates will be up to 50kHz with oversampling at 35 to 40kHz.

It will have full editing facilities, including the much-loved 3D waveforms that look like a relief map of the Pennines, and feature software switchable filters and a pitch shifter. It will support Midi, too.

Distribution will likely be through Microdeal again and the price will



MasterPiece main screen (SST has only 24 tracks)

MasterPiece event editor main screen

probably be around the £250 mark. It should be nearing completion.

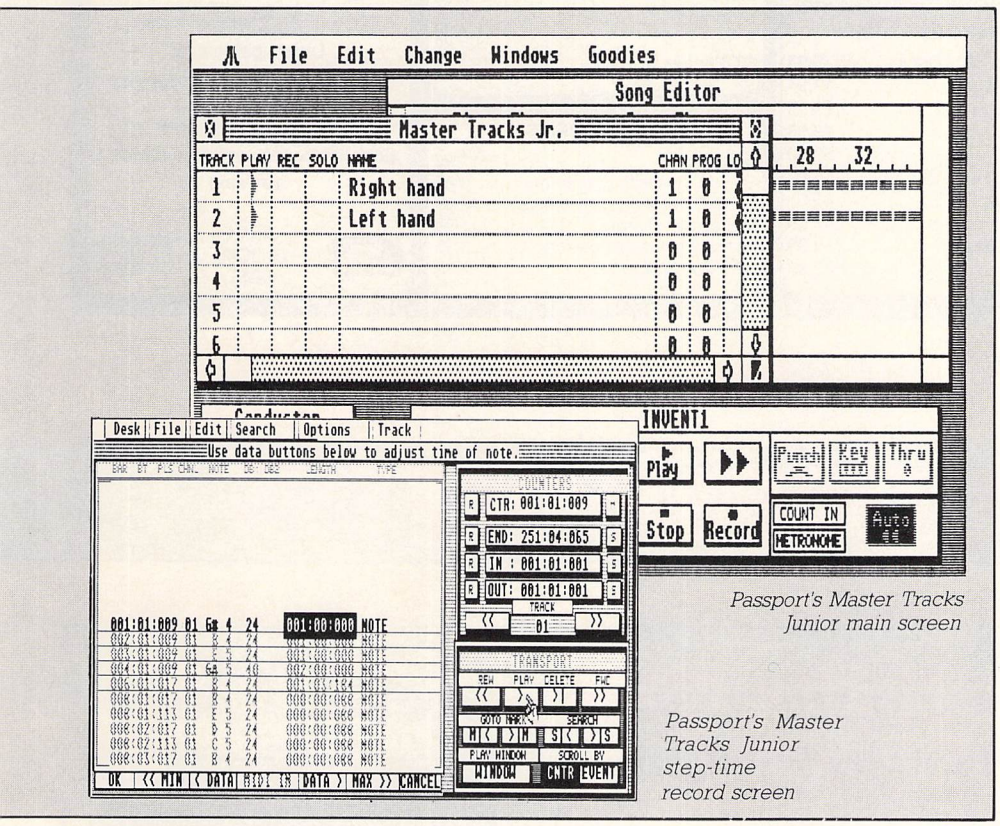
Further to the Notator review in the October 1988 issue of *Atari ST User*, Sound Technology informs me that it now supports the Midi file format and is compatible with the Lynex sampler. A laser printer-compatible version should be available soon along with a dual dongle for Notator and Xalyser, C-Lab's DX Editor Program.

New from Syndromic Music is the arrival of Genwave 12 (£229.95), an editor for samplers which support the Midi dump standard. The Sound Filer programs for the Akai S900 and S700/X7000 now includes FFT (Fast Fourier Transform) and offers 128 harmonics x 128 records with variable frequency and time length displays.

Finally, the most surprising news of the month – there's nothing new to report from MCM! But wait till next month ...

the frills

By IAN WAUGH



Passport's Master Tracks Junior main screen

Passport's Master Tracks Junior step-time record screen

Master Tracks Junior

Like SST, Junior is very similar to its parent program. It has lost none of its 64 Tracks, and lets you record on multiple channels at the same time. It, too, uses a tape recorder-based method of operation which is real-time biased, but its step-time input is better than average. It involves clicking on a note duration and then playing a note on your Midi keyboard.

Master Tracks Pro incorporates a grid editor on which you can edit the notes as well as events which would have been nice in Junior.

The program uses four windows – Sequencer, Song Editor, Conductor and Transport – which can be resized and positioned anywhere on the screen.

The Song Editor window shows the tracks as individual bars. Junior has a theoretical capacity of 9,999 bars per track and although, theoretically, it can only store one song, you could store songs beginning at bars 1, 1,000, 2,000 and so on.

Bars can be inserted, deleted, cut, pasted, copied and mixed allowing you to construct a song from a number of patterns as well as in a linear tape recorder fashion. Pattern-based sequencing is used in sequencers such as Super Conductor and Iconix, and has many devotees.

Tempo changes are programmed in the Conductor window. They can effect the whole song or just individual bars allowing to program rallentandos and accelerandos.

Master Tracks Pro has a SysEx Librarian for storing system exclusive data such as synthesiser voices. It also has graphic controller editing. Junior lacks both of these.

While the bar editing facilities of Junior are excellent, it has no event editor (Pro has its graphic editor). This is one of the major omissions and, I suppose, had it been included there would have been little inducement to go for the Pro.

Conclusion

Operationally, Junior is more graphically appealing than SST and the division of tracks into bars really helps you find your way around your music. It also supports the standard Midi file format which seems to be catching on – unofficial or not. However, it doesn't have an event editor.

SST is slightly more numerically based and doesn't support the Midi file format, but it does have an excellent event editor even though it must be loaded separately. The package however, is complete and includes two Midi cables.

As MasterPiece is only £51 it may be worth looking at that, too, in order to get more Midi frills. Sonus say that in America orders for SST are far ahead of those for Masterpiece.

If you're considering buying a budget-priced sequencer you must decide, first of all, if you can do without the extra facilities. Then decide whether you prefer a graphic or numeric method of operating and whether or not an event editor is important.

On a value for money basis both sequencers score 10 out of 10.

FACT FILE

Product: SST
Price: £99
Supplier: Sonus International Ltd, P.O. Box 18, Wokingham, Berkshire RG11 4BP.
Tel: 0734 792699.

POINTS FOR:
Easy to use. Has a good event editor.

AGAINST:
The event editor is not integrated and it doesn't support Midi file format.

FACT FILE

Product: Master Tracks Junior
Price: £99
Supplier: MCMXCIX, 9 Hatton Street, London, NW8.
Tel: 01-724 4104/01 and 01-258 3454.

POINTS FOR:
Easy to use. Has 64 Tracks, and supports Midi file standard.

AGAINST:
It hasn't got an event editor.

MILES BETTER SOFTWARE

221 Cannock Road, Chadsmoor, Cannock,
Staffs WS11 2DD. Tel: (0543) 466577/8

GAMES

Arkanoid II	15.95	Daley Thompson	15.95
Starglider II	18.95	Leaderboard Birdie	17.95
Bionic Commando	15.95	Victory Road	15.95
Barbarian	14.95	Hades Nebular	8.95
Night Raider	16.95	Vector Ball	12.95
Empire Strikes Back	14.95	Garfield	15.95
Mickey Mouse	15.99	Flight Sim. 2	32.95
Overlander	15.99	The Jet	32.95
Quadralien	15.99	Buggy Boy	13.95
Backlash	8.95	Football Manager 2	13.95
Spy v Spy	7.95	Fire & Forget	13.95
Hardball	9.95	Alien Syndrome	13.95
Mean 18 Golf	9.95	Carrier Command	16.95
Platoon	12.95	Captain Blood	16.95
Predator	9.95	Time Stood Still	15.95
Crazy Cars	8.95	Thundercats	13.95
Slap Fight	7.95	Obliterator	14.95
Space Harrier	15.95	Enduro Racer	7.95
Street Fighter	15.95	Whirligig	14.95
Super Hang On	15.95	Kennedy Approach	19.95
Virus	15.95	Army Moves	15.95

ADVENTURE/STRATEGY

Legend of the Sword	19.95
Mind Fighter	19.95
Shadowgate	18.95
Uninvited	18.95
STAC	29.95
Beyond Zork	19.95
Sinbad	19.95
Corruption	19.95
Stellar Crusade	27.95
Sundog Frozen Legacy	12.95
War Construction Kit	14.95
Hitchhikers Guide	17.95

GRAPHIC DESIGN/CAD

Supercharged Easy Draw	79.95
Quantum Paint	17.95
GFA Draft Plus	99.95
Degas Elite	19.95
Cyber Studio	59.00
Cyber Paint	55.00
Cyber Controller	45.00
Spectrum 512	45.00
Advanced Art Studio	15.95
Trip a Tron	29.95

UTILITIES/BUSINESS

Clock Card Cartridge	19.95
GFA Basic Version 3	39.00
Superbase Personal	79.00
Superbase Professional	149.00
Lattice C v3.04	69.95
Mark Williams C	109.00
First Word Plus	59.95
Word Perfect 4.0	185.00
Signum II	184.00
Pascal v2	79.00
Pro Pascal	89.00
Pro Fortran	109.00
Swift Calc	39.00
Datamanager Professional	55.95
Wordwriter	39.00
Power Basic	32.95
DevpacST v2	49.00
Logistix	90.00
STOS	23.95
K Word 2	32.95
K Spread	19.95
K Spread 2	69.95
ST Partner	34.95

ACCESSORIES

ST to Scart	11.99
ST to Composite (2 phono)	6.45
ST to Centronics	10.99
Mouse Mat (hard)	5.95
Joystick/Mouse extension	5.95
ST TO Midi (2 leads)	7.95

HARDWARE

520 STFM Super Pack	360.00
1040 STFM	445.00
Philips 8802 Monitor	199.00
Philips 8833 Monitor	260.00
Philips 8852 Monitor	299.00
Star LC10 Printer inc. lead	199.00
NEC P2200 Printer	325.00
Atari 1Meg Internal Drive	99.00
NEC 1Meg Internal Drive	89.00
NEC P2200 inc. Signum II	499.00

All prices are correct at time of going to press. Access or Visa orders welcome.

Please add £1 per item for overseas orders

Please make Cheques or Postal Orders payable to:

"MILES BETTER SOFTWARE"

Phone or write for comprehensive stock list for Atari and ST software + hardware

WHILE STOCKS LAST

VISA

ATARI ST USER

MAIL ORDER OFFERS

£15 saving!

DIGICALC

MUCH MORE POWER, FAR LESS COST!

At last, an inexpensive and very easy-to-use spreadsheet that's simple enough for beginners, yet sophisticated enough for professionals.

Digicalc is both menu and command driven. It is fast, with all calculations being performed instantly, and the spreadsheet is constantly updated.

The manual has been carefully designed to cater for all types of user, from the novice to the expert. It includes a tutorial with step-by-step instructions, a glossary of computer terms, a quick reference card, a full reference section and a comprehensive index.

". . . A piece of cake to find the functions you need, even when you don't know the package . . . Moving around the spreadsheet is quick and easy . . . The screen scrolls smoothly and fast . . . It's good to see macros on such an inexpensive product . . . For the price it does its job well". – **Steve Mansfield, *Atari ST User*, August 1988.**

RRP £39.95

OUR PRICE **£24.95**

TO ORDER, PLEASE USE THE FORM ON PAGE 125

REVIEWED IN THE AUGUST ISSUE OF ATARI ST USER

TYPICAL APPLICATIONS

- Home budgeting
- Investment project appraisal
- Comparing rent/lease/buy options
- Processing results of experiments
- Engineering calculation models
- Education

SMALL BUSINESS APPLICATIONS

- Cash flows
- Profit and loss statements
- Balance sheets
- Purchase orders
- Invoices
- Costings
- Stock control
- Sales/purchase/nominal ledgers
- Payrolls
- Price lists

PYRAMID

SONY/JVC/DYSAN 3.5"
DOUBLE SIDED/DOUBLE DENSITY DISKS
(BOX OF 10)
£12.95

SONY/JVC/VERBATIM 3.5"
SINGLE SIDED/DOUBLE DENSITY DISKS
(BOX OF 10)
£10.95

SONY 3.5" BULK
DOUBLE SIDED/DOUBLE DENSITY DISKS
(NO LABELS)
10 Disks £9.95
50 Disks £45.00

Lockable Storage Boxes

50 x 5.25"	£4.95	40 x 3.5"	£4.95
100 x 5.25"	£5.95	80 x 3.5"	£5.95

ALL PRICES INCLUDE VAT & P&P

01-423 2290

18 STATION PARADE, NORTHOLT ROAD
SOUTH HARROW, MIDDLESEX, HA2 8HB

THE GAMES SHOPPE

MAIL ORDER DISCOUNT SOFTWARE

Games/Strategy		Games/Strategy	
Super Hang-On	£13.95	Bionic Commando	£13.95
Hotshot	£13.95	Mickey Mouse	£13.95
Elite	£17.50	Phantasm	£13.95
Barbarian II – Dungeon/Drax	£10.95	Better Dead than Alien	£13.95
Virus	£13.95	Flight Simulator II	£27.95
Jet	£27.95	STOS The Game Creator	£20.95
Superstar Ice Hockey	£17.50	Where Time Stood Still	£13.95
Summer Olympiad	£13.95	Empire Strikes Back	£13.95
Quadralien	£13.95	Army Moves	£13.95
Night Raider	£13.95	Roadblasters	£13.95
Chubby Gristle	£13.95	**Adventures**	
Fire and Forget	£17.50	AD&D Pool of Radiance	£17.50
Great Giana Sisters	£13.95	Lancelot	£13.95
Side Arms	£13.95	Legend of the Sword	£17.50
Alien Syndrome	£13.95	Corruption	£17.50
Elemental	£13.95	Dungeon Master	£17.50
Gauntlet II	£13.95	Uninvited	£17.50
Streetfighter	£13.95	Time and Magik	£13.95
World's Greatest Epyx	£17.50	Leisure Suit Larry	£13.95
Outrun	£13.95	Maupiti Island	£13.95
Desolator	£13.95	Beyond Zork	£17.50

Send SAE for full price list, stating machine
Prices include postage & packing and VAT
Normally same day posting of goods in stock,
but please allow 7 days
Please make all cheques/POs payable to:

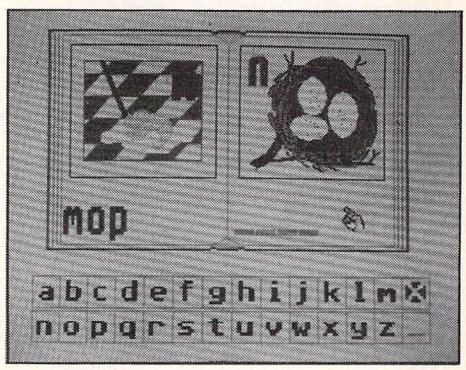
THE GAMES SHOPPE
4 Maggots Nook Rd., Rainford, St Helens
WA11 8PL

NEW RELEASE – 'THINGS TO DO WITH WORDS'

SOFT SPECIALISTS IN EDUCATIONAL SOFTWARE FOR THE ATARI ST **STUFF**

Do you own an Atari ST?
Is your child aged 4 - 11?
Do you value their education?

If you answered 'yes' to the above questions read this. . .



Screen Shown from 'Spell Book 4-6'

SOFTSTUFF are a Software Company concerned only with Educational packages for the Primary School age range. We already have **'Spell Book,'** a HIGHLY EFFECTIVE spelling aid available in 4-6 and 7+ age ranges, with a game-like atmosphere to make practicing spelling that little bit more enjoyable. Additional spelling disks are available in a 2-disk pack so that both versions of **'Spell Book'** ARE NOT ONE-OFF PURCHASES BUT CAN BRE USED AS YOUR CHILD GAINS SPELLING SKILLS BY USING THE NEW SPELLING ALPHABETS IN THE DISK PACKS.
With the reception that **'Spell Book'** received from both the public and Educationalists it soon became apparent for the need to fill the gap in the ATARI ST's Educational Software lineup. We are therefore very pleased to announce the release of **'Things to do with Words'** – 3 programs on 1 disk consisting of 'Anagrams' – 'Word Hunt' – 'Jumbled Sentences.' Designed to be used ENTIRELY with the mouse the child is free to concentrate on the screen and it's contents with NO distractions.
'Things to do with Words' encourages children to develop and use such skills as DISCOVERY – CONCENTRATION – SPELLING ABILITY – MOTOR CO-ORDINATION – EVALUATION in order to solve the puzzles in the 3 programs. As with ALL our software 'Things to do with Words' has been researched with QUALIFIED TEACHING STAFF AND PLAY-TESTED BY PRIMARY AGED CHILDREN.

"Spell Book is one of the best pieces of educational software available for the primary age child , and one I wholeheartedly recommend."
Nic Outterside–Atari ST User September 1988, Page 77

'Spell Book 4-6' and 'Spell Book 7+' are available for only **£19.95** each. Additional spelling disks are available at only **£14.95** for a 2 disk pack. Available now 'Things to do with Words' only **£19.95.**

Softstuff Educational Packages are available direct from us on a same day despatch guarantee (1st Class P&P included in UK + A no cheques cashed until order despatched pledge) also available from: All branches of Silica Shop – Software Express – STD Communications – or any good Atari Dealer (trade enquiries to SDL (UK) Limited). *Please note that these companies have Access and Visa telephone ordering facilities.*

Yes I do value my child's education. Please send me: 'Spell Book 4-6' ☐ 'Spell Book 7+' ☐ Spelling Books Disk Pack' ☐ Things to do with Words' ☐

Name ..... Address .....

.....

Please make cheques and PO's payable to Softstuff and send to:
Softstuff, 193 Sketchley Road, Burbage, Leicestershire LE10 2DY.
Tel: 0455 617426

BATH COMPUTER SHACK

8e Chelsea Road, Lower Weston, Bath, Avon BA1 3DU _Tel (0225) 310300

VAT Reg No. 398 737 970

You Can't Afford to go Elsewhere!

ATARI WINTER WINNERS

520STFM 1 Meg Drive Only £269.00

520STFM Super Pack, 1 Meg Drive, Joystick & 22 Games retail value over £400
Our Special £349.00

1040STFM The latest and greatest 1040 now with fitted modulator runs to T.V. or Monitor
Save ££££'s £419.00

1040STFM inc SM124 Mono Monitor ... £529.00
SM205 Hard Drive £539.00
SM124 High Res Mono Monitor £119.00
SC1224 Med Res Colour £339.00
SLM804 Lazer Printer £1049.00

ST Accessories

HandyKap Perspex cover £8.95
HandyKap Monitor Stand £24.95
Mouse Mats with Atari Logo £4.50

Atari Mega & PC's

Please call for our very best prices, you won't be dissappointed. All prices include VAT & Delivery

Special Monitor Scoop Purchase

ST88 same as CM8833 in streamline case
ONLY £259.00
Philips CM8833 inc lead £259.00
Philips CM8852 inc lead £299.00
When you buy one of the above monitors, you may wish to buy a HandyKap monitor stand for only £19.95

ST Disc Drives

Cumana CSA354 1 meg £109.00
MP 1 meg NEC Drive inc lead £99.00
Other models in stock

Printers

Citizen 1200 friction & tractor £159.00
Panasonic KXP1081 Superb value £175.00
Star LC10 with spare ribbon £215.00
Star LC10 colour, the one you all want . £265.00
Amstrad DMP4000 wide carraige £205.00

Star NB24 – 10 24 pin very fast ...£459.00 includes FREE sheet feeder

Please note all our printers come with free cable. Prices include VAT & delivery

Discs & Boxes at unbeatable prices

10 x 3.5" DSDD Bulk discs in box £9.95
25 x 3.5" DSDD Disc. Free 40 cap box ... £25.00
above discs certified & guaranteed

Storage Boxes

40 cap 3.5" lockable £4.99
80 cap 3.5" lockable £7.99
120 cap 3.5" lockable £9.99

Service Department

Staffed by fully trained engineers available for your ST servicing

Warranty

We offer a full 12 months parts and labour guarantee on all hardware. Plus extended 5yr warranty is available at extra cost, please ask for details.

How to order Mail order

Send cheque or postal order or telephone with access or visa card to:
Bath Computer Shack
Units 11/12 White Hays, South West Wilts Trading Estate, Westbury, Wilts BA13 4JT
Tel: 0373 858031 Fax: 0373 858032

Show Room for Retail Callers

8e Chelsea Road, Lower Weston, Bath, Avon, BA1 3DU

Tel: 0225 310300 Fax 0225 446827

E & OE

All good subject to availability

More efficient communications

Marcus Adams looks at the new budget-priced MicroLink Multi-speed communications pack

THE hardware interface between any two computers linked by a telephone line is called a modem – an acronym for MOdulator DEModulator. And because of the complexities involved, the better the modem the easier inter-computer communication becomes.

Essentially, three standards are used in the UK under the rules laid out by British Telecom. They define the speed – baud rate – at which information is passed between remote terminals over private telephone lines.

These are V21, V22 and V23. There are others in use – such as the Bell standard developed by Bell Laboratories in America, but no equipment offering these has yet received the green light from BABT, and therefore it would be illegal to use them.

The MicroLink Multi-speed Modem on the other hand is one of a handful of powerful units to have received BABT approval. At a price not beyond the reach of those in need of such equipment, this direct connect unit offers a wealth of features including all baud rates, speed-buffering, a Hayes-like command set and auto-answering.

A set of six status lights and a monitor speaker keep you well informed as to what's going on, so it could quite feasibly be used as part of a professional bulletin board system (BBS).

For basic communication the modem offers all three standards, 1200 baud full duplex, 300 baud full duplex, 1200/75 split rates for calling Prestel type systems and 75/1200 reverse mode for operating them.

In use however, much of this is invisible as the modem automatically detects the operating speed of the ST's serial port and configures itself accordingly.

If the remote service, Prestel for instance, happens to be operating using a split rate – which the ST does not support – it buffers the incoming information up to the correct speed.

In addition to these features, the unit also has its own on-board microprocessor complete with rom and non-volatile ram. This is essentially what makes it so easy to use, because it has in a sense got its own programming language with 21 commands developed from the Hayes set.

If you're one of those people who switch off as soon as programming is mentioned, don't. Most commands will be dealt with automatically by the communications software. There's even a built-in Help page in case you get stuck.

The basic command to wake up the modem is AT, meaning attention. This is followed by one or more letters and digits telling the modem what to do. For instance, to dial MicoLink 1200 baud you would use:

```
ATD 01 583 1200
```

The D stands for dial the number following. The number shown here would be used by people in the greater London area. Those in other parts of the country can save the cost of a London call by using one of 57 local access points.

The problem of dialling via a firm's exchange – when you have to wait for an outside line – can be overcome by inserting one or more commas after the initiating digit (usually 9).

While the connection is being made a small monitor speaker inside the case clicks and whistles so you can hear what's going on. If the line is unobtainable for some reason the modem replies either BUSY, NO CARRIER or NO DIALTONE, depending on the problem incurred.

In the case of the line being busy, it can re-dial the selected number up to four times automatically. For a successful connection, it replies CONNECT, CONNECT 1200 or CONNECT 75, depending on the speed of reception.

Hanging up the phone is a simple matter of typing +++ (to get the modem into local mode) and ATH, H standing for

Turn to Page 98 ▶

◀ *From Page 97*

hangup. For many BBSs this won't be necessary, because when you exit at the end of a session the host modem switches off and your modem responds NO CARRIER and hangs up anyway.

One of the neatest features of the MicroLink modem is its non-volatile number store. This makes life a lot easier, because the modem stores the name of the service alongside its number.

The internal ram can store 32 in all, and the whole list can be displayed at any time by typing ATN? Calling up one of the numbers is easy – either type its number in the list or the name of the service itself:

```
ATDN21
```

or:

```
ATD MicroLink 1200
```

An extension to the basic command set is the S or Setup registers. These non-volatile locations – 20 are documented, 15 being user-definable – set the modem's overall configuration.

Through these registers almost every aspect of the modem can be set for personal preference, from the number of automatic re-dials to the number of rings before a call is answered. At any time, a simple command switches between user settings and the factory defaults.

Of course, no matter how good the modem is it'll be useless without software, so the MicroLink package comes complete with K-Comm II. Despite the recent-sounding name, K-Comm II is now getting quite long in the tooth.

Nevertheless it does feature a user-friendly Gem interface and the ability to run as either a terminal or viewdata emulator. The viewdata side allows the ST to access Prestel and similar colour services in colour or monochrome.

However, such services are limited both in terms of response times and screen width – 40 columns maximum. Prestel has its uses when little interaction with the user is required, but when it comes to electronic mail – Email – it's a bit of a dead duck.

The same limitations do not apply to Microlink and similar services operating under BT's Telecom Gold. They offer full full duplex transmission up to 1200 baud, and a full 80 column screen width, which makes interactive Email both easy and efficient.

In this area K-Comm II comes into its own. Many other terminal emulators tend to make extensive use of Gem windows, and there's no getting away from the fact that even a full window is slightly less than 80 columns wide – assuming you don't resort to using a small font.

A more serious problem lies with the notoriously slow scroll rate. Although at worst, this means you have to wait longer for menus, messages and so on to scroll up the screen, in communications time is money.

K-Comm II neatly gets around this problem by making full use of the VT52 screen. Unlike other systems though, the menu bar is always available at the top of the screen, allowing access to all of the software's extensive range of features. This saves the messy business of having to toggle to and fro between the main screen and the command display adopted by many similar systems.

The next big headache is getting logged on to your chosen service. Doing this by hand can be a real bind, especially if you're prone to typing errors.

Most systems simply won't recognise the backspace character, even if the screen echoes it correctly. The ideal solution is, therefore, to define a preset logon sequence and replay it at the appropriate time.

K-Comm II provides this facility and more. In fact when used in conjunction with the MicroLink modem, the software can be configured to do everything from dialling the phone to entering your password.

All you have to do is specify the prompts to expect and the message to send. Once done, selecting Autologon from the Options menu does everything else for you.

That said, defining an entire logon sequence is a little foolhardy, just in case someone else gets hold of your disc and runs up a nice fat bill.

Surprisingly, autologons are the biggest problem with K-Comm II. In general I found it very difficult to get any given sequence to work properly, or indeed at all in some cases. The snag appears to be twofold – BT and the software taking equal shares of the blame.

Firstly, BT's lines aren't always as noise free as we'd like, and if the slightest glitch is echoed back to the software the logon gets completely fouled up. There's less danger of this happening at the slower baud rate, but the problem remains.

The second difficulty arises when the host computer sends a long message on startup. As in the first case, the logon goes haywire.

In addition to the basic facilities, K-Comm II features raw Ascii and Xmodem file transfer which are essential for Email, although sadly Kermit is not supported.

Documents can be prepared off line and then sent to the receiver at high speed, ready formatted. In fact this document has been prepared off line and sent direct to *Atari ST User* – over 300 miles away – via MicroLink.

This sort of remote access facility is also supported, albeit to a lesser degree, by K-Comm II. Once the computer and modem have been set up, you can access your ST at home from anywhere in the world providing you have a telephone.

Once connected, K-Comm II replays a user-defined welcome message and allows access to up and download files either as Ascii or Xmodem.

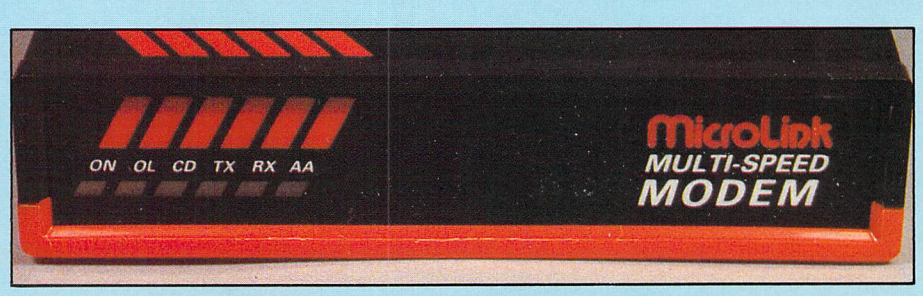
Overall the MicroLink multi-speed communications pack has to be one of the best around. The modem's manual is exemplary, with 40 pages of clearly laid out information. It begins with simple instructions to get you on line, and goes on to cover even the most complex features of operation.

Conclusion

All-in-all the pack offers unequalled value for money. MicroLink even throws in one month's free connect time, so the pack has to be considered a must for all serious users or comms enthusiasts.

However, if you find the price tag a little steep for your wallet, MicroLink offers a cheaper package which boasts essentially the same features except the 1200/1200 baud rate.

As this is most useful for transmitting files to a remote computer, unless you intend to send a fair amount of electronic mail – especially at peak times – it could be considered superfluous. The 300/300 baud rate available on the cheaper model should suffice in most instances.



FACT FILE

Product: MicroLink Multi-speed modem + K-Comm II
Price: 179.95
Supplier: MicroLink Communications Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP
Tel: 0625 878888

POINTS FOR:
Inexpensive. Easy to use. Good software with many useful facilities.

AGAINST:
Line noise can prevent K-Comm's Autologon system from working.

COMPUTER CABLES (ribbon cable)

Male – Male centronics	1.0m	£7.95	–	2.0m	£9.95
Male – Male RS232	1.0m	£7.95	–	2.0m	£9.95
Female – Female cent.	1.0m	£8.95	–	2.0m	£9.95
Female – Female RS232	1.0m	£8.95	–	2.0m	£9.95
Male – Female cent.	1.0m	£8.95	–	2.0m	£9.95
Male – Female RS232	1.0m	£8.95	–	2.0m	£9.95

Standard ST centronics printer cable (25 D way plug to cent. plug, screened)
1.5m ..... £7.95 3.0m ..... £9.95 5.0m £10.95

Centronics plug to plug (screened)
1.0m ..... £8.95 2.0m ..... £9.95 3.0m £11.95

RS232 25 way D plug to 25 way d socket (screened)
1.5m ..... £7.95 2.0m ..... £8.95 3.0m £10.95

Gender changer (RS232 25w plug to 25w socket) £5.50

ST 13 pin din plug to Philips RGD monitor scart 2.0m £9.50
ST 13 pin din plug to Sony KX14 RGB monitor scart 2.0m £10.95
ST 13 pin din plug to monitor/TV scart 2.0m £9.50
ST 13 pin din plug to open end 2.0m £4.95
ST 13 pin din plug to 9 way D socket for Philips 8873 monitor – switches between mono & colour res. 2.0m £22.95
ST 13 pin din plug to two phono plugs (composite video, ST needs internal modulator) 2.0m £4.95
ST 13 pin din plug to 9 way D socket for NEC multisync monitor – switches between mono, medium & low res. 2.0m £22.95

Scart plug ..... £2.95 13 pin din plug ..... £2.75 14 pin din plug £2.95

ST switching unit for Mono & Colour monitors £18.95
ST 14 pin din plug to 14 pin din plug 1.0m ..... £8.50 2.0m £9.95
ST 14 pin din plug to Shugart 34 way IDC connector £19.95
ST 14 pin din to open end 2.0m £5.50

COMPUTER ANCILLIARIES

3.5 disk cleaning kit £2.95
Mouse mat £4.50
Copy holder (Thingi – left or right monitor mounting) £4.50
Atari ST twin joystick/mouse extension lead 10 inches £5.75

FANTASTIC PUBLIC DOMAIN SOFTWARE INTRODUCTORY OFFER!!

We have selected from our large PD library some of the best disks at very special prices.

Any 6 of the following disks for only £8.95 single sided format or £5.95 double sided format (2 per disk).
All 10 of the following disks for just £13.95 single sided format or £8.95 double sided format.

Desk Accessory 1 – Dir printer, selection of ram disks, Snapshot screen save, Tinytool disk editor, a printer spooler and a deck .ACC loader.

Utilities Disk 1 – Prog to reverse text colour, fast copying program, a protected copying program with higher capacity formatter up to 830K, Hex dump, Convs Degas to Neo, Koala to Degas & Neo to Degas, low/med res disk editor, File compressor and file decompressor and Tiny Basic, a 68K basic language.

Games disk 11 – Hack! a Dungeon & Dragons text adventure with graphic maps.

ST Wordprocessor No. 3 – ST Writer Elite. This is the latest release of ST Writer with a GEM mode. A superb PD WPR with text files, docs, a tutorial & articles on ST Writer.

Communications disk 3 – The most recent version (3.3A) pf Pack-Et-Term, an excellent packet radio program. YARP is a split screen RTTY terminal program ported by WB20SZ with doc and arc file packer.

Font Disk 2 – Fontedit Vers.3. Editor & loaders for RAM and downloaded fonts. Included are a number of fonts, font data disassembler and Meta utility giving easy access to alternative character sets.

Masterpaint – A great drawing package with some excellent features that works in col. & mono res. Also comes with Little Painter, a drawing prog with its own font editor.

C Compiler – This disk comprises a boot up utility, ram disk, and command line interpreter. The compiler is processor, parser and code generator all rolled into one.

Adventure Writing System – This prog comes with full documentation on the disk for writing text adventures and a sample adventure program called Starship Columbus.

Address Log – This disk has a limited address book and label printer, a disk cataloguer that does auto disk directories & can print labels and a label prog for printing all kinds of labels with a modyfying program so it can work with different printers. There's also a library program, a calendar reminder & a VCR movie database that can be used with H & D base & DB man.

Normal Pricing:
Single Sided – 1 disk £2.50 – 3 disks £4.95 & additional disks £1.40
Double Sided – 1 disk £3.95 – 3 disks £7.95 & additional disks £2.00

STORT SOFT

Just write for more information. Cheques etc. payable to STORT SOFT (International orders add 10% and remit in pounds Sterling by bank draft or international money order. Write for quote in any other currency).
ACCESS/MASTERCARD/EUROCARD/VISA accepted. CREDIT CARD ORDER LINE – 0279 89509
☎ 035 48 590 24 HOURS A DAY, 7 DAYS A WEEK – VAT & P.P. INC. NO HIDDEN EXTRAS – WHAT YOU SEE IS WHAT YOU PAY 035 48 590 ☎

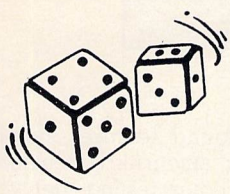
PLEASE NOTE OUR NEW ADDRESS & TELEPHONE NO.

ASHLAW HOUSE, EUXIMOOR DROVE, CHRISTCHURCH, WISBECH, CAMBRIDGESHIRE PE14 9LS

ST PD 4U PUBLIC DOMAIN FOR YOU

SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s

Don't dice with dodgy disks! Buy top quality products from the Mail Order Specialist!



!!! FLOPPY DISKounts!!! THE MORE YOU BUY – THE MORE YOU SAVE!!!

3.5" Bulk Packed–	25+	50+	75+	100+	150+
Price each disk	82p	80p	78p	76p	74p
Single Sided 135 T.P.I.	84p	82p	80p	78p	76p
Double Sided 135 T.P.I.					

ALL DISCS ARE SUPPLIED WITH LABELS AND ARE CERTIFIED 100% ERROR FREE

BRANDED 3.5" DISKS

Description	3M	Athana	Sony	Verbatim
Single Sided 135TPI	£14.95	£12.95	£14.95	£15.95
Double Sided 135TPI	£16.95	£15.95	£16.95	£17.95
Double Sided 2Mb H/D	£37.95	£32.95	£39.95	£39.95

We have a large stock holding of branded products in our warehouse. All disks are supplied in boxes of 10. We also stock 5.25" and Data cartridges, please phone for a quote.

Just in Amstrad Branded 3.5" £29.95 for 10

3.5" Lockable Disk Box Prices

	1+	3+	5+
40	£5.49	£15.99	£24.99
80	£6.49	£18.99	£29.99
120	£8.49	£24.99	£39.99

20 Double Sided 3.5" 135T.P.I. Disks with our storage box £22.95
40 Double Sided 3.5" 135T.P.I. Disks with our storage box £38.95
60 Double Sided 3.5" 135T.P.I. Disks with our storage box £52.95
80 Double Sided 3.5" 135T.P.I. Disks with our storage box £69.95

ACCESSORIES

Mouse Mat £4.95
BBC Printer Cable £5.95
Atari etc Printer Cable £6.95
3.5" Cleaning Kit (fluid) £4.95
5.25" Cleaning Kit (fluid) £3.95
Disk Notcher (doubler) £4.95

Space Saver Printer Stand (80 col) £23.95

Space Saver Printer Stand (132 col) £25.95

You can choose either 40 capacity storage box or 80 capacity storage box to go with your discs. If you want a 120 capacity storage box just add a further £2.95

ALL BOXES COME WITH LOCK, 2 KEYS, DIVIDERS AND ARE ANTISTATIC.
ALL DISKS COME WITH LABELS AND ARE 100% GUARANTEED ERROR FREE

MOUSE BRACKET – £5.95

JOYSTICKS – NEW RANGE!

Crystal Standard £14.95
Crystal Turbo* £16.95
Crystal Turbo Plus* £19.95
(Including Slomo Feature)

* Auto Fire Feature

All joysticks carry a full five year guarantee

Free Delivery

All Disks are sent by Trackback or Courier Service at no extra cost!

MELTON COMPUTER SUPPLIES

PO Box 2, Melton Mowbray, Leics. LE13 1YG
Tel: 0664 410666 (24 hrs). Fax: 0664 410221
Phone for our best price before placing your order
EDUCATIONAL & GOVERNMENT ORDERS WELCOME

10 PARROT 3.5" MF1/DD £11.95

VISA

E&OE Remember the price you see is all you pay (U.K. only). Prices include VAT and carriage

SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s SAVE ££££'s

WHEN it was first released in the UK, the West German sourced language GFA Basic met with a fair measure of acclaim for its simplicity of use and sheer speed. For an interpreted rather than compiled language this was tremendous, being faster even than Computer Concepts' Fast Basic.

Since then there has been a minor revision – Version 2 in fact – and the release of a compiler, which though increasing the speed of GFA programs didn't quite make them as fast as compiled HiSoft Basic ones.

Nine months after it was first released, Version 3 of GFA Basic has arrived. This latest incarnation provides more than 150 new commands or options, and quite astonishingly runs approximately twice as fast.

The bad news is that it isn't compatible with the compiler and if you want to load any of your existing GFA programs into the new interpreter it is necessary to first save them as Ascii files and then merge them.

The aims of this latest version are to increase the speed at which the programs run, increase the flexibility of the structured programming commands resulting in constructions such as DO ... UNTIL and LOOP ... WHILE, enable simple interrupt programming, make access to machine code or C programs easier, and most importantly, to make most of the VDI routines and AES functions available from within the language as ordinary functions.

Also, a substantial set of bit manipulation commands have been added, and in the graphic's department the A-Line graphics' routines have been implemented as straight instructions. Along the way, one or two bugs, both in the language and operating system have been overcome, and the editor has been made even more friendly. Let's start by having a close look at that. . .

Basic improvements

Mark Luckham examines the latest updated version of GFA Basic

For those not familiar with the GFA Basic editor, its operation will be a little surprising. Program entry takes place on a medium resolution 80 column screen with a colour monitor (though it does also run quite happily in monochrome), with a two line menu bar, rather than drop down menus, offering information and features.

The menu bar

The menu bar, which is accessible either by using the mouse or pressing the relevant function key, has been revised to provide the regulars of load, save, save as Ascii, merge Ascii files, print, block definition – leading into the usual block move, delete, copy and save as Ascii functions – quit, new, string, find and replace, page scrolling, flip and direct and run and an insert/overwrite toggle.

The newcomers are an on-screen clock, line number indicator – and you can jump to specified lines – caps lock indicator, keypad indicator which notifies whether the mouse or keypad is being used and an Atari symbol.

If you click on the Atari symbol the display is switched to the output screen and two drop down menus become available.

The first allows access to desk accessories, while the second offers the same loading and saving options available elsewhere, but also has a new variable indicator flag. If this is switched on, every time a new variable is entered in the editor it is queried to see whether you really want to go ahead.

On the editing screen itself there has been another welcome improvement – wraparound and right justification. It can be very irritating when examining a program listing to have half of it out of sight. This was never a great problem with the original GFA Basic, due to the fact that instructions are limited to one per line, so program lines rarely exceeded 80 characters anyway.

Also, it is possible to shorten procedures in the listing so that only their names appear. A procedure so folded, as the manual puts it, is prefixed by the > character. Naturally you can't edit a folded procedure, but it can be unfolded again, and in the shortened state make programs that much more readable.

If you combine all of these things with the new wraparound feature, syntax checking on entry, automatic indentation and loop and procedure testing, then you have an excellent code entry system.

Structured programming

GFA Basic always was very well served with branching, loop commands, procedures and functions, making structured programming quite straightforward, especially when you consider the automatic indentation of program listings.

Now, a few loose ends have been tidied up, and a real treat in the form of Basic interrupts has been implemented. IF ... THEN ... ELSE ... ENDIF is the cornerstone of branching operations. It should be noted that THEN is entirely optional, and that ELSE ... IF can be combined to produce shorter, cleaner code.

For multiple branching there's always ON x GOSUB ... GOTO y,z which will, depending on the value of x, route the program to either a procedure or label. The program flow cannot be directed to line numbers, as they do not exist in GFA

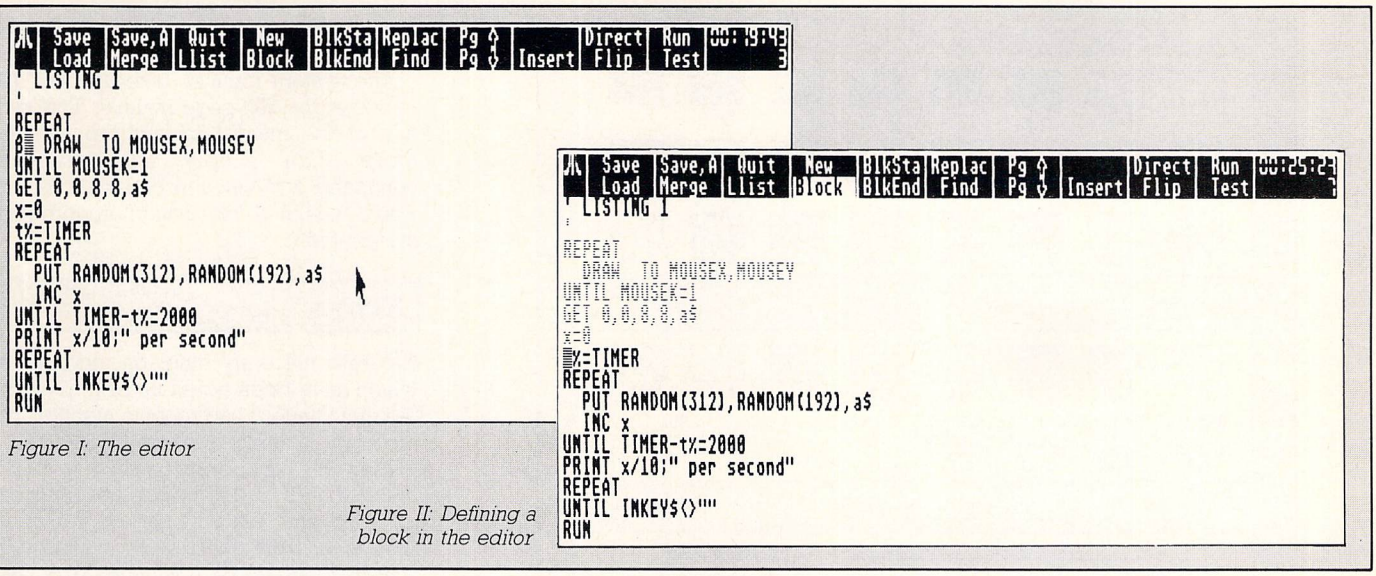


Figure I: The editor

Figure II: Defining a block in the editor

Basic. However a number followed by a colon, on a line on its own, is acceptable as a label, so if you must have some line numbers they can be achieved.

A new feature to GFA Basic is SELECT and CASE which operate on similar lines to ON ... GOTO except that multiple CASEs are used to decide a range of values on which the branching will occur after a value has been determined by the numerical expression following SELECT.

The full range of options here is SELECT x, CASE y TO z, CASE y,z.., CASE TO y, CASE y TO, DEFAULT, ENDSLECT and CONT.

The standard structures of FOR ... NEXT, REPEAT ... UNTIL, WHILE ... WEND, and DO ... LOOP have been fleshed out to provide much greater flexibility. One neat idea when using a FOR ... NEXT loop is that instead of having to stipulate a minus value in conjunction with STEP when you need the program loop to count down by one each time, a new command can be used as follows:

```
FOR x=10 DOWNTO 1
PRINT x
NEXT x
```

The additions to the DO ... LOOP range include DO ... WHILE, DO ... UNTIL, LOOP ... WHILE, and LOOP ... UNTIL. Procedures are still referred to in the slightly confusing manner of GOSUB proc(x,y..) ... PROCEDURE proc() ... RETURN.

In version two of GFA Basic the only forms of interrupt available were the unsatisfactory On Menu, and when the user interrupted a program by using the Break key. Here the programmer would then direct the program flow to an error message, or take some relevant action.

However, in this version better things are on offer, such as EVERY and AFTER. These combine with a timing variable known as ticks, which is defined in terms of two hundredths of a second. Thus, the structure EVERY 400 GOSUB proc, would execute the named procedure every two seconds.

Any interrupt so set up can also be disabled by using the STOP command, and re-enabled with the CONT command.

As can be seen, EVERY executes more than once, whereas AFTER simply executes once after a given time. A minor point to note is that the interrupt has a minimum timing of four ticks, thus reducing the timing available to units of 50ths of a second.

Graphics

Graphics are one of the ST's strongest points, so commands to make the best of them are all the more welcome. If you have done any programming you will have realised that the standard SETCOLOR command doesn't alter the value of colours 1 to 16 in the correct order. Witness now, the introduction of VSETCOLOR which does the business in the proper order.

There have been numerous additions to the range of general graphics commands, some of them minor like BOUNDARY which simply adds borders to spheres and rectangles, some of them complex like the A-line routines, and some of them simply revisions or expansions such as DEFTEXT which now enables you to switch between fonts.

All the usual commands are there, to draw lines, points, circles, ellipses, and boxes, and to have them solid or pattern filled, with rounded edges where appropriate, ANDed, ORed or XORed with the background.

If you have any interest in Logo then you will rejoice to see a number of commands for manipulating the turtle, such as forward, reverse, angled directions, as well as pen up and down.

To help keep track of the so called turtle – or pointer – a variation on DRAW has been implemented. DRAW(x), where x is a number 1 to 5, provides information as to the state of the pointer. This includes x,y positions, angle in degrees, x,y scale factor and pen up/down.

I stated earlier that version three of GFA Basic ran approximately twice as quickly as version two, and this would seem to be the case when you compare the times obtained by running the standard benchtests.

However, if you run a few graphics tests it is noticeable that very little happens any quicker. Only the A-Line routines and blitting commands show any significant speed increase, and these by about 40 per cent.

For instance, take the program in Figure I. This simply draws lines until the left mouse button is pressed at which point it GETs an 8 x 8 square and randomly PUTs it all over the screen. In one second, version two could PUT around 288 blocks on the screen, whereas on version three that has gone up to 411.

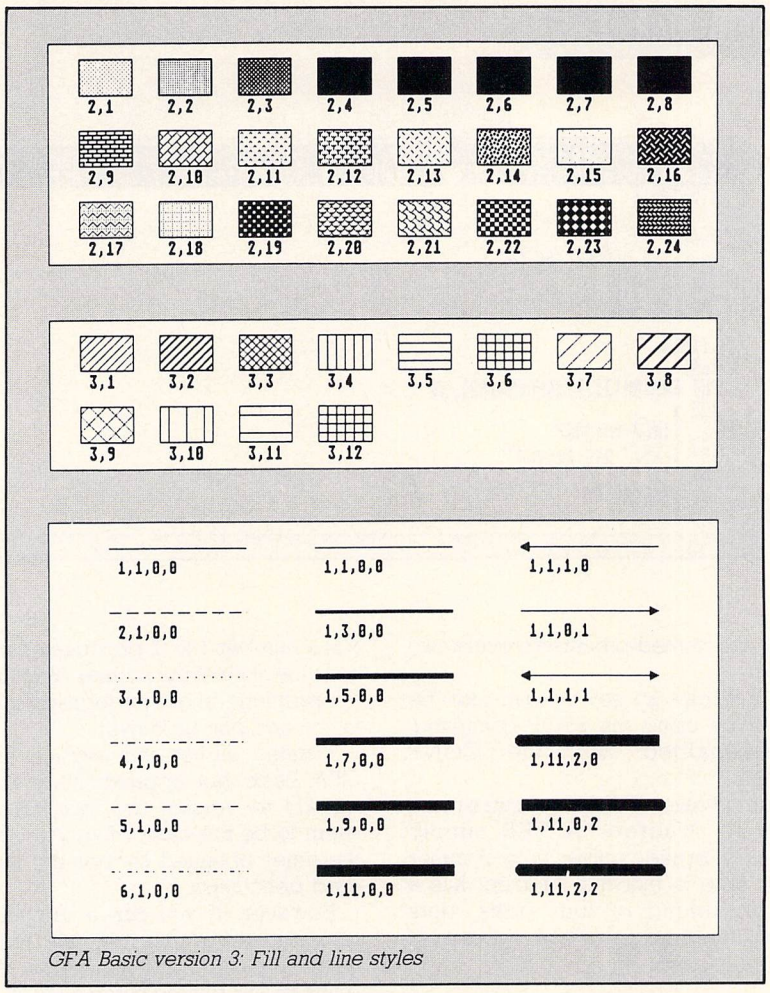
System routines

If you had to point anywhere, this is where the most dramatic changes and innovations have taken place within GFA Basic. GEMDOS, BIOS and XBIOS all allow access to the various parts of the operating system, and in fact were present in the old version of GFA Basic.

This time round, though the commands remain the same, they are much more useful thanks to the manual listing most of the actual routines, their effects and how to call them. With the Line-A routines you get ACLIP, PSET, PTST, ALINE, HLINE, ARECT, APOLY, ACHAR, and ATEXT.

Now most of these correspond to existing GFA Basic commands, but the point is, that in this form they execute considerably faster. PSET for example corresponds to PLOT, while PTST is the

Turn to Page 102 ▶



GFA Basic version 3: Fill and line styles

◀ **From Page 101**

function POINT. Others like HLINE draw horizontal lines, but have a fairly complicated syntax which unless that extra speed is needed, makes using the existing commands easier.

The VDI routines are available as seven categories of functions. Namely control, output, attribute, raster, input, inquire and escape functions. Some form of access to the VDI routines was provided before, but not on the scale of what is now available. In particular a number of VDI workstation and query functions are available, but only if you have version 1.0 or later of GDOS and a valid ASSIGN.SYS file.

Of interest to many people will be VST ... LOAD ... FONTS(x) and VST ... UNLOAD ... FONT(x) which do precisely what you would expect, as long as you remember to reserve enough memory.

Moving along there's the AES libraries of functions to consider, and a pretty big selection it is too. These include things like APPL_READ for reading bytes from an event buffer, APPL_WRITE for writing them back, the very suspect (which version of the rom you've got affects its function) APPL_TPLAY and APPL_TRECORD for recording and playing back user activities such as mouse movement and key presses.

In the event part of the library there's EVNT_KEYBD which waits for a key to be pressed and then returns a word sized value, EVNT_BUTTON for mouse clicks, EVNT_MULTI which waits for the occurrence of selected events, EVNT_MESAG for messages arriving in the event buffer, and EVNT_DCLICK to set the speed for double clicks on the mouse.

The menu library lets you display and erase menu bars, delete ticks against menu items, change text, enable and disable items and highlight them in inverse video.

The object library provides the means to define, draw and alter objects, while the form library allows such things as the manipulation of objects in dialogue boxes, reserves areas of the screen for drawing expanding or shrinking rectangles, and creates alert boxes.

If you want routines for exchanging data between different applications then go down to the scrap library. While enabling you to select a file from a displayed directory you need the file selector library. This is a pretty small library as it happens, containing only FSEL–INPUT which does the job just mentioned.

If you want to get complicated a good place to go is the window library, which basically gives you every routine for manipulating and producing windows. The other libraries which wrap up the AES are the resource and shell libraries for producing alert and dialogue boxes, and inter-application calls.

The system routines take up over 100 pages of the 500 page manual. This section of the manual in fact provides far more than simply accompanying command and function descriptions, but also a wealth of information on operating system calls.

Extras

Naturally there are other bits and pieces which have been tidied up or implemented that I haven't had room to mention, but a couple of things deserve to be listed.

First the bit operations such as BSET, BCLR, BTST, BCHG which are functions to set, reset, test and negate individual bits. SHL, SHR, ROL, ROR are used to shift or rotate while AND, OR, XOR, IMP and EQV are logic functions.

SWAP, BYTE, CARD and WORD exchange the high and low orders of a four byte value, read the lower eight bits, read the lower 16 bits, and extend a word to form a long word respectively.

The other point worthy of note is that the interpreter has changed from having 11 digit to 13 digit accuracy in maths calculations.

Conclusion

One of the few disadvantages of the new version over the previous ones is the extra memory that the new program consumes – approximately 40k. Apart from that, GFA Basic Version 3 is an entirely commendable revision of a very nice language.

Glentop will be offering a cheap upgrade service to registered existing users, while the price of £65.00 is accessible enough for those newcomers wanting to step away from the feeble Atari Basic to a fast and exciting language.

If you are interested in programming Gem, or just in using a friendly editor that doesn't get in the way, then this new version of GFA Basic can be heartily recommended.

FACT FILE

Product: GFA Basic v3
Price: £65
Supplier: Glentop Press, 1 Bath Place, Barnet, EN5 5XE
Tel: 01-4414130

POINTS FOR:
Faster than versions one and two. Improved editing screen. Flexible with more than 150 new commands.

AGAINST:
Memory grabbing. Not compatible with the GFA compiler.

SK MARKETING

COMPUTER SUPPLIES

10 Fulham Broadway, London SW6 1AA

LONDON'S LARGEST ATARI DEALER

Personal callers welcome
Opposite Fulham Broadway
Tube Station – District Line

COMPARE OUR PRICES BEFORE ORDERING
FOR UNBEATABLE OFFERS!!
Export, Government and Educational orders welcome

All Prices Excl. VAT
Carriage Free/Mail Order
Immediate Despatch

ATARI HARDWARE

SKM Special £349

Atari 520STFM	£259
Atari 1040STFM	£445
Atari Mega ST2	£750
Atari Mega ST4	£995

MONITORS

Atari SM124	£125
Atari SC1224	£275
Philips CM-8833	£245
Philips CM-8852	£275
Philips CM-8853	POA
Philips CM-8873	£495

AMIGA 500 £378

PRINTERS

Micro Peripherals 135+	£149
Star LC10	£192
Star LC10 Colour	£253
Star LC24 10	£316
Star NB24-10	£500
Star NB24 15	£626
Epson LX800	£217
Epson LQ500	£340
Epson LQ850	£510
Epson LQ1050	£650
Epson FX850 (New in)	£374
Epson FX1050 (New in)	£478
Citizen 120D	£156
Panasonic 1081	£171
NEC P2200	£316
NEC P6 Plus	£546
NEC P7 Plus	£614
JUki 6100	£296
Amstrad DMP 4000	£305
Epson Laser GQ3500	£1398
Panasonic Laser	£1840
Hewlett Packard Jet II	£1815

SKM SPECIALS

Sony 3.5" DS/DD	£18.00
Storage Box (50)	£9.00
Storage Box (100)	£10.00
Mouse Mat	£5.75
Dust Covers	£10.00
Printer Dust Covers	£5.75
A4 Copy Holder H33	£17.25
4-Way Anti Surge	£19.00
Konix Speedking Joystick	£20.00

PROFESSIONAL ATARI SOFTWARE

WORDPROCESSING

1st Word Plus	£60
K Word 2	£28
Protext	£55
Protext Filer	£24
Protext Office	£31
Word Perfect	£175
Word Up	£48
Word Writer	£60

DATABASES

Base II	£45
Data Manager	£30
Data Manager Prof	£53
Data Retrieve	£31
DBase II	£69
Haba View	£44
K Data	£35
Superbase Personal	£69
Superbase Professional	£173

SPREADSHEETS

K Spread	£17
K Spread 2	£55
Analyse	£53
Graphic Sheet	£46
Logistix	£89
Swiftcalc	£30

DESKTOP PUBLISHING

Timeworks	£75
Fleet St. Publisher	£78
Publishing Partner	£79

GRAPHICS

Advanced Art Studio	£17
Aegis Animator	£44
Art Director	£35
Degas Elite	£19
Easy Draw 2	£45
Easy Draw 2 Supercharged	£75
Easy Tools	£30
Film Director	£42
GFA Artist	£35
Paint Pro	£39
Paint Pro Library	£19
Paintworks	£24
Quantum Paint	£14
Spectrum 512	£45
Cyber Studio	£60
Cyber Paint	£53
Cyber Control	£45

PRO ACCOUNTS

Accountant	£49
Accountant Plus	£159
Bookkeeper	£79
Financial Controller	£238
Home Accounts	£17
Integrated Accounts	£103
Payroll	POA
Purchase Ledger	£34
Sales Ledger	£34

PROGRAM DEVELOPMENT

Devpac V2.0	£42
Fast ASM Assembler	£14
Fast Basic (Disk)	£31
Fast Basic (ROM)	£62
GFA Basic Companion	£21
GFA Basic Compiler	£32
GFA Basic Interpreter	£32
GSTC	£15
Hi Soft Basic	£55
Hi Soft Power Basic	£28
K Seka	£35
K Occam	£42
Lattice V3.4	£69
Mark Williams CV.3	£98
MCC Assembler	£35
MCC Pascal 2	£62
Menu +	£14
Modula 2 Standard	£76
Modula 2 Developer	£115
Nevada Cobol	£35
Personal Pascal 2	£55

GENERAL UTILITIES

Back Pack	£34
K Export	£55
K Graph 2	£35
K Index	£14
K Ram	£21
K Resource	£28
K Roget	£35
K Rhymes	£14
K Spell	£14
K Switch 2	£21
Mailshot	£17
Partner	£35
PC Ditto	£62
Quicktran	£26
Saved 2	£21
ST Doctor	£14
Tempus	£24
GFA Draft	£75
GFA Vector	£31
CAD 3D V1.0	£19
CAD 3D Accessories	£19

LEISURE SOFTWARE

Alt World Games	£12.95
Alien Syndrome	£13.50
Aaaaargh	£14.95
Arcade Force 4	£14.95
Armageddon Man	£14.95
Academy	£9.50
Autoduel	£16.95
Arctic Fox	£13.50
Army Moves	£11.95
Arkanoid Revenge	£13.50
Arkanoid	£13.50
Better Dead Than Alien	£13.50
Bombjack	£13.50
Buggy Boy	£11.95
Bubble Bobble	£13.50
Bionic Command	£13.50
Blood Valley	£13.50
Bridge Player 2000	£13.95
Bermuda Project	£15.95
Beyond Zork	£16.50
Beyond Ice Palace	£11.95
Backlash	£11.95
Barbarian Psygnosis	£15.95
Black Cauldron	£9.95
BMX Simulator	£10.40
Blood Brothers	£13.50
Black Lamp	£13.50
Barbarian Pal	£9.50
Barbarian Pal 2	£9.50
Battleships	£10.99
Ballyhoo	£16.95
Borrowed Time	£15.95
Balance of Power	£16.95
Bad Cat	£11.95
Bob Winner	£11.95
Bards Tale 1 or 2	£16.95
Corruption	£15.95
Captain Blood	£14.95
Charlie Chaplin	£13.50
Catch 23	£11.95
Carrier Command	£14.95
Chubby Gristle	£16.95
Combat School	£11.95
Crafton II	£12.95
Crash Garrett	£11.95
Crazy Cars	£13.50
Chessmaster 2000	£15.95
Daley Thompson 88	£13.95
Debut	£13.95
Deflektor	£13.50
Dizzy Droids	£13,95
Dick Special	£14.95
Dark Castle	£14.95
Degas Elite	£18.50
Defender of Crown	£18.50
Diablo	£9.50
Desolator	£13.50
Deja Vu	£18.50
Dungeon Master	£19.95
Eagles Nest	£15.95
Echelon	£15.95
Elite	£15.95
Empire	£17.45
Empire Strikes Back	£13.50
Enlightenment	£13.95
Exolon	£16.95
Enduro Racer	£10.00
EPT	£17.45
ECO	£9.00
Epyx Collection	£20.95
5 Star ST	£16.95
Flight Sim 2	£26.95
Scenery Disc 7 or 11	£15.95
Scenery Disc Europe	£15.95
Scenery Disc Japan	£15.95
Football Manager	£11.95
Flintstones	£12.95
Football Manager 2	£11.95
Fireblaster	£6.95
F15 Strike Eagle	£14.95
Foundations Waste	£14.95
Frightnight	£11.95
Flying Shark	£13.50
Galdragons Domains	£13.95
Garfield	£13.95
Gryzor	£13.95
Gunship	£14.95
Get Dexter 2	£13.50
Great Giana Sisters	£13.50
G. Linekers Skills	£13.50
Golden Path	£10.00
Goldrunner	£14.95
Goldrunner 2	£12.95
Guild of Thieves	£15.95
Garrison	£16.50
Gnome Ranger	£10.45
Garrison 2	£16.95
Hacker	£8.00
Helter Skelter	£10.45
Horrors of Lance	£18.95
Hitchhiker	£10.45
Hotshot	£13.50
Hollywood Hijinx	£9.00
Hollywood Poker	£13.95
Hunt for Red October	£15.95
Hercules	£13.95
Impact	£9.95
Ikari Warriors	£9.95
IBall	£6.99
Impossible Mission 2	£12.95
Insanity Flight	£14.50
International Soccer	£11.95
Jump Jet	£11.95
Joe Blade	£6.99
Jinxter	£14.95
Jewels of Darkness	£12.95
Karate	£7.45
Karate Kid 2	£16.45
Kings Quest 2 Pack	£17.50
Knightmare	£19.95
Knightorc	£10.95
Kristal	£19.95
Leaderboard Birdie	£13.95
Leviatron	£10.50
Lounge Lizards	£13.95
Living Daylights	£13.50
Leather Goddess	£18.95
Legend of the Sword	£15.95
Leathernecks	£12.95
Lurking Horror	£20.95
Marble Madness	£13.95
Mars Cops	£13.95
Masters of the Universe	£12.95
Mercenary Camp	£17.45
Midi Maze	£24.45
Mickey Mouse	£11.95
Mission Genocide	£8.95
Mindfighter	£16.50
Mission One Droid	£6.50
Moonmist	£14.00
Mindshadow	£9.00
Mach 3	£13.95
Music Con. Set	£19.50
1943	£13.95
Netherworld	£13.95
Nigel Mansell	£17.45
Nightraider	£13.95
Nord & Bert	£14.95
North Star	£13.50
Obliterator	£14.95
Oids	£16.95
Oops	£13.95
Outrun	£11.95
Overlander	£11.95
Pepsi Mad Mix	£10.45
Peter Beardsley Soccer	£13.50
Phantasm	£13.95
Powerdrome	£17.45
Power Struggle	£10.00
Pool	£6.95
Pool of Radience	£16.95
Pro Copy	£29.95
PLatoon	£12.95
Pink Panther	£13.95
Planetfall	£19.95
Predator	£13.95
Psion Chess	£15.95
Protector	£6.50
Police Quest	£12.95
Pandora	£13.95
Pawn	£14.95
Quadralien	£12.95
Quantum Paint	£13.95
Quigan	£21.50
Rocket Ranger	£17.45
Road Blasters	£13.95
Rolling Thunder	£13.95
Rockford	£13.95
Rimrunner	£10.45
Roadwars	£13.95
Sargon III Chess	£14.95
Sidearms	£13.95
Skychase	£13.95
Star Ray	£17.45
Stealth Fighter	£13.95
Strip Poker 2	£10.45
Summer Olympiad	£11.95
Superstar Hockey	£17.45
Skyplot	£45.95
Starquake	£12.95
Sherlock Riddle	£16.95
Shadowgate	£18.95
ST Adv. Creator	£26.50
Sentinal	£13.95
Scrabble Deluxe	£12.95
Shackled	£11.95
Scruples	£13.50
Silent Service	£15.95
Skulldiggery	£10.00
Slaygon	£13.95
Skyfox	£10.95
Space Station	£6.50
Solomons Key	£13.95
Star Glider	£13.95
Star Glider 2	£14.95
Saphens	£13.95
Star Trek	£12.95
SDI	£18.95
Star Wars	£13.95
Space Quest II	£13.95
S.F. Harrier	£14.95
Sub. Battle Sim.	£14.95
Sidewinder	£7.45
Super Cycle	£9.95
Super Sprint	£13.95
Terramex	£12.95
Tanglewood	£13.95
Turbo GT	£6.95
Thundercats	£11.95
Taipan	£9.95
Tetris	£13.95
Tass Times	£9.00
Terrorpods	£15.95
Tracker	£14.95
Three Stooges	£1700
Trivial Pursuit	£12.95
Tee Up	£8.50
Tau Ceti	£10.00
Trinity	£8.00
Test Drive	£16.95
Time & Magik	£11.95
Thrust	£8.50
TT Racer 2	£16.95
Univ. Military Sim.	£13.95
Uridium	£13.95
Ultima 2	£14.95
Virus	£13.95
Vixon	£13.95
Vampire Empire	£13.95
Vroom	£13.95
Verminator	£14.95
Warlocks Quest	£12.95
Where Time Stood Still	£11.95
Wrath of Nikademus	£17.45
Whirligig	£13.95
World Games	£9.95
War Zone	£8.50
Wizard Warz	£11.95
War Hawk	£6.50
Winter Olympiad	£13.95
Wizball	£13.50
Xenon	£9.95
Zork 1, 2 or 3	£9.95
Zynaps	£13.95

01-381 6618
(24 hours)

Mail Order –
Immediate
Despatch!!

ALL PRICES INCLUDE VAT/CARRIAGE FREE

VISA

GALLERY

THIS month's Gallery features pictures based loosely on the theme of the cat and the canary, though, as you can see, the emphasis should be on the word loosely.

From Craig Ellis of Manchester we display a stunning picture of a black panther. We have received a number of submissions from Craig and it appears that he has an innate skill for drawing all manner of animals. Watch out for more of his impressions in future pages of Gallery.

Simon Fincher of Evesham is responsible for the impressive, almost electric, picture of a parrot.

These contrast sharply with the four offerings from Verona Kellett of Victoria, Australia. Her studies of Australian flora and fauna embody a certain native warmth in the soft hues and stable nature which she employs.

If you have a work of art you would like to see exhibited on our worldwide stage why not send it on disc to Gallery.

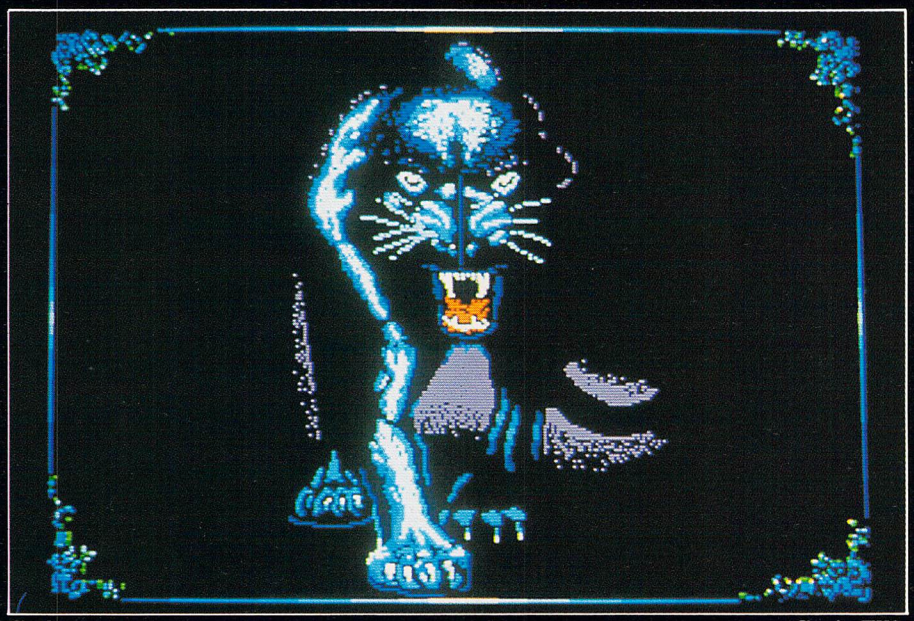
Remember though, anything you submit must be all your own work. You must own the sole copyright and provide us, in writing, with confirmation of this fact, as well as your express permission to let us publish your work.

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

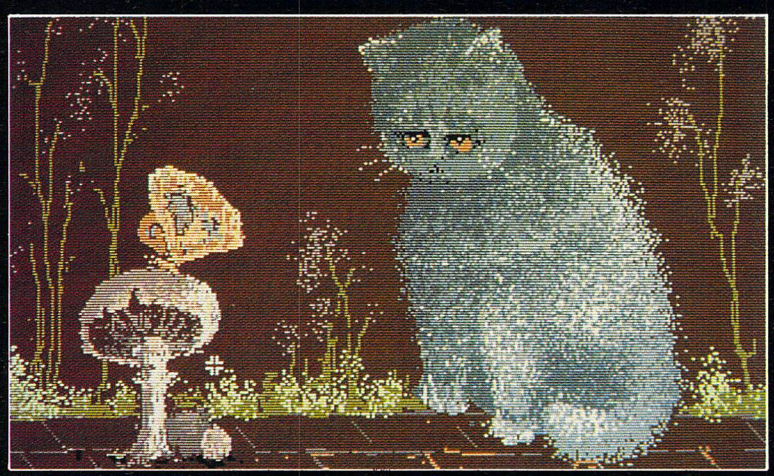
Who's a pretty boy? *Simon Fincher*

Black swan *Verona Kellett*

Rosella



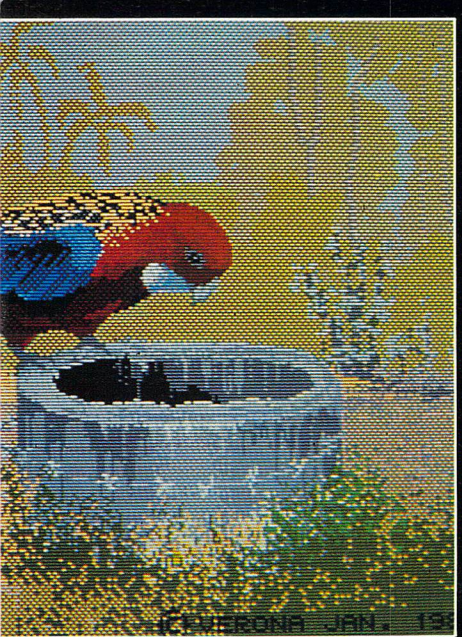
Cat's eyes — *Craig Ellis*



Thomas — *Verona Kellett*

Please enclose an sae for the return of your discs. The address to send your masterpiece is:

Gallery,
Atari ST User,
Europa House,
Adlington Park,
Adlington,
Macclesfield
SK10 4NP



Verona Kellet

Fantail — *Verona Kellett*

Joining the comms revolution has never been easier!

Use TELECOM GOLD FREE* for a month!

The MicroLink Communications Pack offers you an inexpensive, high-speed link to the world outside your Atari ST

The MicroLink Communications Pack contains everything you require to go online. There's a powerful modem that sits between your Atari ST and your telephone, a lead to connect them together and easy-to-use communications software.

You'll also be given a unique invitation to join MicroLink, with FREE registration and telex validation (normally costing £15), and a month's FREE* connect-time to your MicroLink/ Telecom Gold mailbox. So you can find out for yourself what MicroLink is all about without it costing you a penny.

Of course you can also use your MicroLink modem and software to access thousands of other services all over the world, from giant databases in the USA to innumerable privately-operated bulletin boards throughout Britain that cover a vast range of subjects.

To take advantage of this very special package deal simply complete and mail the coupon below.

What you receive with your MicroLink Communications Pack:

THE MODEM. *This is the MicroLink Multi-Speed modem, which operates at three speeds – 1200/75, 300/300 and the super-fast 1200/1200 full duplex. It is Hayes compatible and is fully BABT approved. Its many features include powerful auto-dial and auto-answer facilities, making it extremely easy to operate. The modem alone is unbeatable value – even without the software.*

APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them

THE SOFTWARE. *One of the best packages available for the Atari ST. K-Comm 2 features a Prestel-compatible viewdata terminal, VT100 emulation, Teletype and V52, baud rates from 75 to 9600 (including split baud rates), automatic log-on and autodial, auto-answer and Xmodem file transfer.*

A remarkable price breakthrough for a really exceptional package!

To take advantage of this very special offer simply complete and mail the coupon below.

£179 incl. VAT

MicroLink is Britain's fastest-growing electronic mail service. It offers ALL the services of Telecom Gold – and a whole lot more besides.

With MicroLink you can link up with other users all over the world to send and receive electronic mail. It turns your Atari ST into a telex machine – without the need for expensive equipment or special phone line. It lets you send telemessages for next-morning delivery to ANY home or business in the UK or USA.

With MicroLink you can tap into a weather satellite and see colour pictures from space on your ST. You can use it to obtain instant legal and financial advice, to order flowers, book theatre tickets or negotiate a mortgage. You can become a member of Britain's busiest bulletin board, or join a unique Export Club giving you unlimited free advice.

With MicroLink you can receive free telesoftware programs over the phone to feed into your ST. Your can use it to turn text into typesetting or Braille. You can link in seconds to a database in New York, or key into the 400,000-word Great European Dictionary in Luxembourg. And it gives you direct access to up-to-the-minute financial information on every company in Britain.

** This exclusive offer relates to connect time only and does not include telephone, any possible PSS charges or surcharged services.*

ORDER FORM

Please supply:

☐ MicroLink multi-speed modem, software and ST lead for £179

☐ FREE registration and telex validation, plus FREE one month's connect time to MicroLink
or
☐ I am already a subscriber to MicroLink

If you would like to join MicroLink and already have a modem and software simply tick the box alongside. You will then be sent full details of how to join. ☐

All prices include VAT & carriage (UK only)

☐ Cheque enclosed payable to: MicroLink Communications Ltd.

☐ Please debit my Access/Visa card number: Expiry date:

Signature.....

Name .....

Address.....

.....Postcode.....

Send to: **MicroLink Communications Ltd, FREEPOST, Macclesfield, Cheshire SK10 4YB.**

Telephone orders: **0625 879920**
Orders by Prestel: **Key *89, then 614568383**
Via MicroLink/Telecom Gold: **72:MAG001**

ML11

ATARI Specials

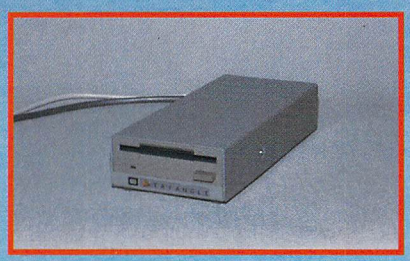
Please write or phone for full details of any item listed.
Our Catalogue listing 1,000's of items for your ST is available on request!

These top-quality **Turbo Hard Disk Drive** units are precision designed and built in the UK and now include Auto-Boot capabilities and come with free Flash-Bak & Cache utility software.

20Mb: STH004 **£499**
40Mb: STH005 **£699**

The **Triangle 3.5" Floppy Drives** literally are the best you can buy! 100% guaranteed compatible, these NEC double-sided drives come with built-in power supply and free "Goodies" disk.

£114.95
Item Code: STH001

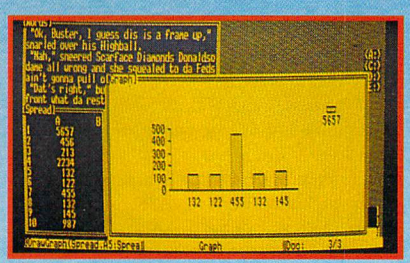


The **Power Drive** is a totally new concept in ST drives - it draws its power (0.03w) from the ST's mouse port! Double-sided Mitsubishi drive ensures top quality and reliablilty.

£89.95
Item Code: STH031

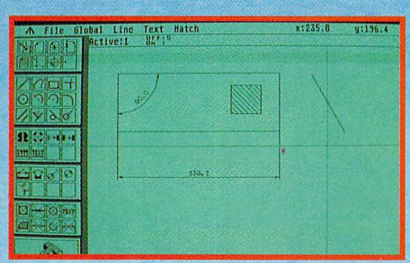
The **Triangle 5.25" Floppy Drive** allows you to swap IBM™ format disks between your ST and IBM/compatible. Comes with software to format IBM disks. A must for PC-Ditto users!

£169.95
Item Code: STH003



PC-Ditto, the official Euro-version direct from Avant-Garde, allows you to run almost all IBM PC software on your ST! Works in mono or colour. Microsoft mouse emulation included!

£79.95
Item Code: ST1026

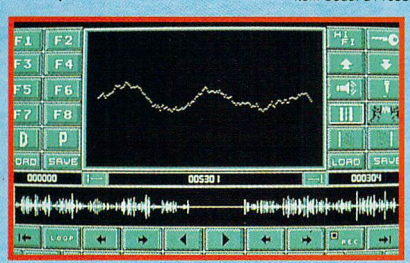


Campus Draft is the entry-level version of Campus. Full 2D draughting with auto-dimensioning and symbol libraries. Includes support for Atari Laser printer & most plotters.

£79.95
Item Code: ST1053

Pro Sound Designer is the ultimate in sound samplers for the ST! Features advanced editing functions and full control of sound chip. Complete with hardware for sound in and hi-fi out.

£64.95
Item Code: ST1001



ST OmniRes is a quite special piece of software - it allows you to run colour programs on a mono monitor and mono programs on a colour monitor! It'll even run games!

£39.95
Item Code: ST1064

Delivery (UK): Please add £1.50 for 1st Class/Recorded Delivery. Add £5 for Courier Delivery. All orders with a hardware item must go by Courier Delivery

The COMPUTER Factory

Warehouse-Direct Mail-Order Shopping!

To order, just call our Orderline and quote the Stock Code - the call's free!

FREE 0800 581 742

All prices are inclusive of 15% VAT unless otherwise stated. Prices subject to change without notice.

• Unit D7 • Royal Mills • Esher • Surrey • KT10 8AS • Tel: 0372 67282 •

QUANTUM PAINT

...a little Eidersoft Magic...

...and your imagination!

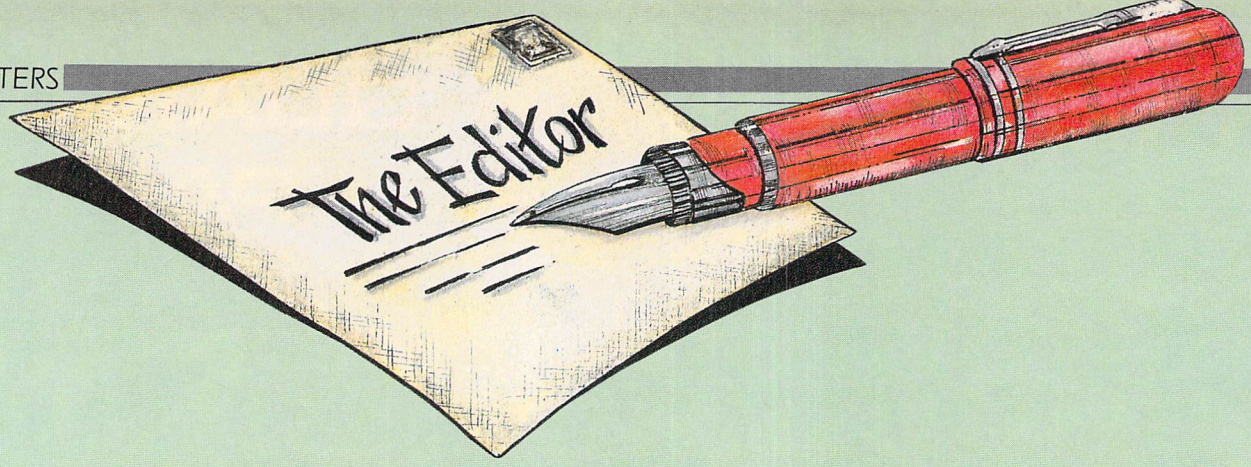
*The amazing **4096** colour ST paint program complete with animation!*

Available from WH Smiths and better dealers.

£24.95

*Or by Mail Order: **0800 581 742** Please add £1.50 p&p*
Professional version available - £34.95 (includes Programmer's Toolkit)

EIDERSOFT
Creative Computing



Remedial help required

I AM a serious Atari ST user and a mother of four boys. I have got into programming because there are so few good educational programs for pre-school and kindergarten children.

My two eldest children have learning difficulties which seem similar to dyslexia. The two younger boys are also probably affected by the same disability. I therefore would like to write programs which are specifically geared to their needs.

Consequently I would like to correspond with anyone interested in programming for children with learning difficulties. Any help would be appreciated. – **A. Radford, 11 Moran Close, Bayldon, New South Wales, Australia.**

● Spellbook (reviewed in the September 1988 issue of *Atari ST User* and B Spell (reviewed on Page 21 in this issue) may well help fill an immediate need. Our new series of educational articles which starts this month will also highlight some of the superb software available for children with specific learning difficulties.

In the near future we hope to dedicate an entire feature to remedial education and the ST – so keep reading. However, in the meantime if any reader can help Mrs Radford, please correspond directly with her at the above address.

Keeping score for the league

I READ with interest the letter in the August 1988 issue of Atari ST User, *from A. Watkins of Abergeeg, Gwent, as I have for the past two years been developing a program which will do everything he requires.*

It is currently written for the first division of the football league and will shortly be available for the second, third and fourth divisions. With very little modification, it could be used by Mr Watkins for his league.

The program is menu driven in that it asks you to input numbers corresponding to the teams in a menu. It asks for scores and produces a league table showing the number of games played, won, drawn and lost at home and away. There is also an additional column at the end, showing the computer's calculation – in percentage terms – of each team's chance of winning the league.

Each table is numbered as it is produced, therebye producing a useful facility for future reference should there be a dispute.

I have tried to make it as user-friendly as possible and allow you to create a new table from a printed publication if you don't have the chance to use the program from the start of the season. It also accepts the correction of any errors shown in the table, that were not noticed at the input stage. Of course, there is also a facility to save and load the most recently updated table and produce a hard copy for sending to the local newspaper.

I would be pleased to send anyone more details of this program upon receipt of a stamped self-addressed envelope. – **Rod Williams, 49 High Street, Colton, Rugeley, Staffordshire WS15 3LG.**

● Thank you very much for the information, Rod. We are sure that it will be of great benefit to A. Watkins and many other football enthusiasts.

Applause applause

AS a new Atari ST convert from the Commodore +4, I have been at a loss for any reasonable source of useful information about the Atari ST. Thus I am writing to applaud the start of your monthly pull-out sections and binder. However, I would like to suggest a few ideas for inclusion in the guide.

A listing of the start addresses of subroutines in rom and of the Atari ST Basic commands would be extremely useful. Also an index of the colour codings used in the guide would also save time as the contents grow.

Keep up the good work. – **J.W. Hooley, Long Eaton, Nottinghamshire.**

★ ★ ★

YOUR excellent publication Atari ST User *is the first magazine I have ever subscribed to on a regular basis. Having previously owned a Commodore 64, I have continued to be pleasantly surprised by the quality of the ST and your magazine.*

I recently took advantage of your subscription offer which contained the free PD discs, but was disappointed to find that all the programs in the Basic file were full of errors. It seems that the version of ST Basic that came bundled with my machine is different from that used for the PD programs.

How can I find out which version of ST Basic I have? – **Neal King, Highgate, London.**

● While it is always nice to receive plaudits from readers concerning the quality of *Atari ST User*, we naturally also enjoy constructive criticism and the chance to answer readers' questions. We have noted J.W. Hooley's suggestions and may implement them in the near future.

Readers can discover which version of ST Basic they have by loading it and then pulling down the About ST Basic option from the menu. If the copyright date is 1985 you have the old version of Basic, but if it is 1987, you own the new version.

The vast majority of public domain software was written for the old version of Basic and the new version won't run the listings. Any good ST dealer should be able to supply the old version of ST Basic.

Astronomical error

I WAS interested to see your magazine on sale in Canada. As an ex-astronomer, I was particularly interested in your article on Skyplot in the July issue of Atari ST User. *However, on your contents page you committed the gravest error known to astronomers; you referred to this astronomical package as being astrological.*

Fortunately this was not repeated in the article itself, but there was one other error. You mentioned conjunction as being an astrological term. Well, I suppose it is, but it is also a genuine astronomical term, as is opposition, but I think I've given you enough of that.

Incidently, before moving to Canada, I worked in the Royal Greenwich Observatory. While there, I had on occasion to

Each month we'll select a letter of the month – and the sender will receive the program which our reviewers have rated *Atari ST User* Star game. This month, reader, R. Alexander will receive Elite, which is reviewed on Page 22.

Letters on every subject of interest to Atari ST users are welcome. Send them to: The Editor, Atari ST User, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

Star Game for a Star Letter

Anyone for cricket?

WHY is our national game, cricket, so rarely implemented on micro computers? I remember three pretty dire versions of cricket written for the Sinclair Spectrum, the best of which was CRL's Test Match.

Can you imagine what 16 bit technology and 512k of memory could do for cricket simulation? In fact it might be the only way to beat the West Indies! There must be a programmer out there who is also a cricket fan. For the love of Botham, where is he/she? A decent cricket simulation would be greeted with wild enthusiasm by ST owners.

The basic rules and structure of cricket would translate easily enough to computer code, although integrating credible gameplay with realistic graphics might prove tricky. So please will someone fill this glaring gap in the 16 bit marketplace and restore some national pride at the same time. – **R. Alexander, London.**

● We couldn't agree more that a good cricket game for the ST would sell very well. Maybe your letter may give a software company just the inspiration it needs to produce such a program. Owzat!

deal with public enquiries about astronomical events. Some of these concerned items covered by Skyplot, so I wish it every success. – **Mark White, Toronto, Canada.**

● It's always pleasant to know that our magazine reaches all corners of the globe. Thank you for your observations which we have duly noted. We'll try not to make the same mistakes again.

DIPping the switches

I AM sure you can help me with this easy to solve problem. I have an Atari 520ST and a Panasonic KX-PI081 printer which are connected with a centronic cable. I have tried to use the printer drivers which come with 1st Word, but the printer puts extra blank lines into the text.

I have altered the DIP switches as follows: SW1: on, SW2: off, SW3: off, SW4: off, SW5: on, SW6: on, SW7: off, and SW8: on.

This was recommended in the manual which came with the printer, but such changes seem to have little effect. – **Jack Winter, Silkeborg, Denmark.**

● By a stroke of luck we happen to use Panasonic KX-PI081 printers here in the office, and have them connected to our 520 and Mega STs.

We arrange the DIP switches in the following order for all standard print-out: One, five, six and seven are all switched to the on position, while two, three, four, and eight are left off. We hope this helps with imported Danish STs and printers.

Double trouble

PC-DITTO is an amazing program with two faults. It lacks anything akin to speed and it is only supposed to run on a 1040ST. I can do nothing to alter the speed problem, but have found that it is possible to run PC-ditto on an ordinary 520STFM without any upgrades.

PC-ditto is advertised as only running on a 1040, not because of memory capacity but because it has a double sided drive. PC disc drives nowadays are 360k double sided format. Thus a single sided drive cannot read PC 3.5in discs. This problem can easily be overcome. All that is required is a friend with a 1040 or 520 with a double sided drive.

Boot-up PC-ditto on your friend's machine with a Dos disc, then type the following at prompt A>. FORMAT A:/S/1. This disc will now run on a 520ST with a single sided drive. The capacity may only be 180k but you now have genuine PC compatibility. The disc capacity can be doubled by using a PC equipped with a 3.5in drive and a formatted capacity of 720k.– **Leon Sanderson, Yeoville, South Africa.**

Getting on line

I HAVE recently acquired a Case 440/12 modem, which I have connected to my 520ST with a standard ribbon cable. What do I need in the way of software to start using my modem? I have tried using the VT52 emulator supplied with my computer but have not got anywhere with it.

I really am stuck and would appreciate any advice. – **J. Pratchett, Basingstoke, Hampshire.**

● You require a specific piece of communications terminal software in order to use your modem fully. Our pull-out guide to software in the April 1988 issue of *Atari ST User* lists some excellent communications packages at prices ranging from £19.95 to over £800.

K-Comm 2 as supplied with the Micro-Link modem is an excellent communications terminal program which we use regularly here at Europa House.

Lonely STs in Ireland

I HAVE been an ST user for nine months now and have found that there is very little support for the ST over here in Ireland. Together with a few friends I

Turn to Page 110 ▶

◀ From Page 109

have decided to start an Irish ST users group. At the moment I am compiling a newsletter and have made a collection of a lot of PD software. We aim to exchange news, views and PD software and support other lonely Irish ST users.

We are looking for Irish ST owners interested in joining our group, but we would also like to hear from anybody, anywhere else in the world.

If you are interested please send us an international reply coupon with your name and address. In return we will send you our first newsletter and details of our current public domain software. – **Mark Kinsella, Johnstown, Sea Road, Arklow, County Wicklow, Ireland.**

● We wish your group every success, Mark. We are sure that together with a monthly edition of *Atari ST User*, ST owners in Ireland will feel more in touch with everything going on in the world of the ST.

Tackling dirty drives

I AM a relative newcomer to the Atari ST, having only owned a 520STFM for little over a week. This is the first time I have come into contact with a disc drive of any sorts. I would like to know how to correctly maintain the drive heads.

I have bought a disc care cleaning kit and have used it three times. I am unsure if I am using it in the correct manner. After putting several drops of cleaning fluid on to the exposed lint-free material in the jacket of the cleaning disc, I insert it into the drive, switch on the TV and finally switch on the micro. The drive whirrs for about 30 seconds and I then remove the cleaning disc and switch off the TV and my ST. Is this procedure correct and am I cleaning my drive often enough? – **Sean Allen, Houghton-le-Spring, Tyne and Wear.**

● Your cleaning procedure appears to be correct, but we are a little worried about the amount of drive cleaning you are undertaking.

Depending upon the amount of use your computer is getting, you should not be cleaning your disc drive more often than once every six months. We have never cleaned the disc drives in our STs and have never had data corruption due to dirty drive heads.

A damaged disc or poorly set drive head could result in a deposit build-up, but this instance is rare. Of greater danger to your disc drive is the prominence of strong magnetic fields or constant use of poor quality cleaning kits.

More on sex and violence

IN response to the Star letter in the September 1988 issue of Atari ST User, *I feel I would like to make a few remarks. The user group I have started is by no means intended to be a women-only affair.*

I addressed the letter to women to attempt to redress the unequal representation of women and men in computer magazines. I certainly have not turned away any enquiries from male ST users about the group.

I do not feel that separatism is the answer to sexism in software or in any walk of life, and prefer active cooperation.

The comments you made, both to myself and J.A. Harris' letters, are prime examples of the problem. You clearly rate the topic as important, giving both letters Star status, yet stating clearly that you thought it acceptable to encourage gamers to play Rambo type games because that's what the majority of users want.

Does this not smack of ascribing a role to people which they then accept as normal, when they are unaware of the alternatives?

If the topic is important enough to warrant Star Letter status, why not take the opposite line and discourage violence and sexism?

I will write no more. Instead I shall leave the floor open for others to comment, and I wait eagerly to see what they have to say. – **Sandra Vogel, Wimbledon, London.**

★ ★ ★

I HAVE read with interest the various views of your readers, concerning sexism and violence within the computer games industry. Surely if we look back into history, we will always find that the inhabitants of this planet have spent many years fighting either about religion or world domination, or for an individual to possess supreme power.

Computer games will not sell just because they are of a violent or sexist nature, but maybe some people need a fantasy world to escape into, where their violent tendencies can be given full reign without causing harm to other members of our society.

I rely on the reviews published in your excellent magazine for the graphic content and playability of games software. No amount of scantily clad females on the advertising of games would entice me to buy a product to which I would otherwise give a wide birth. – **M.A. Depear, Throcken Holt, Lincolnshire.**

★ ★ ★

I AGREE with Ms Harris' statement in the Star letter in the September 1988 issue of Atari ST User *that in assuming that most male readers and games players identify closely with a Rambo image, you are both stating what is not proven and also overlooking your part in helping shape social attitudes.*

Some of the ingredients in the Rambo image are: Violence solves problems, complicated issues can be reduced to black and white statements, fight for your country right or wrong, and label those who don't agree with you as wimps. The sum total of all this is, in fact, a coherent and to my mind, very dangerous political philosophy.

It seems to me that the appeal of good arcade games is to achieve mastery of a skilful technique over clever opponents and puzzles.

This can be presented in numerous ways, but to choose to do so in a Rambo-type setting is a deliberate, and ultimately a political choice.

It is undoubtedly the case that Rambo images have a wide appeal in our society – this makes them neither right nor acceptable, and places a responsibility on us all – especially the media – to decide whether we wish to add to these images or resist them.

Your assumption that your readers have the choice only between a Rambo and a wimp image, is an example of black and white thinking, and needs to be challenged. – **Jeremy Deane, Poole, Dorset.**

● These letters are just a sample of the dozens we have received on this topic and hopefully reflect some of the different viewpoints.

We agree that sexism and violence should not be encouraged in computer games, but as both are endemic in modern society it is difficult, if not impossible, to counter their prevalence in games software without being over radical.

We at *Atari ST User* are in the business of reporting and commenting on the best software, hardware and languages available for your computer. If we were to start taking moral stances on wider issues we would become immersed in the deep water that is the realm of other populist non-computer periodicals.

We hope that enough has now been said on this subject in our pages.

BRK Computer Services Ltd.

Tel: 01 572 5457
216 Great West Road, Hounslow, Middlesex
TW5 9AW
(Near Hounslow West Tube)

520 STFM £297
(New super Pack)

520 STFM £223
(0.5 Meg Drive)

1040 STFM + Mono £434
While Stocks last

DISCS 3.5" DSDD (20) – £19.99
FREE DELIVERY

Atari 1040 STFM £379
Atari SM125 ..... £119

Please telephone for Hardware and software prices not listed

LOWEST PRINTER PRICES

Micro P MP135 ..... £139
Star LC10 ..... £189
Epson LX800 ..... £198

Please telephone for printers not listed

Prices exclude VAT, Free delivery,
please make cheques/postal orders to:
BRK Computer Services Ltd.
All prices subject to change without notice – the above prices mail order, shop prices may vary from above.

INVEST WITH PRO-PUNTER

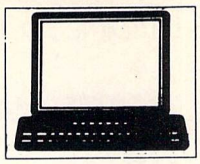
Pro-Punter

* NOW, you can turn your Atari ST into an expert racing adviser.
* PRO-PUNTER is a sophisticated, disc-based expert computer system for home micros which ACCURATELY interprets horse racing form.
* In extensive trials over both FLAT AND NATIONAL HUNT seasons: 57% of horses top-rated by PRO-PUNTER won, representing an average post-tax PROFIT per race of 80% of capital invested. 85% of winners came from within the top three rated, representing an average post-tax PROFIT per race of 18%, all three backed.
* Researched and developed over three years, PRO-PUNTER uses information from the racing press and analyses ALL major aspects of racing form.
* Produces a RACE FORECAST, generates a COMPUTER S.P., highlights good and poor VALUE BETS and OFFERS INVESTMENT ADVICE.
* PRO-PUNTER adjusts automatically to the race under analysis. You don't need to be an expert yourself.
* Since its launch in May 1987, proofing to the racing press has resulted in a profit in excess of 90 level-stake points over 100 races and a strike-rate in excess of 50%.
* Available now for the Atari ST and BBC, AMSTRAD PCW, CPC 6128 & IBM Compatibles.

Please allow 28 days for delivery

***PRICE £57.50 including VAT, P&P (please specify machine). Orders and enquiries to:**

DGA SOFTWARE, PO BOX 36,
ASHTON-UNDER-LYNE, LANCS. OL7 9AJ
Telephone: 061-330 0184



BYTEWARE LTD.

9 MARITIME TERRACE
SUNDERLAND
SR1 3JT
TEL: 091-514 4222

NEW!! GIFT WRAPPING SERVICE
PLEASE PHONE FOR DETAILS

Title	RRP	Our Price
Iron Lord	*	*
Battle Chess	*	*
Power Drome	*	*
Elite	*	*
Ghost 'n' Goblins	19.95	11.95
3D Wanderer	19.95	11.95
Live and Let Die	19.95	11.95
Empire Strikes Back	19.95	11.95
Space Harrier	19.95	11.95
Whirligig	19.95	11.95
Virus	19.95	11.95
Fire & Forget	24.95	14.95
Phantasm	19.95	11.95
Stir Crazy	19.95	11.95
Peter Beardsley	19.95	11.95
Alien Syndrome	19.95	11.95
Sky Blaster	19.95	11.95
Mindfighter	24.95	14.95
Uninvited	24.95	14.95
Shadowgate	19.95	11.95
Beyond the Ice Palace	19.95	11.95
Sidewinder	9.95	6.50
Star Trek	19.95	11.95
Starquake	19.95	11.95
Oids	19.95	11.95
Stac	39.95	26.50
Computer Hits	29.95	17.95
Impossible Mission II	19.95	13.50
Dungeon Master	24.95	14.95
Carrier Command	24.95	14.95
Power Basic	39.95	27.95
Roadwars	19.95	11.95
Supersprint	14.95	8.95

Title	RRP	Our Price
Xenon	19.95	11.95
Tempus	34.95	22.95
Star Wars	19.95	11.95
International Soccer	19.95	11.95
Fast ST Basic	44.95	31.50
Fast ST Basic (Rom)	79.95	59.50
Backlash	19.95	11.95
Barbarians (Psygnosis)	24.95	14.95
Flight Simulator 2	44.95	29.50
Winter Olympiad '88	19.95	11.95
Captain Blood	24.95	14.95
Football Manager	14.95	8.95
Fleet Street Publisher	133.95	85.50
Outrun	19.95	13.50
Defender of the Crown	29.95	17.95
Arcade Force 4	24.95	16.50
Buggy Boy	19.95	11.95
Obliterator	24.95	14.95
Gunship	24.95	14.95
Time & Magik	19.95	11.95
Test Drive	24.95	17.75
Football Manager 2	19.95	11.95
Ikari Warriors	14.95	8.95
Chessmaster 2000	24.95	17.75
Degas Elite	24.95	17.75
Spitfire 40	24.95	14.95
Jinxter	24.95	14.95
Rampage	14.95	8.95
Gauntlet 2	19.95	13.50
Music Construction Kit	24.95	17.75
Legend of the Sword	24.95	14.95
Bards Tale I	24.95	17.75

* Please phone for price!

LARGE RANGE OF TITLES AVAILABLE WITH UP TO 40% OFF RRP
ORDERS DESPATCHED IN 24 HOURS
ADVANCE ORDERS TAKEN FOR FORTHCOMING RELEASES – DESPATCHED ON DAY OF RELEASE

PRICES INCLUDE POSTAGE AND PACKING IN U.K. PLEASE ADD £2 FOR OVERSEAS

BUY NOW FOR CHRISTMAS

SOFTWARE ORDER FORM (BLOCK CAPITALS PLEASE)

TITLE	AMOUNT

CHEQUES/P.O'S PAYABLE TO BYTEWARE LTD
PLEASE ENCLOSE NAME, ADDRESS & TELEPHONE No. WITH ORDER

ATARI ST USER – SEPTEMBER '88

VISA

2 FREE BLANK DISKS
WITH ORDERS OVER £50

5 FREE BLANK DISKS
WITH ORDERS OVER £100

16 BIT CENTRE

HOME & BUSINESS COMPUTERS

HARDWARE

Atari STFM Super Pack
520STFM plus 1Mb Internal Drive Joystick
and 22 games worth over £450 ..... £349.00

Amiga A500 deluxe paint 3 games and modulator
£399.00

Commodore 1084 high res Colour Monitor
for Atari ST inc. lead £229.00
Citizen 120D Printer inc. lead £139.00
NEC 2200 Printer £375.00
1Mb Disk Drive (Cumana) £99.00
Casio CZ230S Midi Keyboard £269.00
Memorex DD/DD per 10 ..... £19.00
1040 STFM £449.00
Rank Xerox 4020 Colour Printer £1250.00
Midi Software now available

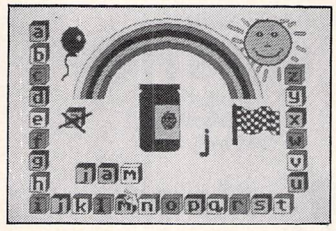
BUSINESS SYSTEMS

Mega ST 2 plus SM 124 Mono Monitor £999.00
As above with Atari Laser Printer,
VIP Professional and Microsoft Write £1799.00
Mega ST 4 with SM 124 Mono Monitor £1299.00
DTP Mega 4 with SLM 804 Laser Printer,
SM124 Mono Monitor, SH205 20Mb Hard Drive
and Fleet Street Publisher £2699.00

16 BIT CENTRE
48 Bachelor Gardens, Harrogate,
North Yorkshire. HG1 3EE
Tel: (0423) 526322
All prices include VAT and Postage (Courier Extra)

B.BYTES COMPUTER SYSTEMS of Hinckley

are proud to announce B-Spell (see review on page 21 of this issue) and B-Base II version 1.5 at only £14.95 each or both for only £24.95



B-SPELL

Teach your child how to spell and pronounce in one package. 26 pictures and words to spell or an unlimited amount with the forthcoming construction set which will be priced between £7.95 and £9.95. Plus 26 sampled phonetic pronunciations to listen to and learn.

B-BASE II Version 1.5

Easy to use and powerful card index sequenced data files. Ideal for record collections, address book, diary or anything else you can think of. Totally flexible field structures that require no setting up. Incredibly fast searches and filtered printer output are just three of the many features of this impressive program. Please ring or write for further details, trade enquiries welcome.

FULL SUPPORT FOR ATARI ST AND XL/XE

Atari ST from £269 inc VAT Ring or Write for details

520 STFM SUPER PACK
21 Top game titles, Word Processor, Database, Spreadsheet, Mouse Mat, Manuals and B-Byte Software
1Mb Double sided disc drive built in only **£399.00**

WORD PROCESSING PACK
Atari ST Computer Printer and High Res Monitor & First Word Plus
Word Processor **From £569 to £799**

Friendly and expert advice to help you get the most out of your machine and: B.Bytes customised mouse mat
3.5" D/S D/D disks only £1 each if you buy 40 or more
30% off selected software (top titles **not** rubbish)
Up to 25% off software for all other machines
Extensive ranges of Atari Accessories, Interfaces, Joysticks and Books
XF551 double sided disc drive for 8 bit Atari. Ring for details

Please write or phone for free information pack. Please state computer
B. BYTES COMPUTER SYSTEMS
Dept AU 19 Southfield Road, Hinckley, Leicestershire, LE10 1UA. Tel.: (0455) 613377
All Prices Include VAT, P&P may be extra.

ATARI ST BOOKS, UTILITIES AND PUBLIC DOMAIN LIBRARY

ABACUS ST BOOKS

Atari ST for Beginners	£11.95	BASIC Training Guide	£11.95
STMachine Language (D)	£13.95	Tricks and Tips (D)	£13.95
BASIC to C	£13.95	Logo User's Guide	£13.95
Graphics and Sound (D)	£14.95	Midi Programming (D)	£14.45
GEM Reference Guide (D)	£14.45	ST Internals (D)	£14.95
3-D Graphics (D)	£15.95	Disk Drives – In & Out (D)	£15.95

OTHER ATARI ST BOOKS

68000 Pocketbook (Glentop) £1.75
Using ST BASIC on the Atari ST (Glentop – New Edition) £7.95
GFA BASIC Program Quick Ref. Guide (Abacus) £8.95
Programming GFA BASIC (Beginners Level by Glentop) £9.95
Motorola 68000 Programmers Reference Manual (Motorola) £8.95
First Steps in 68000 Assembly Language (Glentop) £9.95
The Atari ST Advanced Programmers Guide (Sigma) £10.95
Atari ST Source Book and Tutorial (Atari – New Edition) £11.95
Introduction to Sound and Graphics on the ST (Compute!) £12.95
Elementary Atari ST BASIC (Compute!) (D) £12.95
Atari ST Programmer's Guide (Compute!) £14.95
ST Artist (Compute!) (D) £14.95
GFA BASIC Training Reboot Camp (Beginners Level by Michtron) £14.95
GFA BASIC Advanced Programming (Glentop) £15.95 or with Disk £19.45
Atari ST Applications: Programming in C (Compute!) (D) £16.95
Learning C: Prog. Graphics on the ST (Compute!) (D) £16.95
Mastering Sound and Music on the Atari ST (Sybex) £16.95
Atari ST Technical Ref. Guide Vol 1 (Compute!) £16.95
Atari ST Technical Ref. Guide Vol 2 (Compute!) £16.95

BOOK PROGRAM DISKS:- Available for all titles marked (D) £7.95
Note:- Book Program Disks are available without purchasing the book!

BEST SELLING ST UTILITIES

GFA Vector (3D Graphics)	£22.95	Fast BASIC Interpreter	£32.95
Devpac II ST	£43.95	Hisoft BASIC	£54.95
GFA Basic Version 3	£49.95	Lattice C (Latest)	£68.95

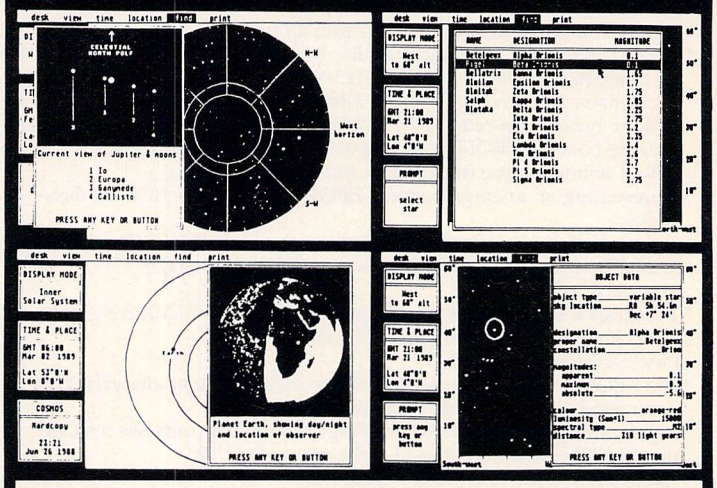
ST PUBLIC DOMAIN LIBRARY – DISKS £2.25 EACH! – SEND FOR CATALOGUE

BLANK D/S GUARANTEED DISKS WITH LABELS – 10 OR £11.00, 20 FOR £20.00

All offers are subject to availability and may change at any time. E.&O.E.
All prices include P&P in UK, otherwise add £2 per item
Access/Visa/Mastercard holders. Telephone 0706 43519 or send details
Send cheques/POs to:-

16-BIT SOFTWARE, (Dept. STUN), 24 Bankfield Lane, Norden, Rochdale, Lancashire, OL11 5RJ (Great Britain)

COSMOS



COSMOS the much acclaimed astronomy program is now available for the Atari ST (520 & 1040, colour & mono).

Display your choice of star maps for any date and time, and from any part of the world. Identify over 500 stars and planets, view the Solar System, the moons of Jupiter, the rings of Saturn, etc. Call up comprehensive information on any object and print any screen. Fully mouse driven, fast and user friendly.

A fascinating addition to your software library.

Cheque/PO to:
GAYMERSOFT, 135 Lavenham Rd., Ipswich, IP2 0LD

£19.95

Fingers on the button!

Mike Baxter presents an ingenious multiple choice quiz game shell written in Fast Basic

TRIVIA Test is an essentially simple but very versatile quiz generating program, and can be used purely for entertainment or as an educational utility for teaching or revision purposes. The listing given here provides the guts of the system, and all you have to provide is a set of questions and answers on any topic you choose.

Operating the program couldn't be simpler – specify a question and answer (.QA) file for the program to work with and select the duration of the game from a menu. Provided there are enough questions in the QA file, you can then instruct Trivia Test to ask just 10, 20 or 30 questions from the file.

The program will then proceed to display the questions in multiple choice format with four possible answers to pick from, labelled A, B, C and D. From there onwards, you just have to keep getting the answers right!

Make your selections by pressing the letter key corresponding to the answer you think is correct, and the program will indicate whether you have made the correct choice by ticking a mark box at the bottom right of the screen, or issuing a fat cross if you got it wrong. Whatever happens, the correct answer will flash on the screen and you'll move on to the next question.

The game completed, your score and percentage will be displayed – I've tried not to make it look like a school examination result – and you can then decide whether to play another round, load another .QA file, or quit.

Trivia Test never asks the questions or displays the possible answers in the same order twice, so you won't be able to remember that the answer to the first question for instance, is always choice B.

As for the business of designing a .QA file, it's really very simple. Using a word processor or text editor which can save files in Ascii format – such as 1st Word/1st Word Plus, Tempus, Protext, and so on – enter your questions, the more the merrier.

For every question in the file, you must supply one correct answer, and three incorrect ones. The question itself can be up to 70 characters long, with the correct answer on the next line followed by the three false answers on consecutive lines. For example:

```
Who is the president of the USA?
Ronald Reagan
Ronald McDonald
Arthur C. Clarke
Arthur Scargill
```

Be careful not to leave any blank lines between questions or at the end of the file. To make sure there are no blank spaces at the end of a file, place the cursor just after the last letter of the last word and hold down the Delete key until you're sure any additional lines or spaces have gone. If you are using 1st Word, the cursor will stop flashing when you have deleted all such spaces.

Then save your file with a .QA extension, for instance as TRIVIA.QA. This will allow the Trivia program to automatically list all the question and answer files on the disc when you run the program.

Don't worry too much about making mistakes when creating .QA files, as you won't crash the system by loading a faulty one into the program – but the questions may not make much sense.

One final note: The program will only run on a high resolution monochrome monitor, and requires at least 100k of workspace to operate properly. So don't forget to change the Show Info dialogue from Fast Basic's File menu.

Turn to Page 114 ▶

```
  10 \ Trivia  Test
  20 \ Written by Michael ANDBaxter
  30 \ (c) Atari ST User 1988
  40 \ Fast Basic
  50 \ Mono Monitor - Requires 100k
  70 ESCAPE OFF
  80 IF SCREENMODE<>2 THEN i=ALERT("[
1][ |Hi Res Only][ Sorry ]",1):END
  90 CLEAR 65535:DIM qa$(300,5),list(
4),store(300),mess&(7)
 100 l$=STRING$(26,"-")
 110 m$="[  About Trivia Test ]"
 120 m$=m$+"[ File | Load New Questio
ns \"+l$+"\ Quit ]"
 130 m$=m$+"[ Game |  Play Game \"+l$
+"\  10 Questions \"
 140 m$=m$+"  20 Questions \  30 Ques
tions \"+l$+"\  All Questions]"
 150 game=10:exit=FALSE
 170 CLOSEWIND OUTHANDLE:DELETEWIND O
UTHANDLE
 180 CLOSEWIND IMMHANDLE:DELETEWIND I
MMHANDLE
 190 FOR i=1 TO 10:CLOSEWIND SEGHANDL
E(i):DELETEWIND SEGHANDLE(i):NEXT
 210 PROCsetup_screen
 220 PROCcontrol_loop
 230 END
 250 \ Main program control loop
 260 DEFPROCcontrol_loop
 270 RELEASEMOUSE:BEGINUPDATE
 280 MENU m$:ENDUPDATE
 290 GTXTSIZE 13:GTXTEFFECTS 16
 300 GTXT 600,14,CHR$(14)+CHR$(15)
 310 GTXTSIZE 6
 320 GTXT 485,12,"TRIVIA TEST"
 330 ENABLEITEM 23,0:ENABLEITEM 40,0:
ENABLEITEM 44,0
 340 REPEAT
 350 PROCselector
 360 UNTIL button%
 370 PROCload_file
 380 PROCcheck_ammount
 390 PROCq_box
 400 PRINTTAB(6,2)"TRIVIA TEST ... Pl
ease select an option"
 410 REPEAT
 420 REPEAT:WAITMESSAGE @mess&(0):UNT
IL mess&(0)=10
 430 SWITCH mess&(4)
 440 CASE 13
 450 a$="[0][ "+CHR$(14)+CHR$(15)+" T
RIVIA TEST|"
 460 a$=a$+" | Written By Michael A.B
axter  |"
 470 a$=a$+" Atari ST User "+CHR$(189
)+" MCMLXXXVIII| ][ Continue ]"
 480 dummy=ALERT(a$,1)
 490 CASE 22
 500 PROCselector
```

◀ From Page 113

```
  510 IF button%<>FALSE THEN
  520 PROCload_file
  530 PROCcheck_ammount
  540 ENDIF
  550 CASE 24
  560 exit=TRUE
  570 CASE 39
  580 PROCdo_game
  590 a$="[0][ G A M E  O V E R! ]"
  600 a$=a$+"Out of "+STR$(game)+" Que
stions:|"
  610 a$=a$+STR$(score)+" Correct|"
  620 a$=a$+STR$(game-score)+" Wrong][
"
  630 a$=a$+STR$((score/game)*100)+"%
]"
  640 dummy=ALERT(a$,1)
  650 PROCq_box
  660 PRINTTAB(6,2)"TRIVIA TEST ... Pl
ease select an option"
  670 score=0:PRINTTAB(6,22)SPC(48)
  680 CASE 41
  690 CHECKITEM 41,1:game=10
  700 CHECKITEM 42,0:CHECKITEM 43,0:CH
ECKITEM 45,0
  710 CASE 42
  720 CHECKITEM 42,1:game=20
  730 CHECKITEM 41,0:CHECKITEM 43,0:CH
ECKITEM 45,0
  740 CASE 43
  750 CHECKITEM 43,1:game=30
  760 CHECKITEM 41,0:CHECKITEM 42,0;CH
ECKITEM 45,0
  770 CASE 45
  780 FOR i=41 TO 43:CHECKITEM i,0:NEX
T
  790 CHECKITEM 45,1:game=questions
  800 ENDSWITCH
  810 INVERTTITLE mess&(3),1
  820 UNTIL exit=TRUE
  830 ENDPROC
  850 DEFPROCload_file
  860 loop=1:file=OPENIN file$
  870 REPEAT
  880 PROCgetrecord(file)
  890 qa$(loop,1)=a$
  900 FOR g=2 TO 5:PROCgetrecord(file)
:qa$(loop,g)=a$
  910 NEXT
  920 loop=loop+1
  930 UNTIL EOF#file OR loop>300
  940 CLOSE#file:questions=loop-1
  950 ENDPROC
  970 \ INPUT procedure to strip extra
 CR byte from file
  980 DEFPROCgetrecord(handle)
  990 LOCAL dummy|
 1000 INPUT#handle,a$
 1010 dummy|=BGET#handle
 1020 ENDPROC
 1040 DEFPROCdo_game
 1050 FOR g=1 TO 300:store(g)=FALSE:NE
XT
 1060 score=0:HIDEMOUSE
 1070 FOR loop=1 TO game
 1080 dummy=RND(-SYSTIME)
 1090 REPEAT
 1100 choice=RND(questions)
 1110 UNTIL FNrnd_check
 1120 store(loop)=choice
 1130 FOR g=1 TO 4
 1140 REPEAT
 1150 rep%=FALSE
 1160 a=RND(4)
 1170 FOR i=1 TO g:IF list(i)=a THEN r
ep%=TRUE
 1180 NEXT
 1190 UNTIL rep%=FALSE
 1200 list(g)=a
 1210 NEXT
 1220 GTXTEFFECTS 1:GTXTSIZE 13:FILLC(
L 0:FILLSTYLE 2,8
 1230 PROCq_box
 1240 FILLCOL 0:BAR 520,330,612,390
 1250 LINECOL 1:PROCbox(520,330,612,39
0)
 1260 LINEWIDTH 5:LINE 524,392 TO 614,
392
 1270 LINEWIDTH 3:LINE 614,392 TO 614,
334
 1280 LINEWIDTH 1
 1290 PRINT TAB(6,2)qa$(choice,1)
 1300 TXTEFFECTS 4
 1310 PRINTTAB(5,22)"  QUESTION ";STR$
(loop);" OF ";STR$(game)
 1320 FOR g=1 TO 4
 1330 a$=qa$(choice,1+list(g))
 1340 BAR 50,46+(g*60),598,68+(g*60)
 1350 GTXT 320-((8*LEN(a$))/2),65+(g*6
0),a$
 1360 NEXT
 1370 REPEAT:k=GET AND 223:UNTIL k>64
AND k<69
 1380 k=k-64:IF qa$(choice,1+list(k))=
qa$(choice,2) THEN
 1390 PROCcorrect:BEEP:score=score+1
 1400 ELSE
 1410 PROCwrong
 1420 ENDIF
 1430 LINEWIDTH 1:PROCflash_answer
 1440 PRINTTAB(27,22)STR$(score);" cor
rect, ";STR$(loop-score);" wrong"
 1450 TXTEFFECTS 0
 1460 FOR g=1 TO 4:list(g)=FALSE:NEXT
 1470 NEXT loop:SHOWMOUSE
 1480 ENDPROC
 1500 DEFPROCsetup_screen
 1510 TXTRECT 0,16,SCREENWIDTH,SCREENH
EIGHT
 1520 GRAFRECT 0,0,SCREENWIDTH,SCREENH
EIGHT
 1530 TXTSIZE 13:CLG 0
 1540 GTXTEFFECTS 16:GTXTSIZE 21:GTXTC
OL 1
 1550 FILLSTYLE 2,4
 1560 LINECOL 1:BAR 0,0,640,400
 1570 FILLSTYLE 2,8
 1580 LINECOL 0
 1590 FOR g=1 TO 4
 1600 BAR 28,38+(g*60),612,82+(g*60)
 1610 PROCbox(30,40+(g*60),610,80+(g*6
0))
 1620 PROCbox(32,42+(g*60),608,78+(g*6
0))
 1630 GTXT 36,68+(g*60),CHR$(64+g)
 1640 NEXT
 1650 FILLCOL 0:BAR 520,330,612,390
 1660 LINECOL 1:PROCbox(520,330,612,39
0)
 1670 LINEWIDTH 5:LINE 524,392 TO 614,
392
 1680 LINEWIDTH 3:LINE 614,392 TO 614,
334
 1690 LINEWIDTH 1
 1700 TXTEFFECTS 4:PRINTTAB(4,22)SPC(5
1):TXTEFFECTS 0
 1710 LINE 31,367 TO 440,367
 1720 LINE 24,384 TO 432,384
 1730 LINE 31,367 TO 24,384
 1740 LINE 440,367 TO 432,384
 1750 ENDPROC
 1770 DEFPROCbox(x1,y1,x2,y2)
 1780 LINE x1,y1 TO x2,y1
 1790 LINE x2,y1 TO x2,y2
 1800 LINE x1,y1 TO x1,y2
 1810 LINE x2,y2 TO x1,y2
 1820 ENDPROC
 1840 \ Draw a cross
 1850 DEFPROCwrong
 1860 LINEWIDTH 4
 1870 LINE 540,340 TO 592,370:LINE 540
,370 TO 592,340
 1880 ENDPROC
 1900 \ Draw a tick
 1910 DEFPROCcorrect
 1920 LINEWIDTH 4
 1930 LINE 540,360 TO 550,370:LINE 550
,370 TO 592,340 -
 1940 ENDPROC
 1960 \ Highlight correct answer on sc
reen
 1970 DEFPROCflash_answer
 1980 LOCAL delay
 1990 FOR g=1 TO 4
 2000 IF qa$(choice,1+list(g))=qa$(cho
ice,2) THEN
 2010 GRAFMODE 3
 2020 FOR i=1 TO 8
 2030 BAR 50,46+(g*60),598,68+(g*60)
 2040 delay=TIME:REPEAT:UNTIL TIME=del
ay+100
 2050 NEXT
 2060 GRAFMODE 1
 2070 ENDIF
 2080 NEXT
 2090 ENDPROC
 2110 \ The following checks that the
next chosen question has
 2120 \ not already been used in this
particular game
 2130 DEFFNrnd_check
 2140 result=TRUE
 2150 FOR a=1 TO loop
 2160 IF store(a)=choice THEN result=F
ALSE
 2170 NEXT
 2180 =result
 2200 \ Display GEM File Selector and
clear up afterwards
 2210 \ Check for valid filename selec
tion
 2220 DEFPROCselector
 2230 pth$="A:\*.QA":file$=""
 2240 REPEAT
 2250 GRAB 0,0,SCREENWIDTH,SCREENHEIGH
T
 2260 FSELECT pth$,file$,button%
 2270 PUT 0,0,3
 2280 UNTIL (button% AND LEN(file$)) O
R button%=FALSE
 2290 ENDPROC
 2310 \ Draw the question box
 2320 DEFPROCq_box
 2330 FILLSTYLE 2,8
 2340 BAR 28,40,500,72 : LINECOL 1
 2350 PROCbox(28,40,500,72): LINEWIDTH
5
 2360 LINE 32,74  TO 502,74: LINEWIDTH
3
 2370 LINE 502,74 TO 502,44: LINEWIDTH
1
 2380 ENDPROC
 2400 \ Check how many questions have
been loaded off the disk
 2410 \ and alter menu items according
ly
 2420 DEFPROCcheck_ammount
 2430 ENABLEITEM 41,(questions>9 AND q
uestions<20)
 2440 ENABLEITEM 42,(questions>19 AND
questions<30)
 2450 ENABLEITEM 43,(questions>29 AND
questions>29)
 2460 IF questions<10 THEN
 2470 CHECKITEM 45,1:game=questions
 2480 ELSE
 2490 CHECKITEM 41,1:game=10
 2500 ENDIF
 2510 CHANGEITEM 45,"  All "+STR$(ques
tions)+" questions"
 2520 ENDPROC
```

ASHCOM

ATARI HARDWARE

520STFM Keyboard/Mouse/0.5meg drive £260.00
1040STFM Keyboard/Mjouse/1 meg drive ..... Phone
1040STFas above with SM125 mono monitor .. Phone
1040STF as above with SC1224 col. monitor £899.95
Mega ST 22 meg Ram/Mouse/mono monitor £954.95
Mega ST 22 meg Ram/Mouse/col. monitor . £1184.95
ALL MEGA ST's ARE FITTED WITH ATARI BLITTER CHIPS
Cumana 1 meg 3.5" disc drive £110.00
SM205 20 meg hard disk drive £535.00
SM125 monitor £129.95
ST-Printer lead (Centronics) £15.00
ST-Scart lead £15.00
520STFM Special Pack £360.00

COMMODORE HARDWARE

Amiga A500 Keyboard/Mouse/1 Meg Drive ... £380.00
Amiga A500 as above+TV modulator £400.00
Amiga A500 as above+ Philips 8833 col.mon. £640.00
All Amiga A500's come with Deluxe Paint, utilities, manuals and tutorial disc
A501 512k expansion £115.00
Cumana disc drive £110.00
MPS 1200 dot matrix printer £210.00
MPS 1500 dot colour printer £320.00
MP135 printer £159.00
Philips 8833 colour stereo monitor with ST or Amiga leads £270.00

DISCS

3.5" DS/DD Disc (certified, guatanteed with labels) 10 in library case £12.00
25 ..... £25.00
50 ..... £47.00
100 ..... £90.00
500 ..... £425.00
1000 ..... £825.00
Lockable disc boxes (holds 80 3.5" discs) £11.00
Trade enquiries welcome for larger quantities

SOFTWARE

		RRP	Our Price
Backlash	AM ST	£19.95	£13.95
Barbarian (Palace)	ST	£14.99	£10.50
Barbarian (Psygnosis)	AM ST	£24.95	£16.95
Bubble Ghost	ST	£19.95	£13.95
Defender of the Crown	AM ST	£29.99	£20.50
Firepower	AM	£24.95	£16.95
Flight Simulator II	AM ST	£49.95	£35.50
Gauntlet I & II	ST	£24.95	£16.95
Guild of Thieves	AM	£24.95	£16.95
Impact	AM ST	£14.95	£10.50
Impossible Mission II	ST	£19.99	£13.95
Indiana Jones	ST	£19.95	£13.95
Indoor Sports	AM	£19.95	£13.95
Leader Board	ST	£24.95	£16.95
Leviathan	AM	£19.95	£13.95
Living Daylights	AM	£19.95	£13.95
Mortville Manor	ST	£24.95	£16.95
Out Run	ST	£19.95	£13.95
Portal	AM ST	£34.99	£25.50
Roadrunner	ST	£24.99	£16.95
Sentinel	ST	£19.95	£13.95
Star GLider	AM ST	£24.95	£16.95
Star Trek	ST	£19.95	£13.95
Star Wars	ST	£19.95	£13.95
Terrorpods	AM ST	£24.95	£15.95

1 MEG RAM UPGRADE FOR ST

£110.00 FITTED

Phone for further details

New software and hardware is constantly being added to our list at massive discounts, so if you do not see what you require, do not hesitate to call us on:

(0530) 411485

All prices include VAT @ 15% and P&P on UK mainland. Send S.A.E. for full price list
All items despatched within 24 hours subject to availability.Courier service on hardware and large parcels. ***To order: Send Cheques/PO or Visa/Access details to the address below.***
Credit card orders also taken by telephone

ASHCOM

10 The Green, Ashby-de-la-Zouch, Leicestershire LE6 5JU

ASHCOM is a trading name of Ashby Computers and Graphics

COMPUTERS

HOME **BUSINESS**

Competitive price offers on our Mail Order Service for all computer related products.

Computers. Atari and other leading makes

Peripherals. Plotters, Printers, and Graphic Tablets

Software. Leading Titles

Telephone for a copy of our latest price list

Tel: (0733) - 78249

ALLIED CONTROL SERVICES LTD.
18, Chatsfield.
Werrington,
Peterborough. PE4 5DJ

ATARI

STFM XMAS SUPER PACK –
Includes £450 worth of Software and Free Joystick + 5 Public Domain Disks
***** ONLY £347 *****

ATARI ST SOFTWARE

NEW RELEASES

Fire & Forget £15.90
Eddie Edwards £12.90
Thundercats £12.90
Bobo (Stir Crazy) £12.90
Sidewinder £6.90
Starfleet £17.90
Platoon £12.90
Pandora £12.90
Overlander £12.90

ATARI ST SOFTWARE

EXAMPLES OF OUR FULL RANGE OF SOFTWARE

Spitfire 40 ..... £15.90
Obliterator £15.90
International Soccer £12.90
Time Bandits £18.95
Hollywood Poker £6.90
Football Manager II £12.90
Buggy Boy £12.90
Wizball £12.90
Virus £12.90
Flight Sim II £22.90
European Scenery Disk £12.90
Japanese Scenery Disk £12.90
Warlocks Quest £12.90
Arcade Force 4 ..... £15.90

WE LEAD – OTHERS FOLLOW

HOMESOFT (UK)

Software and Hardware

PHILIPS HI RES MONITOR (Stereo)
suits either ST or Amiga
***** ONLY £228.95 *****

EXAMPLES OF OUR PRICES ARE:

RRP £29.99 ..... OUR PRICE £18.90
RRP £24.99 ..... OUR PRICE £15.90
RRP £19.99 ..... OUR PRICE £12.90
RRP £14.95 ..... OUR PRICE £9.90
RRP £9.90 ..... OUR PRICE £6.90

IF THE TITLE IS NOT HERE PLEASE PHONE FOR DETAILS

POSSO DELUXE STORAGE BOX
Holds 160-180 **ONLY £14.99**

Sony unbranded 3.5" DS/DD DISKS
Loose 10's **£9.70**
10's in Plastic Case
NEW PRICE **£10.49**

AMIGA

AMIGA A500+Modulator+Joystick+Free Software
***** ONLY £369 *****
AMIGA A500+Modulator+Joystick with Philips 8833 Monitor
***** ONLY £595 *****

JOYSTICKS

Comp Pro Extra £11.55
Comp Pro 5000 ..... £10.80
Cheetah Mach 1+ £11.20
Cheetah 125+ £6.50
Konix Speedking £9.50
Quickshot II Turbo £10.55
Quickshot II Plus £6.50
Micro Blaster £3.99

HARDWARE

"NEW"– 1040 STFM with Modulator has 1Mb Ram + 1Mb Internal Drive for only £399.00
Cumana 1Mb Drive Includes PSU £95.00
CAY354 1Mb Drive £99.00
Star LC10 Printer £220.00
Colour Printer £249.00

HOMESOFT, Dept. STU, PO Box 49, Leyland, Preston, Lancs. PR5 1DG.
Tel: 0772 452414

All prices include P&P and VAT. Courier service extra (phone)

S.C.C.
MAIL ORDER

HARDWARE

520ST-M/SF354	£241.99	520ST-FM Super Pack/SM124	£449.99
520ST-M/SF314	£269.99	1040ST-FM	£449.99
520ST-M/SF354/SM124	£331.99	1040ST-FM/SM124	£539.99
520ST-M/SF314/SM124	£359.99	2Mb MEGA ST	£841.99
520ST-FM	£269.99	2Mb MEGA ST/SM124	£931.99
520ST-FM/SM124	£359.99	4Mb MEGA ST	£1151.99
520ST-FM Super Pack	£359.99	4Mb MEGA ST/SM124	£1241.99

Word Processing – Laser Pack

2Mb MEGA ST/SM124/SLM804/SLMC804/VIP Professional/Microsoft Write £1655.99

Desktop Publishing – Laser Packs

2Mb MEGA ST/SM124/SLM804/SLMC804/Fleet Street Publisher/1st Word £2068.99

4Mb MEGA ST/SM124/SLM804/SLMC804/SH205/Fleet Street Publisher/1st Word £2793.99

SF354 3.5" 500K Disk Drive	£74.99	SM124 12" Hi Res Mono Monitor	£99.00*
SF314 3.5" 1000K Disk Drive	£143.99	SC1224 12" Med Res Colour Monitor	£359.99
SH205 20Mb Hard Disk Drive	£539.99	SMM804 Dot Matrix Printer	£179.99
STM1 Mouse Controller	£22.99	SLM804 Laser Printer	£1169.99

PLEASE PHONE FOR PRICES/AVAILABILITY ON ANY HARDWARE/SOFTWARE/PERIPHERALS YOU DON'T SEE LISTED!

*While stocks last

WORD PROCESSING

1st Word Plus	£60	Protext Filer	£17	Word Perfect	£175
K Word 2	£28	Protext Office	£24	Word Up	£46
Protext	£56	TextPro	£31	Word Writer	£60

DATABASES

Base II	£45	Data Retrieve	£31	K Data	£35
Data Manager	£30	Dbase II	£69	Superbase Personal	£69
Data Manager Prof	£53	HabaView	£44	Superbase Professional	£173

SPREADSHEETS

Analyse	£53	K Spread	£17	Logistix	£89
Graphic Sheet	£46	K Spread 2	£55	SwiftCalc	£30

DESK TOP PUBLISHING

Fleet St Publisher	£78	Publishing Partner	£79	Timeworks DTP	£75
				DTP Lite	£36

LANGUAGES/ASSEMBLERS/COMPILERS

68000 Macro Assembler	£15	Forth M/T	£39	K Seka	£35
AssemPro	£39	FTL Modula 2	£49	K Occam	£42
Aztec C Professional	£89	FTL Modula 2 Developer	£69	Lattice C V3.4	£69
Aztec C Developer	£124	FTL Editor Toolkit	£35	Make	£35
Source Code Debugger	£69	FTL Tools	£28	Mark Williams C V3.0	£98
BCPL	£42	GFA Basic Companion	£21	MCC Assembler	£35
Cambridge Lisp	£62	GFA Basic Compiler	£32	MCC Pascal 2	£62
csd C Source Debugger	£45	GFA Basic Interpreter	£32	Menu +	£14
Devpac V2.0	£42	GSTC	£15	Modula 2 Standard	£76
Fast ASM Assembler	£14	HiSoft Basic	£55	Modual 2 Developer	£115
Fast Basic (Disk)	£31	HiSoft Power Basic	£28	Nevada Cobol	£35
Fast Basic (Rom)	£62	K Cascade XP	£138	Personal Pascal 2	£55

UTILITIES

Back Pack	£34	K Ram	£21	PIE	£23
COLR Object Editor	£19	K Resource	£28	Pro Sprite Designer	£14
Crystal	£19	K Roget	£35	Quicktran	£26
Expert Opinion	£68	K Rhymes	£14	Saved 2	£21
Fontz	£19	K Spell	£14	ST Doctor	£14
Jack Font	£38	K Switch 2	£21	Tempus	£24
K Expert	£55	Mailshot	£17	TuneUp	£17
K Graph 2	£35	Partner	£38	Twist	£28
K Index	£14	PC Ditto	£62	WERCS	£21

ART/GRAPHICS/ANIMATION

Advanced Art Studio	£17	E/Draw 2 Supercharged	£75	Paint Pro	£39
Aegis Animator	£44	Easy Tools	£30	Paint Pro Library	£19
Art Director	£35	Film Director	£42	Paintworks	£24
Degas Elite	£19	GFA Artist	£35	Quantum Paint	£14
Easy Draw 2	£45	K Rikki	£14	Spectrum 512	£45

CYBER SERIES

Cyber Studio	£60	Architectural Designs	£23	3D Developers Disk	£23
Cyber Paint	£53	Future Designs	£19	GIST	£26
Cyber Control	£45	Human Forms	£23	Stereotek Glasses	£119

COMPUTER AIDED DESIGN

CAD 3D V1.0	£19	GFA Draft	£76	MasterCAD	£104
CAD 3D accessories	£19	GFA Vector	£31	PC Board Designer	£152

MUSIC/SOUND

Digi Drum	£17	Music Construction Set	£19	Supr Conductor	£35
K Minstrel	£21	ST Replay	£55	The Music Studio	£24

COMMUNICATIONS

220-ST	£21	Flash	£19	K Comm 2	£35
BBS V2.0	£35	Kermit & Remote	£15	MI Term	£21

ACCOUNTS

Accountant	£119	Financial Controller	£238	Payroll	£69
Accountant Plus	£159	Home Accounts	£18	Purchase Ledger	£34
Bookkeeper	£79	Integrated Accounts	£103	Sales Ledger	£34

EDUCATIONAL

AB Zoo	£10	Genesis	£60	Datamap Collection 1	£15
Algebra	£10	Invasion	£10	The Navigator	£38
Fractal Generator	£15	Maps & Legends	£23	Star Struck	£19

ENTERTAINMENT SOFTWARE

OVER 300 ENTERTAINMENT TITLES TO CHOOSE FROM.... RING FOR PRICES AND AVAILABILITY

ALL PRICES ARE CORRECT AT THE TIME OF GOING TO PRESS!

Please make cheques/postal orders payable to SCC MAIL ORDER. All prices are inclusive of V.A.T. Software delivered free (U.K. only). Courier/Overseas rates on request. Don't forget your name, address, telephone/credit card no's and expiry date with your order!

S.C.C. MAIL ORDER

VISA

29 Crowtree Road, Sunderland SR1 3JU
Telephone: 091 565 5756

Problems with a program that doesn't seem to work?

If you're a member of MicroLink the answer's simple. Tell your troubles to the MicroLink Bulletin Board – the biggest, brightest and best bulletin board in Britain.

You'll find that someone out there has had the same problem. And is only too happy to tell you what you need to do – often within minutes of seeing your call for help!

MicroLink *electronic mail and much, much more!*

Details from 0625 878888

The South West Software Library

Public Domain software for the Atari ST !

The **South West Software Library** is one of the largest and fastest growing sources of public domain software for the Atari ST in Britain today. We have everything from brilliant games through to commercial quality utilities. And at either **£3.00** or **£2.50** a disk (depending on how many you order) our prices are extremely competitive too. So, why not send an SAE for our **free** catalogue today, or your ST may never speak to you again !

Special Introductory Offer !

As a special offer to new customers, we will supply a catalogue and the following disk, containing some of the best programs from the library, for only **£1.50**. The disk contains the following programs :

BREAKANOID - A full screen user-configurable Breakout/Arkanoid game. Colour only.
BULKERAS - A utility that 'unformats' a disk. Can be useful when backing up protected software.
DC_CLOCK - Another utility that prints a constant digital clock in the top right hand corner of the screen.
MACPAN - A mono only version of Pacman.
MONO_EMU - A mono monitor emulator for those who want to use mono only software on their colour TVs or monitors.
READER - A program that uses voice synthesis to read your word processing documents back to you.
START_GEM - A utility that lets you auto run GEM programs (normally not possible).
VDU_2 - A virus destruction utility that no PD'er should be without.

Please make cheques/PO's payable to **The South West Software Library** at .....

PO Box 562, Wimborne, Dorset. BH21 2YD.

BARGAIN SOFTWARE

309 Goldhawk Rd, Shepherds Bush, London W12 8EZ

OPEN TO THE PUBLIC 10am-8pm 6 DAYS

BUY BY PHONE
RING 01-741 1222
01-995 3652
0525 371884

PRICE PROMISE

If you wish to purchase any product from our list and find that you can buy the same product cheaper from another mail order company, simply enclose the lower amount, stating the name of the other company and where you saw the advert (it must be a current issue). Price Promise does not apply to other companies "Special Offers".

ENQUIRIES
RING 01-748 3597

ATARI ST	R.R.P.	OUR PRICE
19 (Boot Camp)	19.99	13.95
1943 Battle of Midway	19.95	16.50
AAARGH	24.99	17.45
Ace II	19.95	13.99
Advance Art Studio	24.95	17.45
Alien Syndrome	19.95	13.99
Alternate World Games	19.95	16.99
Arkanoid	14.95	10.45
Arkanoid II Revenge of Doh	19.99	13.95
Army Moves	19.95	13.99
Backlash	19.95	11.99
Bad Cats	19.95	16.99
Balance Of Power	29.95	20.99
Barbarian (The Ultimate Warrior)	14.95	10.45
Barbarian II (Palace)	19.95	13.95
Barbarian (Psygnosis)	24.95	17.45
Bargain Buys 4 Computer Hits ..... Only £14.99! Hacker II + Brattacas Deep Space + Little Comp People +		
Better Dead than Alien	19.99	13.95
Beyond the Ice Palace	14.99	10.45
Beyond Zork	24.99	17.45
Bionic Commandos	19.95	16.99
Black Tiger	19.95	13.99
Blood Brothers	19.95	13.99
Blood Valley	19.95	13.99
Bomb Jack	19.99	13.95
Borrowed Time	24.95	8.99
Brave Star	19.95	16.50
Bubble Bobble	19.95	13.99
Buggy Boy	19.95	13.99
Bureaucracy	34.99	14.95
Captain Blood	24.95	17.45
Carrier Command	23.95	17.45
Combat School	19.95	13.99
Corruption	24.95	16.95
Crucified	14.95	10.50
Crystal Castles	14.95	9.99
Daley's Olympic Challenge	19.95	13.95
Dark Castle	24.95	16.95
Defender of the Crown	29.95	20.99
Deflector	19.99	13.99
Deja Vu	24.95	9.99
Deluxe Scrabble	19.95	13.99
Dick Special	24.95	16.95
Dungeon Master	24.99	16.95
Eco	19.95	13.99
Eddie Edwards Ski	19.95	13.99
Elite	24.95	16.95
Empire Strikes Back	19.95	9.99
Emlyn Hughes International Soccer	19.95	13.95
Enduro Racer	19.95	13.99
Extensor	9.95	5.50
F15 Strike Eagle	24.95	17.45
Fast Basic (Disc)	45.99	32.20
Fast Basic (Rom)	89.90	62.99
Fernandez Must Die	24.95	16.95
Fire and Forget	19.95	13.95
Flight Simulator II	39.95	27.50
Football Manager	14.95	10.45
Football Manager II	19.95	11.99
Formula One	19.95	13.95
Foundations Waste	24.95	16.95
Fright Night	19.95	13.99
Galdragons Domain	19.95	13.95
Games Winter Edition	19.95	16.50
Garrison	24.95	21.99
Gary Lineker's Hot-Shot!	19.95	16.99
Gary Lineker's Super Skills	19.95	16.99
Gauntlet (1,8 only)	24.99	9.99

ATARI ST	R.R.P.	OUR PRICE
Gauntlet II	19.99	16.99
Gee Bee Air Rally	19.95	13.99
Get Dexter II	19.95	13.99
Giganoid	14.95	10.50
Gold Runner II	19.95	13.99
Great Gianna Sisters	19.99	16.99
Gryzor	19.95	13.99
Guild of Thieves	24.95	16.95
Gunship	24.95	16.95
Hacker II	24.99	4.99
Hawkeye	19.95	16.50
Helter Skelter	14.95	10.50
Hercules	19.95	16.50
Heroes of the Lance	24.99	21.99
Hitchikers Guide	29.99	20.99
Hollywood Poker	14.95	10.45
Hopping Mad	19.99	13.99
Hostage	19.95	13.95
Hotshot	19.95	13.95
Hunt for Red October	24.95	16.95
IK+	19.95	13.95
Ikari Warriors	14.99	10.45
Impact	14.95	10.45
Impossible Mission II	19.99	16.99
Insanity Flight	24.95	16.95
International Soccer	19.95	13.99
Jet	39.95	27.50
Jewels of Darkness	19.95	9.99
Joe Blade	9.99	6.95
Karate Kid II	24.95	17.45
Killdozer	19.95	13.95
King of Chicago	24.99	16.95
Kings Quest Triple Pack	24.99	17.45
Knight Orc	19.95	9.99
Knightmare	14.99	10.45
Las Vegas	9.95	6.95
Leaderboard Birdie	19.99	16.50
Leather Goddess of Phobos	29.99	20.99
Leather Neck	19.95	13.99
Leisure Suit Larry	19.99	13.99
Little Computer People	34.95	9.99
Living Daylights	19.95	13.99
Mach 3	19.95	13.99
Mercenary Compendium	24.99	17.99
Mickey Mouse	19.99	16.99
Mindfighter	24.99	16.95
Moon Mist	29.99	9.50
Music Studio	34.95	16.95
Netherworld	19.99	16.50
Night Raider	19.99	16.50
Night Raiders	19.99	16.99
Ninja	9.95	6.95
North Star	19.95	16.50
Not a Penny More, Not a Penny Less	24.95	7.99
Obliterator	24.95	16.95
Outrun	19.95	16.99
Overlander	19.99	13.99
Pacland	19.95	13.99
Pandora	19.95	13.99
Pawn	19.95	13.99
Peter Beardsley's International Football	24.95	16.95
Pheonix	19.99	9.50
Pink Panther	19.95	16.99
Platoon	19.95	13.99
Plutos	19.95	6.99
Pool of Radiance	24.95	21.99
Powerplay	19.95	13.99
Predator	19.99	13.99
Project Stealth Fighter	24.95	16.95
Quadralien	19.99	13.99
Quantum Paint	24.95	16.95
Quickshot II Joystick	9.95	5.50

ATARI ST	R.R.P.	OUR PRICE
Rampage	14.99	10.45
Return to Genesis	19.95	13.99
Roadblasters	19.95	16.99
Rolling Thunder	19.99	16.50
S.T.A.C.	39.95	25.99
Scenery Disk 7 or 11	24.95	16.95
Scenery Disk Europe	19.99	13.99
Sentinel	19.95	12.50
Shadow Gate	29.95	20.99
Side Arms	19.99	16.50
Side Winder	9.99	6.99
Silent Service	24.94	16.95
Silicon Dreams	24.99	9.99
Space Harrier	19.95	13.95
Space Quest I or II	24.99	16.95
Special Offer 5 Games for Only £16.95 Enduro Racer + Wizball + Barbarian + Crazy Cars + Rampage		
Spitfire 40	24.99	16.95
Star Trek	19.95	13.99
Star Wars	19.95	9.99
Starglider I or II	24.99	16.95
Stealth Fighter	24.95	16.95
Stella Crusade	34.99	29.50
Stir Crazy Featuring Bobo	19.95	13.99
STOS	29.95	21.99
Street Fighter	19.99	16.99
Street Gang	14.95	10.45
Strike Force Harrier	24.95	9.99
Strip Poker	19.95	13.99
Strip Poker II	14.95	10.45
Summer Olympiad	19.95	13.95
Super Conductor	49.95	34.95
Super Hang On	19.99	13.95
SuperSprint	14.99	10.45
T-Wrecks	19.99	16.50
T.T Racer II	24.95	16.95
Tanglewood	19.95	13.99
Terramex	19.95	13.99
Terrestrial Encounter	14.95	4.99
Terror Pods	24.95	16.95
Three Stooges	24.99	16.95
Thrust	9.95	6.99
Thundercats	19.95	13.99
Time & Majik	19.99	13.99
Tour De Force	19.99	16.50
Trinity	34.99	9.50
Trivial Pursuits	19.95	9.99
Ultima III	24.99	16.95
Uninvited	24.95	10.99
Universal Military Sim	24.95	16.95
Vampires Empire	19.95	13.99
Verminator	24.95	16.95
Virus	19.99	13.99
Wanderer	24.95	8.99
War Game Construction Set	24.95	21.50
Warlock's Quest	19.95	13.99
Where Time Stood Still	19.95	13.99
Whirligig	19.95	13.95
Winter Olympiad	19.95	13.99
Wizball	19.95	13.99
World's Greatest Epyx	24.95	21.99
Xenon	19.95	13.99
Zork I	29.99	9.50
Zork II	29.99	9.50
Zork III	29.99	9.50
Zynaps	19.95	13.95

BARGAIN SOFTWARE ORDER FORM

Please send me the following titles. BLOCK capitals please!

Type of computer _____

Title:	Amount
Total Enclosed £	

ATARI ST USER, NOVEMBER

Name .....

Address .....

.....

.....

.....

Tel. No. .....

Please make cheques or postal orders payable to **BARGAIN SOFTWARE**
Price includes P&P within the U.K. Europe please add £1.00 per disc
Elsewhere please add £1.50 extra per tape

Visit our New Shop 18 Market Square- Leighton Buzzard Beds

The ST Club

Caters for all - Beginner to Professional

WE HAVE MOVED

From: 10 Colliers Wood High Street • Wimbledon
To: **No. 9, Second Floor • 49 Stoney Street**
NOTTINGHAM • NG1 1LX
Callers welcome • Mail is being forwarded from Wimbledon

The ST Club Newsletter: Simply the best ST newsletter available.
The ST Club Disk Magazine: A compilation of the best and latest Public Domain Software. Subscriptions and Membership: 12 Newsletters = £8.00 or 6 Disk Mags plus 12 Newsletters = £22.50 Members qualify for discounts on PD disks, commercial software, books, accessories etc.
Laser Printing Service from 15p per page!.

Public Domain Software
Over 500 Disks !!!

Return the coupon below for a free copy of the latest PD catalogue

Often Cloned - Never Bettered

Please supply: ( ) Subscription (Newsletter / Disk_Mag)
( ) Sample Newsletter (80p) ( ) Sample Disk_Mag (£2.00)
( ) FREE PD Catalogue £ • Cheque / PO enclosed

NAME: .....

ADDRESS: .....

.....

Post Code: .....

The ST Club • No. 9, Second Floor • 49 Stoney Street
Nottingham • NG1 1LX STU11

No surcharges on European orders • Other countries add 5% for Air Mail despatch

>> MAILSOFT <<

VISA

***** SIMPLY THE CHEAPEST MAIL ORDER COMPANY *****

TITLE	Atari ST	AMIGA	IBM PC
Elite	14.99	14.99	15.99
Double Dragon	12.99	12.99	13.99
Carrier Command	14.99	14.99	15.99
Mike Reads Quiz	13.99	14.99	15.99
Starglider II	14.99	14.99	15.99
UMS	14.99	14.99	15.99
Balance of Power	20.99	20.99	16.99
Jinxter	14.99	14.99	15.99
Paper Boy	12.99	14.99	15.99
Driller	15.99	15.99	13.99
Hot Shot	13.99	13.99	–
Question of Sport	13.99	15.99	15.99
Legend of Sword	14.99	14.99	15.99
Fish	14.99	14.99	15.99
Defender of Crown	19.99	20.99	16.99
Flight Sim 3	–	–	38.99
Action Service	13.99	13.99	13.99
Techno Cop	13.99	15.99	15.99
Guild of Thieves	14.99	15.99	15.99
Gunship	15.99	–	16.99
Hitchhikers Guide	16.99	16.99	20.99
Knight Orc	13.99	13.99	13.99
Ultimate Golf	14.99	14.99	15.99
Leader Collection	15.99	19.99	19.99
Foot Manager 2	13.99	13.99	13.99
Time Stood Still	13.99	–	13.99
Night Raider	15.99	15.99	15.99
Thunder Blade	14.99	18.99	19.99
Starglider	14.99	14.99	15.99
De Luxe Scrabble	13.99	16.99	16.99
Echelon	–	19.99	19.99
Fish	14.99	14.99	15.99
Test Drive	19.99	19.99	19.99
Jewels of Darnness	13.99	13.99	13.99
Robocop	13.99	15.99	13.99
Barbarian 11	11.99	13.99	–
D. Toms Olympics	13.99	14.99	13.99
Star Trek	12.99	–	16.99
Empire Strikes	13.99	13.99	–
Starfleet 1	19.99	19.99	19.99
Victory Road	12.99	15.99	13.99
WEC Le Mans	12.99	15.99	13.99
Trivial Pursuit	13.99	–	16.99
Chuck Yeagers	19.99	19.99	19.99
Batman	12.99	15.99	13.99
Operation Wolf	12.99	15.99	13.99
Whirligig	12.99	12.99	–
Rambo III	12.99	15.99	13.99
Chessmaster 2000	19.99	19.99	19.99
Jinxter	14.99	15.99	15.99
Corruption	14.99	14.99	15.99
War Middle Earth	15.99	15.99	15.99
The Pawn	14.99	14.99	15.99
Flight Sim 2	29.99	29.99	39.99
Ultima 4	19.99	–	16.99
Red October	16.99	16.99	16.99

TITLE	Atari ST	AMIGA
Bermuda Triangle	15.99	15.99
Backlash	13.99	13.99
King of Chicago	20.99	20.99
Sargon III - Chess	19.99	18.99
Barbarian-Psy	16.99	16.99
Empire	19.99	19.99
Dungeon Master	15.99	15.99
Bobble Bubble	12.99	12.99
Captain BLood	16.99	–
Stargoose	13.99	13.99
Eliminator	13.99	–
Virus	12.99	12.99
Power Drome	19.99	19.99
Soccer Supremo	11.99	11.99
Star Wars	13.99	13.99
Bards Tale III	18.99	18.99
Quadr Alien	13.99	13.99
Super Ice Hockey	16.99	16.99
Interceptor	–	19.99
3D Helicopter	16.99	15.75
Return to Genesis	12.99	12.99
D. Toms Olympic	13.99	16.99
Garrison 1 or 2	–	16.99
Three Stooges	16.99	20.99
Stac	29.99	–
Gauntlet II	15.99	–
Netherworld	13.99	13.99
Roadblasters	15.99	19.99
Gold Runner II	13.99	–
Return to Atlantis	–	19.99
Foundation Waste	16.99	16.99
Rocket Ranger	16.99	20.99
Hades Nebulas	11.99	–
Obliterator	16.99	16.99
Out Run	15.99	–
Alien Syndrome	13.99	13.99
Space Harrier	13.99	15.99
Space Harrier II	13.99	15.99
LED Storm	15.99	19.99
Tiger Road	15.99	19.99
Leathernecks	13.99	13.99
Buggy Boy	13.99	16.99
International Soccer	13.99	13.99
Ultima 4	16.99	–
Lineker Superskill	15.99	–
Peter Beardsley	13.99	13.99
Olds	13.99	–
Sentinals	12.99	12.99
Thundercats	13.99	16.99
Fusion	18.75	18.75
Guerilla War	13.99	15.99
Dragon Ninja	12.99	15.99
Street Fighter	15.99	19.99
Pandora	12.99	12.99
Shackled	15.99	–
Verminator	14.99	14.99

TITLE	Atari ST	AMIGA
Starray	13.99	16.99
Chubby Gristle	13.99	13.99
Overlander	13.99	16.99
1943	15.99	19.99
Champion Cricket	11.99	11.99
Bomb Jack	13.99	15.99
Pac Mania	13.99	13.99
Pacland	13.99	13.99
Scrabble Deluxe	13.99	13.99
Frontier	15.99	15.99
3D Wander	13.99	15.99
B. Cloughs Football	14.99	14.99
Gnome Ranger	11.99	11.99
Joe Blade	7.99	7.99
Jet	29.99	–
Not a Penny More	14.99	–
Power Struggle	11.99	11.99
Scenery Disk 7	19.99	19.99
Scenery Disk X1	19.99	–
Scenery Disk – Japan	14.99	–
Western Europe	14.99	–
Blazing Barrels	13.99	13.99
5 Star Hits – ST	16.99	–
Live & Let Die	13.99	15.99
Super Hang On	13.99	–
Motor Massacre	15.99	15.99
Butchers Hill	15.99	15.99
Black Tiger	15.99	19.99
19	–	13.99
Quantum Paint	14.99	–
Spectrum 512	49.99	–
Platoon	13.99	15.99
Ghost & Goblins	12.99	14.99
Stos	22.95	–
Dandy	13.99	–

Accessories+Joysticks	Our Price
4 Way Adaptor	5.99
Multiface – ST or Amiga	39.99
Mouse Matt	4.99
ST- or Amiga Cover	6.99
10 x 3" – Unbranded	9.99
10 x 3" – Sony DIsks	15.99
Head Cleaner 3.5"	6.99
Euromax Proff	17.99
Euromax Non-Auto	14.99
Cruiser Joystick	9.99
Cruiser Joystick–Clear	12.99
Comp Pro–Black	12.99
Comp Pro–Clear	13.99
Comp Pro–Extra	14.99
Cheetah Mach 1	13.99
Cheetah 125+	7.99
Konixs + Autofire	10.99
Konixs Joystick	9.99
Q. Shot II Turbo	11.99
Quick Shot II J/S	7.99

Prices Include P&P in U.K. Europe add £1 per tape; elsewhere £2.00. Cheque/P.O. payable to: **MAIL-SOFT** (STU) P.O. BOX 589, London N15 6JJ. Please specify machine type in your order. Add £5 P&P for Machines. Price matching: If you see a title advertised cheaper by another company in this mag we will match the price. If you don't see the title you require, simply deduct 25% off the R.R.P. and send to us. We stock software for all home micros. New releases will be sent to you on day of release. Please give second choice if ordering a new release. Access & Visa cards welcome.

CAMBRIDGE

CAMBRIDGE BUSINESS SOFTWARE

Melbourn Science Park, Moat Lane, Melbourn,
Cambridge SG8 6EJ
Tel: (0763) 62582/(0763) 62227. Telex: 817932.
Fax: (0763) 62425

ATARI ST BUSINESS AND UTILITY SOFTWARE AVAILABLE MAIL ORDER

TIMEWORKS

Desk Top Publisher*	69.95
Data Manager	29.95
Word Writer	49.95
Swiftcalc	29.95
Partner	36.95

ANTIC

Cad 3D 1.0	18.95
Cyber Studio (Cad 2.0)	64.95
3D Developers Disk	22.95
Architecture Design	22.95
Future Design	19.95
Cyber Control	47.95
Cyber Paint	52.95
Spectrum 512	46.95
G.I.S.T. (Sound Dev)	29.95
Genesis (Mol. Design)	59.95
Base 2	49.95
Expert Opinion	39.95

KUMA

K-Data	39.95
K-Word 2	32.95
K-Spread 2	62.95
K-Expert	62.95

MIGRAPH

Easy Draw 2	47.95
Supercharged Draw 2	69.95

GST

1st Word Plus*	57.95
68000 Macro Assm	14.95

DIGITA

Mailshot	19.95
Mailshot Plus	37.95
Digicalc	31.95
Home Accounts	19.95

LANGUAGES

GST C	14.95
Pro Fortran	99.95
Pro Pascal	79.95

* Timeworks Desk Top Publisher is available from us in most European languages.
GST 1st Word plus is also available in French. Phone for details.

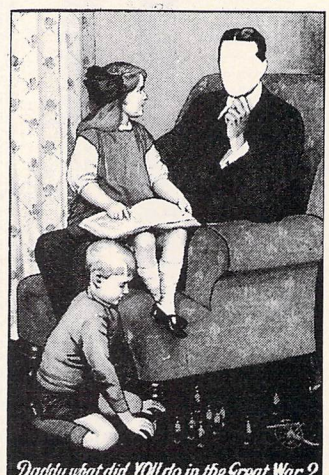
THIS MONTHS SPECIAL OFFER: MARK WILLIAMS C COMPILER
MRRP: **£129.00** OUR PRICE: **£82.95**

PC SOFTWARE
Big Discounts on PC Software. Phone for details

HARDWARE
We supply PC Compatibles and Multi-User Systems. Please phone for advice and the very best prices on these and our ranges of Printers and Lasers. We can also supply Atari, Epson, Wyse, Opus and Jarrogate.

All prices listed include VAT and Delivery
Please make cheques/PO payable to Cambridge Business Software or Phone for details of Products, Accounts etc.
We are also specialists in export.

So why didn't we order it from Wight Computing



But still he sits there with that blank look on his face

0983 68978

From tapes to networks

Phone for the most up to date prices or write to:

WIGHT COMPUTING

122 High Street, Ryde
Isle of Wight. PO33 2SU

Good advice freely given

VISA

The YAMAHA '88 MUSIC SHOW

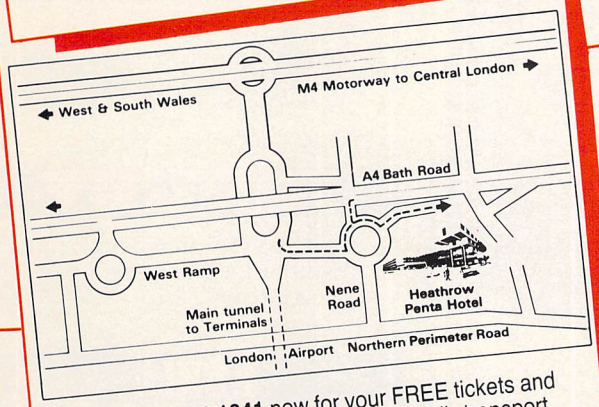
Heathrow Penta Hotel 26-28 Nov

3 Days of exciting Concerts, Exhibitions, Demonstrations, Product Clinics and Fantastic Super Saver Show Prices on all Yamaha Instruments! Computers and Software

COME PREPARED TO BUY — YOU'LL LIKE OUR DEALS!

SPECIALIST PRODUCT AREAS WITH EXPERT STAFF FROM YAMAHA & CITY MUSIC

- Budget Hi-Tech ● Multitrack
- Pro-FM ● Computer Music
- Atari ST MIDI Software
- Amps, Effects, Accessories, Stands and cases for all instruments on sale



Phone **01-863 1841** now for your FREE tickets and a route map to the Show by car and public transport.

Immediate Credit

Get your Musicard here!

The great new budget account card specially for musicians! Bring along your drivers licence and bank card or other indentification to open your **Musicard** account, join the exclusive **Nationwide Musicard Club** and take the goods away with you. Full written details of **Musicard** credit facilities available from **City Music** — Licensed Credit Brokers.

Star Concerts in the DIGITAL MUSIC THEATRE

Hear Star Artistes appearing throughout Saturday and Sunday in The Digital Music Theatre. Featuring the latest Yamaha Digital Portable Keyboards, AWM Clavinova Electronic Pianos and HS Electone Multikeyboards.

● Specialist Product Clinics throughout each day on Keyboards, Synths, Atari ST MIDI Systems and Software, Sequencers, Rhythm Computers, MIDI Expanders and Tone Modules, Signal Processors ● Experts to help you and answer your questions ● 'Hands-On' display for you to try the latest Yamaha Instruments ● 'X' Owners Club Desk. ● Licensed Bar open all day ● Refreshments and Restaurants

YOU CANNOT AFFORD TO MISS THIS SHOW!

The best Show of the year!

3 DAYS OF FABULOUS MUSICAL ENTERTAINMENT

SATURDAY 26 NOVEMBER OPEN FROM 10 am to 8 pm
SUNDAY 27 NOVEMBER OPEN FROM 10 am to 8 pm
MONDAY 28 NOVEMBER OPEN FROM 10 am to 4 pm

FREE TICKETS & SHOW FACT FILE AVAILABLE EACH DAY AT THE DOOR OR CALL **01-863 1841**

Access
AMERICAN EXPRESS Cards Welcome
VISA
Musicard WELCOME HERE

City Music **14A BROADWALK PINNER RD, N. HARROW MIDDX, HA2 6ED**

Please send me.....tickets, for **THE YAMAHA MUSIC SHOW '88**
and a route map to the Show

Name (Mr/Mrs/Ms) _____

Address _____

_____

STU

ATARI ST USER

MAIL ORDER OFFERS

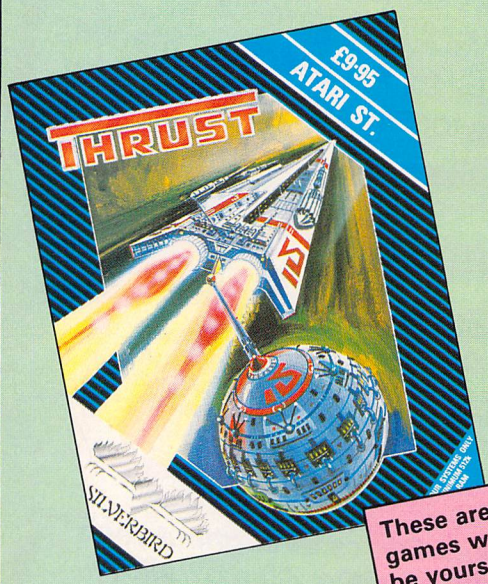
SAVE OVER £22!

2 FOR THE PRICE OF 1

The more you buy, the more you save. You can buy all four for only £16.95 – less than the cost of a full-priced game – saving a massive £22.85!

At these prices you can't fail to get value for money. So order yours today.

Yes, another great exclusive from *Atari ST User!* Get two of the best games from the fabulous Silverbird collection for the price of one!



These are the four games which can be yours at a fraction of their usual price!

RRP £9.95 each

Our price

MISSION GENOCIDE

A brilliantly gripping arcade game requiring dexterity and a cool, calculating mind. Can you beat it?

THRUST

Grab the weapons and zap the Bad Star Empire before they zap you!

I.BALL

Armed with only a bubble gun, you must enter Terry Ball's domain and struggle through the 16 defence zones.

WAR HAWK

Flay Warhawk into the Asteroid belt, destroy the enemy bases and survive to fight again.

1 game: £6.95
2 games: £9.95
3 games: £14.95
All 4 games: £16.95

It's so easy to order, just turn to the form on Page 125

The ideal Christmas present!

Explore electronics the easy way with

BLOC-TRONIC

Now you don't have to be a genius to create your own electronic devices. Using Block-Tronic you can build projects such as radios, amplifiers and burglar alarms within minutes!

Bloc-Tronic is a major breakthrough in the educational toy and hobby market. It consists of a number of see-through plastic bricks, each containing an electronic component.

The blocks have no sharp edges and can be connected to each other in a multitude of ways using a patent connection system, consisting of two dove-tail and two slot connectors.

With the kit you get a battery power supply, an amplifier, a tuner and a loudspeaker – along with a number of leads, connectors, lights and so on.

Although Bloc-Tronic is an excellent way to learn about electronics, the whole kit can be arranged, without any knowledge, into 163 different circuits just by following the instructions. And once you get to understand how it works, the number of circuits you can create is limited only by your imagination.

Because Bloc-Tronic runs off a 9 volt battery, it is completely harmless, so even children of six years old can be left safely to follow their imagination, and through actual application they can discover the reasoning and logic behind the laws and theories governing electronics.

A comprehensive, fully illustrated instruction manual comes with the kit, showing and documenting circuit diagrams, taking you from the simplest light bulb/battery circuits up to light-activated radios.

Block-Tronic is the ideal system for children and adults alike who wish to learn more about electronics. And at the introductory price of only £34.95 it makes an excellent present, which will provide hours of entertainment and education.

Just think, more than 160 presents in one!

SOME OF THE PROJECTS

- Lie detector
- Metronome
- Grip evaluator
- Siren
- Reaction tester
- Radio
- Wireless telegraph
- Mosquito repeller
- Bird simulator
- Organ

SAVE £5

RRP £39.95

Our price £34.95

WHAT YOU GET

- 54 blocks
- 2 Test lines
- 1 Battery case
- 1 Transformer
- 1 Current meter
- 1 Earphone
- 1 Tuner
- 1 Loudspeaker
- 1 Amplifier
- 1 Microphone
- 1 Aerial

Ideal for schools and at home

TO ORDER YOUR KIT, PLEASE TURN TO THE FORM ON PAGE 125

ATARI ST USER

MAIL ORDER OFFERS

ALL THIS

(Actual size)

This ultra-slim, solar powered credit card sized Atari ExecuCard is a five-function calculator. It has an eight-character display showing a comma after every three digits. And it comes with a smart protective wallet.

normally ~~£5.99~~ FREE!

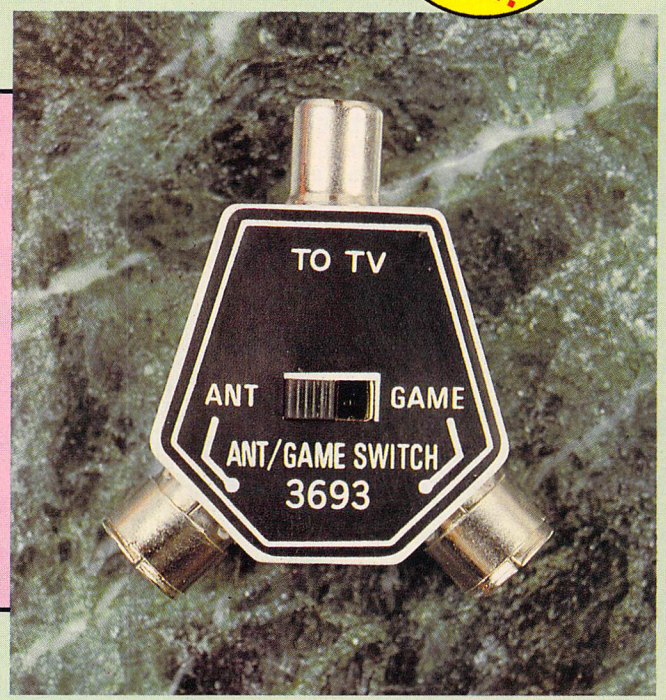
TV Splitter

This device will come in handy for you if you use your TV as a monitor for your Atari ST

Just connect your TV aerial into one side, your Atari ST output lead to the other, and then connect the box to the TV. Now, at the flick of a switch, you can change input to your TV from either your Atari ST, or from the aerial.

So save the wear and tear on your leads and avoid those fiddly connections with the TV Splitter.

normally ~~£4.95~~ FREE!



Send for a subscription *Atari ST User* and you will receive ALL these products FREE OF CHARGE – the slimline Atari calculator, TV Splitter and two public domain discs packed with excellent programs. The whole bundle is worth well over £17!

Note: Existing subscribers can renew early to take advantage of this offer.

Don't miss out on this limited offer – turn to the order form on Page 125 NOW!

ATARI ST USER MAIL ORDER OFFERS

FREE!

When you take out a subscription to Atari ST User

The editorial team at *Atari ST User* has put together two exciting discs packed with some of the very best public domain software available. By using the Archiver program we've managed to squeeze a massive 600k of utilities software on to a single-sided 350k disc!

Altogether there's 27 excellent programs – and they're all designed to help you make the most of your Atari ST.

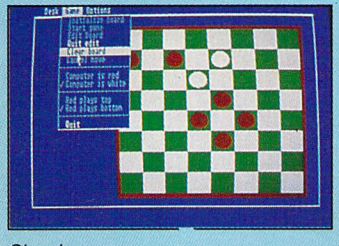
GAMES AND COMMS DISC

Battleships – The classic board game comes to the ST. *(H).* **Popcorn** – An amazing demonstration of animated bouncing balls. *(L).* **Ripcord** – Land the paratroopers safely on the target. *(L).* **Black Box** – An excellent game of deduction. *(L).* **Clewso** – Deduce the murderer's name, weapon used and the crime. *(H M).* **Journey** – A mind-boggling text adventure game. *(H M).* **Biorhythm** – Calculate your chart and forecast critical days. *(L).* **Megaroids** – Blast the asteroids in this classic arcade game. *(H M).* **Pachinko** – Drop pennies in the machine and aim for high scores. *(L).* **Scratch** – A text adventure that's packed with devious puzzles. *(L).* **ST Talk** – A powerful comms package to enable modem owners to get online to MicroLink and bulletin boards. **Checkers** – Play draughts against a friend or your Atari ST. *(M).*

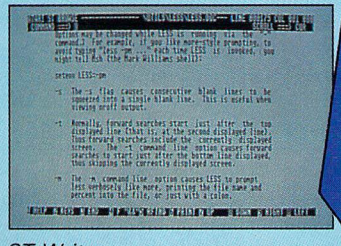
UTILITIES DISC

Archiver – Compact programs, source and object code, pictures and so on into as small a space as possible. *(H M).* **Browse** – Move forwards and backwards through text files on disc, then print them out. *(H M).* **Less** – Similar to the above, but you can display files in different formats. *(H M).* **Calc** – A multiple function calculator written as a desk accessory. *(H M).* **Clock** – An interrupt-driven clock, constantly displayed in the top right corner of the screen. *(H).* **Dir** – Produce a complete listing of all the files on a disc, searching all folders and folders within folders. *(H M).* **Deskman** – Many useful disc management functions in a single desk accessory. *(H M).* **External** – An auto-booting ramdisc which will survive a reset. **Format** – Format discs from within any Gem-based application. *(H M).* **Mickey Mouse Monitor** – A very good machine code disassembler and memory monitor. *(H M).* **Notepad** – Jot down brief notes and recall them at any time with this desk accessory. **SecEdit** – Recover lost files, examine disc contents and more with this disc editor. *(H M).* **SeekTS** – Test the performance and reliability of your disc drive. *(H M).* **ST520RPM** – Measure the speed of your disc drive. *(H M).* **ST Writer** – A powerful word processor complete with full documentation on the disc. *(H M).*

H – High resolution (requires monochrome monitor)
M – Medium resolution (requires colour monitor or television)
L – Low resolution (requires colour monitor or television)



Checkers



ST Writer

ATARI ST USER MAIL ORDER OFFERS

Perfect companions for your Atari ST

① Binder. Twelve rods hold your issues in place and keep them in pristine condition in this handsome pale grey pvc binder.

£4.95

② Disc box. This luxury padded box is the ideal storage medium, holding up to 50 3.5in discs.

£4.95

③ Dust cover. Protect your ST with this top-quality cover made of clear, water-resistant vinyl. It's bound with strong cotton and features the impressive Atari ST User logo.

£3.95

④ Mouse mat. The perfect desktop environment for your mouse with its specially-designed, perfect-grip surface. It ensures much smoother movement, gives super-positive control and protects your tabletop from scratches.

£4.95

⑤ Fast Basic. This ultra-fast Basic interpreter has its own easy-to-use word processor-like editor which 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. The package includes a 380-page manual, reference card and example programs on disc.

Fast Basic is essential for many of the listings in this magazine, so this is one of our most popular offers.

Rom version: **£62.90** **(£27 off)**

Disc version: **£34.85** **(£10 off)**

⑥ Back Pack. This versatile desk accessory on rom makes nine useful functions always available on your ST: Scientific calculator, clock and alarms, diary, notepad, typewriter, printer buffer, address book, mini clock and ramdisc.

RRP £49.00 **Offer price £39**

To order, please use the form on opposite page

Build up your reference library!

January issue 1988: Reviews: Star Wars, Defender of the Crown, Screaming Wings, Bubble Ghost, Mortville Manor, Ranarama, Chessmaster 2000, Ogre, Barbarian, Epson EX-800, Mark Williams C, Graf Tablet, Pro Sprite Designer. Listings: User port software, Printer buffer, The Golden Crown. Features: Gallery, adventures, word processing.

February issue: Reviews: Midi Maze, Star Trek, Indiana Jones, Nord and Bert, K-Word 2, TextPro, TuneUp, Fortan, PaintPro. Listings: Alternative function key definer, Sliding block puzzle. Features: Atari ST User show report, Gallery, adventures with Brillig.

March issue: Reviews: Tempus, PD Disc Utilities, PCB Designer, WordPerfect, Winter Olympiad, Wrestling, Tanglewood, Marble Madness, Backlash, Bubble bobble, Frost Byte, UMS, Bad Cat Leisure Suit Larry. Listings: Palette switching, accessory selector, mpg calculator. Features: Magnetic Scrolls, Tynesoft and US Gold interviews.

April issue: Reviews: Captain Blood, Eco, Super Sprint, Black Lamp, Wizball, Skyrider, Solomon's Key, Bard's Tale, MCC Assembler, Protext, True Basic, A Magic digitiser, GFA Vector and Companion. Listings: Mandelbrot upgrade, custom keyboard, disc verify. Features: Gallery, adventures, product guide.

May issue: Reviews: Gem-Forth, PD Forth, Partner, Quick-List, Certificate Maker, Creator, Timeworks DTP, MasterPlan, Grafix. Features: Transputers, Music, interviews with Pete Johnson and CRL, Adventures. Listings: Dynamic relaxation, Mouse designer, prime numbers.

June issue: Reviews: Power Basic, Campus CAD, GFA Draft Plus, IMG Scan, Ruby View, Pascal, Modula-2, Carrier Command plus a whole host of other games and adventures. Features: Atari DTP in action. Learn to draw with ST Art. Help with adventures from Brillig. Listings: Keep track of your discs with Mapper.

July issue: Reviews: Superbase Professional, Lispas, Skyplot, GFA Artist, AB Animator, Quantum Paint, Juggler, Pascal, Panasonic printers, K-Expert. Games tested: Northstar, BMX Simulator, Trantor, Road Wars and many more. Features: Music on the ST, Gallery.

August issue: Reviews: Supra Drive 10Mb floppy disc, Star LC-10 printer, Digicalc, Spectrum 512, Data Manager, Share Master, Devpac II, Workbench, Word Up, Protext, Word Writer, Thundercats, Vixen plus many more games. Features: Midi, adventures, gallery, Telecomsoft interview.

September issue: Reviews: Laser C, Spellbook, Signum 2, Ten, Protext Office, GFA Advanced programming, Computer Languages, Virus, Mindfighter, Football Manager 2, Captain America, plus many other games. Features: Midi, Adventures, Gallery, Mailbag, Weatherlink, Pull-out guide part 2.

October issue: Features: Midi, The French Connection, Stos, Grandslam, Gallery, Scrapbook, Brillig, Mailbag, Computer Breakdowns. Reviews: Trip-a-tron, Publishing Partner Professional, Fontz, Star 24 pin printer and Games, including: Summer Olympiad, Starglider 2, Mickey Mouse, Hotshot and The Empire Strikes Back.

£2* for each issue – including p&p

* *£3.50 for August issue (including binder)*

ATARI ST USER MAIL ORDER OFFERS

BE A SURE-FIRE HOTSHOT!

This is the latest smash from Addictive – a unique game of strategy for one or two players which combines the best elements of Pinball, Breakout and Tennis.

Trap a bouncing missile with your suction gun and send it spinning across the arena to destroy your opponent or smash through the barricade.

Hotshot is a fast-action game which will keep you playing for weeks and is sure to become one of the top games of the year. At only £12.99, it represents fantastic value for money.

Save £7! on RRP

Valid to November 30, 1988

Overseas orders despatched by Airmail.
All prices include postage, packing and VAT
Please allow up to 28 days for delivery

ORDER FORM

Annual subscription

		NEW (✓)		RENEWAL (✓)	
UK £19.99	9100		9103		
Europe & Eire £27.99	9101		9104		
Overseas (Airmail) £42.99	9102		9105		

Commence with _____ issue

FREE with subscriptions

Atari ExecuCard	9124	✓
TV Splitter	9147	✓
Games and Comms Disc	9128	✓
Utilities Disc	9129	✓

Back Issues
(see page opposite)

£2.00 UK
£2.50 Europe inc. Eire
£4.25 Overseas

May 1987	9201	
June 1987	9202	
July 1987	9203	
August 1987	9204	
September 1987	9205	
October 1987	9206	
November 1987	9207	
December 1987	9208	
January 1988	9209	
February 1988	9210	
March 1988	9211	
April 1988	9212	
May 1988	9213	
June 1988	9214	
July 1988	9215	
* August 1988	9216	
September 1988	9217	
October 1988	9218	

*** Magazine & Binder**
(see page 66)
£3.50 UK
£6.50 Europe inc. Eire
£10.50 Overseas

Hot Shot *(see above)*
NEW
Add £1 for Europe inc Eire/Overseas — £12.99 — 9152

STOS–The Game Creator
NEW
(see page 14)
Add £5 for Europe inc Eire/£12 Overseas — £29.95 — 9153

Foundations Waste
Add £1 for Europe inc Eire/£2 Overseas — £17.95 — 9143

Bloc-tronic *(see page 121)*
Add £5 for Europe inc Eire/£8 Overseas — £34.95 — 9144

Digicalc *(see page 94)*
NEW
Add £2 for Europe inc Eire/£5 Overseas — £24.95 — 9145

Atari ExecuCard
(see page 122)
Add £1 for Europe inc Eire/Overseas — £5.99 — 9122

Atari Data Bank
Add £1 for Europe inc Eire/Overseas — £16.99 — 9140

Mortville Manor
NEW
(see page 88)
Add £1 for Europe inc Eire/Overseas — £17.95 — 9154

Football Manager 2
Add £1 for Europe inc Eire/Overseas — £11.95 — 9141

Fast ST Basic
(see opposite)
Add £5 for Europe inc Eire/£7 Overseas

Rom cartridge	£62.90	9112	
Disc	£34.85	9136	

Back-Pack
(see opposite)
Rom cartridge — £39.00 — 9113
Add £3 for Europe inc Eire/£6 Overseas

Dust Covers *(see opposite)*

1040ST/520 STFM keyboard	£3.95	9117	
520 ST keyboard	£3.95	9116	
SC1224 monitor	£5.95	9108	
SM124 monitor	£5.95	9109	

Silverbird Collection
NEW
(see page 120)

1 for £7.95	Thrust	£7.95	9148	
2 for £9.95	I Ball	£7.95	9149	
3 for £14.95	Mission Genocide	£7.95	9150	
4 for £16.95	War Hawk	£7.95	9151	

Atari ST User Mouse Mat
(see opposite)
£4.95 — 9126

Disc Storage Box
(see opposite)
£4.95 — 9135

Binder *(see opposite)*
£4.95 — 9118
Add £2 Europe inc Eire/£7 Overseas

Add £2 for Europe/Eire, £5 Overseas per item unless otherwise indicated

TOTAL

Send to: Database Publications, FREEPOST, Macclesfield, Cheshire SK10 4YB
(No stamp needed if posted in UK) *Please allow up to 28 days for delivery*

Order at any time of the day or night

Credit Card holders phone: **0625 879920**

Fax Orders:	*Orders by Prestel:*	*MicroLink/Telecom Gold*
0625 879966	**Key *89, then 614568383**	**72:MAG001**

Don't forget to give your name, address and credit card number

MIAL ORDER ENQUIRIES ONLY: 0625 879940 9-1pm-2-5pm

Payment: please indicate method (✓)

Expiry Date ___/___

☐ Access/Mastercard/Eurocard/Barclaycard/Visa
No. _____

☐ Cheque/Eurocheque made payable to Database Publications Ltd.

Address (please print and use your postcode)

Name _____ Signed _____

Address _____

_____ Post Code _____

Daytime telephone number in case of queries _____ ST11

Public Domain Games and Graphics from ST UK

The following is a very small selection of the Games, Graphics packages and Demos available from ST UK. We have 248 single and 121 double sided disks in our catalogue.

SINGLE SIDED DISKS

AP50 APPLICATION 50: Beginner disk 250k text file for people who are new to the ST or are having problems with aspects of the machine i.e. RAM disks, Spoolers, Desktop Accessories etc.

GAM 1 GAME DISK 01: 14 Titles – Celest, Dragon Maze, Megaroid, Nightcrawler, Pacman, Pool, Blackjack, Connect Four, Maze, Pente, Pong, Battleships and others. Please note some of the games on this disk – Pool, Pacman, Pong etc. only work in monochrome.

GAM 2 GAME DISK 02: 4 Titles – Putput monochrome puzzle game brilliant; Ripcord, Targetgame.

GAM II GAME DISK II: 4 Titles – Azarlin full colour asteroids space invaders game – excellent shoot 'em up! Farm yard colour memory and guessing game – very very nice. Invader – colour space invaders. Bridge it! Computer version of the 'September' board game – excellent.

GAM 12 GAME DISK 12: 2 Titles – Lunar Lander colour only. Spacewar Colour and Monochrome. Both of these games are excellent.

GAM 17 GAME 17: Diamond colour only shoot 'em up game from Budgie software.

GAM 18 GAME 18: Football colour and monochrome speculation game from Budgie software.

GAM 25 GAME 25: Floyd the Droid – nice graphics in this mass shoot 'em up plus digitised sound. Labyrinth – move ball around maze, very hard to play – colour only.

GAM 26 GAME 26: Darts! by Budgie Software. Colour only.

GAM 29 GAME 29: Strip Breakout – knock out the bricks to get a picture of a naked woman . Colour only.

GAM 30 GAME 30: Quizz – Trivia game creator editor, Runners Revenge, Loderunner lookalike mono only.

GRI GRAPHICS DISK 01: 12 Titles – NEOchrome version 1, Palette, DR Doodle, Palette Setter, Doodle to Degas converter. Effects (slideshow that does effects on any NEO pics with a 'PIC' extender. Windpics (loads all the NEO 'PIC' pictures in disk and into a separate window allowing you to have all on screen at once). 3-D Designer (draw images and make them move)! Sprite designer, Shrendraw – drawing program and pascal source code, another bigger Sprite editor and Degas fonts.

GR3 GRAPHICS DISK 03: Master Painter – excellent graphics program works in ALL resolutions in NEO Degas and Doodle formats. Has multiple screens 6 on 1/2 Mb, up to 24 if enough RAM, animate between these multiple screens, all the usual tools plus rotate to any angle. Skivie – horizontal and vertical, zoom, twist, built in converter, very well laid out and designed – full GEM but this does not slow it down in the way maybe Degas Elite does. This is a truly brilliant program. Also Paintlux – a monochrome painting program in GEM and German.

GR9 GRAPHICS DISK 09: Picworks monochrome only picture manipulator GEM based Doodle, Degas, ART, Degas compressed etc. formats compatible. Manual online – very well designed and programmed – also can send and receive pictures from OG4 Version 1.1. This is not compatible with new TOS.

GR10 GRAPHICS 10: 2 Titles – Moving Construction Set – you draw up to 8 'line images' and this excellent program will move/animate from one to the next. Very good. Full GEM. Face Amimator – Allows you to move eyes, nose, mouth etc. of a face & record all the movements. Both programs are monochrome only.

DEM 51 DEMO 51: ST Tour! An excellent demo for all you New STers. The tour works in Monochrome and in Colour, and shows how to use all the features of the ST, including desktop accessories, menus, windows etc. This is very, very good.

DEM 52 DEMO 52: Ghost Busters digitised sound demo needs 1Mb of RAM but does work on the 520ST. This is a double sided disk.

DEM 53 DEMO 53: Thunderbirds digitised sound demo – excellent.

DEM 77 DEMO 77: Exceptions 4 BIG demo excellent graphics and sound – 5 hours of music and 21/4 miles of scrolling text!! Fabulous sounds and unbelievable graphics and scrolling. This is the demo to impress the doubters!! 512 colours on screen at once absolutely brilliant and all mega-mega compressed onto a single sided disk!! This is the demo . . . written by the Master of graphics and sound – TEX.

Note: For secret display press rest – Andy NOTE this does not work with new TOS. If you try to run this on a TV you may have to adjust the vertical hold.

DEM 91 DEMO 91: Amiga Demo!!!! Form the exceptions – brilliant megatron graphics demo!!!!

DOUBLE SIDED DISKS

The following are single sided disks from the catalogue that have been paired together and put onto one double sided disk. Note to use double sided disks you must have a double sided disk drive for your ST.

AP50+	DEM51–	STUK34	GRI+	GR3–	STUK39
GM1+	GM2–	STUK54	GM11+	GM12–	STUK56
GM17+	GM18–	STUK57	GM25+	GM26–	STUK59
GR9+	GR10–	STUK65	GM29+	GM30–	STUK71
DM41+	DM53–	STUK80	GAM33+	GAM34–	STUK94

ALL SINGLE SIDED DISKS ARE £2.25 FULLY INCLUSIVE
ALL DOUBLE SIDED DISKS ARE £3.25 FULLY INCLUSIVE

Send Cheques and Postal Orders made payable to ST UK to:
1 Bartholomew Road, Bishop's Stortford, Hertfordshire CM23 3TP

For a FREE copy of the full catalogue send a large stamped self addressed envelope to the above address.

ATARI 520 STFM MAIL CENTA CHRISTMAS PACK

PACK A	PACK B	PACK C
Atari 520 STFM with built in 1mb Disc Drive Mouse Owners Handbook Business Organiser 21 Game Software Pack Joystick	Atari 520 STFM with built in 1mb Disc Drive. Mouse. Owners Handbook. Business Organiser. 21 Game Software Pack. Joystick. Mouse Mat. Twin Joystick Extension Lead Disk Storage Box Holds 80 Ten Blank discs. Second Joystick	Atari 520 STFM with built in 1mb Disc Drive. Mouse. Owners Handbook. Business Organiser, 21 Game Software Pack. Joystick. PLUS!! Philips CM8833 Colour Monitor with lead
ONLY £369.95	ONLY £399.95	ONLY £599.95

Plus Free!! Only from Mail Centa a superb software starter pack comprising First Word Wordprocessor, Spreadsheet, Word Count Program, Spellchecker Program, Mono Monitor Emulator, Database, Neochrome Drawing Package, Towers of Hanoi Game, Pacman, Fruit Machine Simulation, Sensori
PLUS! !Three additional software titles with a RRP of over £60

ACCESSORIES

PHILIPS CM8833 COLOUR MONITOR £249.95	ATARI SM125 MONO MONITOR £109.95	PANASONIC KXP1081 DOT MATRIX PRINTER £169.95	PANASONIC KXP1082 DOT MATRIX PRINTER £199.95	STAR LC10 DOT MATRIX PRINTER £199.95	CUMANA 1MB DISC DRIVE £99.95	TRIANGLE 1MB DISC DRIVE £109.95

NB: Accessory prices include **FREE!!** lead to connect to an Atari ST

JOYSTICKS

Euromax Professional PLus	£15.95	Cheetah 125+	£6.95
Euromax Professional	£13.95	Competition Pro 5000	£12.95
Euromax Elite	£10.45	Comp. Pro 5000 Clear	£13.45
Euromax Micro Ace	£11.95	Competition Pro Extra	£13.95
Euromax Arcade	£15.95	Ram Delta	£8.95

SOFTWARE

Leaderboard Birdie	£15.95	Zynaps	£13.95	Night Raider	£15.95
Dungeon Master	£16.95	Buggy Boy	£13.95	Summer Olympiad	£13.95
Streetfighter	£15.95	Xenon	£13.95	Shadowgate	£16.95
Captain BLood	£16.95	Gunship	£16.95	Outrun	£13.95
Carrier Command	£16.95	Virus	£13.95	Alien Syndrome	£13.95
Overlander	£13.95	Garfield	£13.95	Whirlygig	£13.95
Space Harrier	£13.95	Test Drive	£17.95	Bermuda Project	£13.95
Chessmaster 2000	£17.95	Super Hang On	£13.95	Sinbad	£16.95
Bards Tale	£17.95	Corruption	£16.95	Oids	£13.95

Special October offer. Order any 3 of the above and claim a Free Mouse Mat and Sourcebook /Tutorial

ATARI ST SERIOUS SOFTWARE

First Word Plus	£59.95	Fast Basic Rom	£69.95	Fast Basic Disk	£34.95
K Data	£34.95	Back Pack	£34.95	Spectrum 512	£44.95
Timeworks D.T.P.	£79.95	Utilities	£32.95	Cornerman	£17.95
GFA Basic	£34.95	GFA Interpreter	£34.95	STOS	£20.95
Degas Elite	£17.95	Advanced Art ST	£16.95	Quantum Paint	£13.95

BOOKS

Sound and Graphics	Compute	£14.95	Atari St for Beginners	Abacus	£12.95
Atari ST Internals	Abacus	£14.95	Basic Training Guide	Abacus	£12.95
Tricks and Tips	Abacus	£14.95	Disk Drives Inside & Out	Abacus	£16.95

MAIL-CENTA

17 Campbell Street, Belper, Derby DE5 1AP. Tel: 0773 826830

All prices include VAT and Delivery to UK mainland. All goods despatched same day whenever possible. Personal callers welcome at our retail shop but please bring this advert as prices may vary. Shop closed Weds. Proprietor: Martin Bridges

BBD ·DUST· COVERS

PROFESSIONAL DUST COVERS FOR THE ATARI

BBD ·DUST· COVERS

Tailored in soft grey nylon fabric that has been treated with an anti-static inhibitor. Attractively finished with royal blue piping. Can be washed and ironed without fading or cracking.

ATARI 520 & 1040 COVER SETS

Comprising covers for the keyboard, the monitor and the mouse
Mono Sets £9.00
Colour Sets £9.50
Please state which monitor

INDIVIDUAL ATARI COVERS

1040 STF Keyboard	£4.50	1029 Printer	£5.00
520 STFM Keyboard	£4.50	SF 354 Disc Drive	£3.00
130 XE Keyboard	£4.50	SF 314 Disc Drive	£3.00
SM 125 Monitor	£6.00	1050 Disc Drive	£3.00
SC 1224 Monitor	£6.00	SH 804 Hard Disc	£3.50
SC 1424 Monitor	£6.00	XC 12 Data Recorder	£3.50
SMM 804 Printer	£5.00		

GOLD STAR Branded 3.5" Discs (100% error free) . £13.95 for 10

BBD Dust Covers are leading manufacturers of professional covers for the Computer Industry and carry a wide range of other covers for printers etc. Please enquire.

Please make cheques payable to:

BBD DUST COVERS

The Standish Centre, Cross Street, Standish, Wigan WN6 0HQ
Telephone: 0257 422968 (Ext. 22)
Fax: 0257 423909

Personal Callers & Dealer enquiries welcome.

SOFTVILLE PD SERVICE

55 HIGHFIELD AVENUE, WATERLOOVILLE
HAMPSHIRE PO7 7PY, ENGLAND. Tel 0705-266509

Send for our special INTRO DISK full of sample programs - only £1:50p inclusive

ATARI ST

ACC1 - 50 files of desk accessories
ACC13 - 68000 assembler, disk utilities
ACC21 - address book, font ed, neword pro'
ACC24 - Arc, Mono-Emulator, Printer set-up
plus another 32 disks full of utilities/accessories

LAN4 - Adventure writing system + docs
LAN10 - C compiler, Microemacs, RSI etc.
LAN14 - FORTHMACS language + docs
LAN5,6,7 - set of disks to teach you C
plus another 25 disks full of languages etc.

GAME3 - HACK the D&D fantasy game
GAME11 - Games for kids, all mouse driven
GAME16 - Breakanoid, DGDB, Fruit machine
GAME27 - Pyramino & Monopoly - colour only
plus another 32 disks full of games.

WP3 - 30 Printer drivers for 1stWord (+)
WP8,9,24,25,26 - five disks full of clip art
WP10 - Mailmerge, Envelope addresser, Speller
WP12 - STWriter ELITE, word processor
plus another 24 disks full of wp's & utilities

MUS5 - Synth & 32 Track sequencer.
MUS8 - 36 tunes (midi or tv/monitor output)
MUS12 - MIDIDRUM & MIDIPLAY
MUS14,15,16 - songs to use with EZ-Track
plus another ten disks full of music.

COMS2 - Kermit, Mikeyterm, Xmodem etc.
COMS3 - UNITERMV2.0C + docs
COMS6 - WORLI mailbox, Pack-et-erm etc.
plus another three disks full of comms and radio programs for the enthusiast.

PIC1 - 9 degas pics of ladies! + showpic prog
PIC9 - 12 digitised pics from Ghostbusters etc
PIC18 - 15 digitised space pictures
PIC19 - 13 digitised amiga pictures.
plus another 15 disks full of pictures + shows

MISC1 - Skymap, view the night sky, great
MISC2 - Orbit, track objects orbiting earth
MISC4 - Virus killer program
MISC3 - accounts and loans programs
plus another 5 disks full of useful programs

WE HAVE OVER 450 DISKS FULL OF GREAT PROGRAMS and also sell a great range of BOXES, PAPER, DISKS, LABELS, J/STICKS, BOOKS etc. Membership is not necessary but we also run a thriving user group as well, see below.

STUCK, FED-UP, NO-ONE TO HELP YOU OUT? Don't despair, join CLUBViLLE for only £6:50p & get access to our helpline plus regular updates, newsheets, special offers discount on pd and contact with hundreds of ST'ers.

above disks only £3:00p each - £2:75p 6 & over - £2:50p 11 & over or deduct £1:00p per disk if you send in your own blanks. Cheques/po's payable to 'SOFTVILLE'. or SEND A 1st CLASS STAMP NOW for our FREE 24 page catalogue, state CLEARLY the name of this magazine and MODEL of your computer or phone Rod or Carol Gearing anytime for further details.

PUBLIC DOMAIN SOFTWARE
GET MORE FROM YOUR ST - GET MORE FROM SOFTVILLE
BRITAINS No1 PD SUPPLIER

SOFTWARE SUPA SALES

(Blank 3.5" Discs only £9.95 per 10)

Atari ST Games	RRP	Our
Elite	24.95	15.95
Gunship	24.95	15.95
Captain Blood	24.95	15.95
Out Run (OUT NOW!)	19.95	13.95
Super Hang-On	19.95	15.95
Gauntlet 1 or 2	24.95	14.95
Verminator	24.95	14.95
Barbarian II	19.99	13.95
Football Manager II	24.95	14.99
Dungeon Master.	24.95	14.95
Star Goose	19.95	13.95
Scrabble	19.95	11.95
Obliterator.	24.95	14.95
Five Star	24.95	15.95
Starglider II	24.95	15.95
U.M. Simulator.	24.95	15.95
Wizard Wars	19.95	11.95
Nether World	24.95	16.95
Daley Thompson	19.95	13.95
Psion Chess	24.95	15.95
Whirligig	19.95	12.95
Carrier Command.	24.95	14.95
Better Dead Than Alien	19.95	13.95
Virus	24.99	14.95
ST Soccer.	24.95	14.95
Quadralien	19.95	13.95
Gold Runner 1 or 2.	24.95	14.95
Street Fighter	19.99	13.95
Federation Free Traders	29.95	20.95
Balance of Power	24.95	15.95
Kennedy Approach	24.95	15.95
Birdie	19.95	13.95
Hotshot	19.99	13.95
Defender of the Crown	29.95	18.95
Bridge Player 2000	19.95	13.95
Platoon	19.95	13.95
Night Raider	19.95	13.95
Bionic Commando	19.95	13.95

Atari ST Adventures	RRP	Ours
Jinxer	24.95	14.95
Corruption	24.99	15.99
Stationfall	29.99	18.99
Hitch Hikers Guide	29.99	18.99
Guild of Thieves	24.95	14.95
Time & Magik	19.95	12.95
Legend of the Sword	24.95	15.95
Chrono Quest	29.95	19.95
Mindfighter	24.99	15.95
Stac St Adventure Creator	39.95	24.95
Uninvited	24.99	15.95
ST Business Products		
Superbase	99.95	69.95
Superbase Professional	249.95	169.95
Fleet St. Publisher	115.00	79.95
Home Publisher	24.95	14.95
P.C. Ditto (UK Version)	89.95	59.95
Spectrum 512	59.95	39.95
VIP Professional	228.95	149.95
Protext	79.95	49.95
Word Perfect 4.1	228.85	149.95
Pascal (Metacomco)	99.95	59.95
Lattice C (Metacomco)	99.95	69.95
Macro Assembler (Meta)	49.95	34.95
Cambridge Lisp (Meta)	149.95	99.95
BCPL (Metacomco)	99.95	69.95
Make (Metacomco)	49.95	34.95
Menu+ (Metacomco)	19.95	14.95
STOS	29.95	19.95
Home Accounts	24.95	16.95
Mailshot Plus	49.95	34.95
GFA Basic V3	45.95	29.95
GFA Draft	99.95	69.95
GFA Draft Plus	139.95	99.95
GFA Compiler	45.95	29.95
GFA Artist (1Mb Only)	49.95	34.95

(Business orders include VAT
Next day delivery £6.95 Recorded £2.50

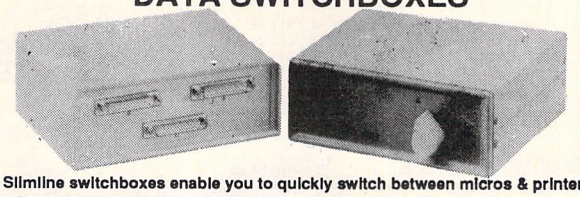
(Game products Postage free U.K. Mainland only. Overseas orders add £1.00 per disk. Air Mail £2.50 per disc. Price List available please send S.A.E.)
Cheques/Post Orders (Sterling only please) made payable to:

SOFTWARE SUPA SALES
69 Moortower, Harlow, Essex CM18 6BE
Access or Visa orders please ring (0279) 29076
During Normal Office Hours Thankyou. Mail Order Only

VISA

We'll point you in the right connection!

DATA SWITCHBOXES



Slimline switchboxes enable you to quickly switch between micros & printers.

RS232 (Serial) metal cased		Centronics (Parallel) metal cased	
25-way 'D1 to 2-way	£30.00	36-way Centronics 1to2-way Para	£30.00
25-way 'D1 to 3-way	£40.00	36-way Centronics 1to3-way Para	£40.00
25-way 'D1 to 4-way	£50.00	36-way Centronics 1to4-way Para	£50.00

PARALLEL CROSSOVER 36-way Centronics or serial 2 to 2 changeover crossover .. £50.00

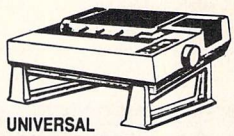
We'll lead you in the right connection!

CL76	Atari ST to Scart. 13- pin Din to Scart. Suitable for Philips, Ferguson and Fidelity etc. 2m £12.75
CL77	Atari ST Cable. 13-pin Din to open end. All pins con. 2m. £11.75
CL78	Atari Floppy Disk Drive Cable. 14-pin Din to 14-pin Din 2m. £12.75
CL79	Atari to Cumana Disk Drive. Adaptor Cable 13-pin Din to 34-way socket 1m. £12.95
P24	Circular Plug. 14-pin Floppy Disk connector on Atari ST computers £5.25
P25	Circular Plug. 13-pin Din. Monitor connector on Atari ST computers £5.25
P26	19-way D Plug. With hood. Disk connector for Atari ST. Disk connector for Apple IIc and Apple Macintosh computers .. £5.50

Atari ST Parallel printer leads PPC to PC Data Transfer cable. Enables transfer of data simply

ONLY £10.50

IPL-1.8	Atari printer lead. Flexible moulded, fully shielded parallel cable 1.8m £8.75
CL16	Atari joystick Extension lead 3m. £3.50
P27	Surge protector. Safely eliminates dangerous voltage surges/spikes from domestic and professional appliances £10.25



UNIVERSAL PRINTER STAND

The adjustable Printer Stand 2-piece construction, fits all standard and wide carriage printers. Also provides convenient space for paper storage. Rubber feet, vibration absorbing pads

ONLY £12.95

SWIVEL BASE

Tilt or swivel base for 12" Monitor or T.V

£14.75

RS 232 CABLES, MODEM LEADS MADE TO ORDER FOR ALL TYPES OF COMPUTER AND MODEMS

£1 P&P IN UK. Access and Visa accepted. Add 15% VAT to all orders
Cheques made payable to:

RSD Connections Ltd., Dept AT11
PO Box 1, Ware Herts.
Telephone: (0920) 5285/66284 Fax: 0920 66191

VISA

MAIL ORDER ONLY

CBS COMPUTERS

MAIL ORDER ONLY

GAMES/LEISURE

	Our Price
Alien Syndrome	12.95
Arcade Force 4	19.50
Arkanoid 2 (Revenge of Doh)	13.50
Army Moves	12.95
Bards Tale I	16.95
Bermuda Project	15.95
Better Dead than Alien	12.95
Beyond the Ice Palace	12.95
Bionic Commando	12.95
Bomb Jack	12.95
Buggy Boy	12.95
Captain America	15.50
Captain Blood	15.95
Carrier Command	15.95
Chessmaster 2000	16.95
Corruption	15.95
Defender of the Crown	19.95
Dungeon Master	15.95
Empire	17.50
Empire Strikes Back	12.95
Enduro Racer	9.95
Fire & Forget	15.95
Flight Simulator II	26.95
Flight II Europe Scenery	13.50
Flight II Japan Scenery	13.50
Football Manager II	12.95
Garfield	13.50
Gauntlet II	15.50
Gold Runner II	12.95
Gold Runner Scenery Disk	5.95
Gunship	15.95
Ikari Warriors	9.95
Impossible Mission II	15.50
International Soccer	12.95
Jinxter	15.95
Karate Kid II	15.95
Killdozers	12.95
Leaderboard Birdie	15.50
Leatherneck	12.95
Leatherneck 4 Player Adaptor	4.95
Legend of the Sword	15.95
Masters of the Universe	15.50
Mickey Mouse	15.50
Night Rider	13.50
Obliterator	15.95
Oids	12.95
Outrun	15.50
Overlander	12.95
Peter Beardsley Soccer	12.95
Platoon	12.95

GAMES/LEISURE

	Our Price
Powerplay	13.50
Predator	12.95
Quadralien	12.95
Return to Genesis	12.95
Rolling Thunder	15.50
Scrabble Deluxe	12.95
Sentinel	12.95
Shackled	12.95
Side Arms	12.95
Sidewinder	6.95
Sinbad	16.50
Space Harrier	12.95
Space Quest II	15.95
S.T.A.C. (Adventure Creator)	29.95
Starglider II	16.50
Star Trek	12.95
Star Wars	12.95
Stir Crazy	12.95
STOS	19.95
Street Fighter	15.50
Strip Poker Data Disc 1	6.95
Summer Olympiad	12.95
Super Hang -on	13.50
Test Drive	17.50
Thundercats	12.95
Universal Military Sim	15.95
Virus	12.95
Whirligig	13.50
Wizard Warz	12.95
Wizball	12.95
Zynaps	13.50

BUSINESS/UTILITIES

Accountant (Sage)	129.95
Accountant Plus (Sage)	159.95
Assembler (Metacomco)	34.95
Back Pack	34.95
CAD 3D2.0 + Cybermate	62.95
Degas Elite	17.50
Devpac 2	38.95
Fast ASM	13.50
Fast Basic (Disk)	32.95
Fast Basic (ROM)	64.95

Phone for Latest Releases

BUSINESS/UTILITIES

	Our Price
First Word Plus	54.95
Fleet Street Publisher	84.95
GFA Basic	31.95
GFA Compiler	31.95
GFA Companion	23.95
GFA Draft	68.95
Home Accounts (Digita)	16.95
K-Data	35.95
K-Spread 2	56.50
K-Word	35.95
Lattice C (Metacomco)	68.95
Pro Sound Designer	44.95
Publishing Partner	124.95
Quantum Paint	13.50
Super Conductor	34.95
Superbase Personal	67.95
Timeworks Desktop Publisher	69.95
V.I.P Professional	174.95
Word Processor (ST Soft)	7.95

HARDWARE

20 STM + Meg Drive	279.95
520 STFM Summer Pack	369.95
10 DSDD Disks + Library Case	12.95
Cumana 1 Meg Disc Drive	99.95
Dual Joystick Extension Lead	6.95
Parallel Printer Cable	9.95
Philips 8833 Monitor + Cable	274.95
Quickshot Turbo Joystick	11.95
Star LC-10 Printer + Cable	199.95
Star LC-10 Colour + Cable	234.95

BOOKS

Atari ST Internals	14.95
Basic to C	13.00
Disk Drives In and Out	14.95
Gem Programmers Ref. Guide	14.95
Intro to MIDI Programming	14.95
Logo Reference Guide	14.95
Peeks and Pokes	11.95
Tricks and Tips	14.95

Offers subject to availability.
Prices may change without notice.
Goods are normally despatched within 24 hours

All prices include VAT + Free delivery

To Order - Cheques + Postal Orders to **CBS COMPUTERS** or send Visa/Access Details - Please state ST
Please send SAE for full price list. Please endorse cheques with bankers card/credit card number. Goods will be despatched when the cheque is cleared

VISA

Mail Order Division, 17 Eversley Road, Bexhill-on-Sea, East Sussex. Tel: (0424) 221931

DISKETTES: BUY 2 GET 1 FREE

PROD. No.	FLOPPY DISK PRICE LIST DESCRIPTION	PER BOX OF 13 DISKS 1-4	5-9	10+
1001	5¼" DS/DD 48TPI	6.39	5.99	5.59
1002	5¼" DS/QD 96TPI	7.39	6.99	6.59
1003	5¼" High Energy 1.6Mb	14.99	14.49	13.99
1004	3½" DS 135TPI	14.99	14.49	13.99
		PER BOX OF 27 DISKS		
1001-1	5¼" DS/DD 48TPI	12.49	11.29	10.99
1002-1	5¼" DS/QD 96TPI	13.99	12.79	11.99

BRANDED

2FOR1 REPLACEMENT GUARANTEE

(2 for 1 offers apply to branded disks only)

WHITE BOX & BULK:

Description	Prices from WHITE BOX	BULK
5¼" DS/DD 48TPI	25p*	22p
5¼" DS/QD 96TPI	28p	25p
5¼" High Energy 1.6Mb	70p	67p
3½" DS 135TPI	75p	72p

BULK DISKETTES, minimum order 1,000

*from 25p per diskette (WHITE BOX)

Mydisk

Phone MYDISK LTD on
0753 830466
All prices exclude carriage and VAT

AST/11

ST & AMIGA OWNERS

- Have you ever bought software only to find it's not what you expected?
- Would you like to buy software, hardware, peripherals & consumables at prices only available to dealers?
- Are you thinking of buying an ST or Amiga?

We can supply members with:
Amiga's from £250 and 520 STFM's from £341.50
Xerox 4020 colour ink jet printer from £1000.00
External Drives from £88.00 Okimate 20 £138.00
Blank Disc's DSDD Unbranded (Memorex) 25 for £25.00
All prices are fully inclusive. Nothing to add.
Save up to 35% on all software, not just games
We supply a full product range from A to Z

If you answered yes to any of the above questions then send an s.a.e. to

ST & AMIGA CLUB
(Dept AC), PO Box 3, Openshaw, Manchester M11 4FZ
For full details and application form
Don't enrol with any other club until you've checked us out first

STAT

STAT is a new user group for the ATARI ST range of computers

NEWSLETTER

A quality newsletter is published bi-monthly containing the latest information available.

SOFTWARE DISCOUNTS

Members discounts on software, hardware, books and accessories.

Subscription: 6 months £4.50 12 months £8.50

For further information contact:

STAT, 51 FIELDS ROAD, LEPTON, HUDDERSFIELD HD8 0AQ

T-systems ltd
COMPUTER SYSTEMS AND COMPONENTS

Printer Ribbons for: (each)

Citizen 120D	4.05	original
Epson EX800/1000	4.60	2774
Epson LQ500/850	3.35	2477
Epson LQ1500	3.05	2409
Epson LX80/86	2.75	2454
Epson MX/RX/FX80	3.15	2273
Epson MX/FX100	3.55	2320
Kaga KP810/910	3.05	2223
Seikosha GP100	2.50	2317
Star NL10	4.70	2761
and many more		

T-Systems Ltd, The Signal Cabin, 61 High Street, Orpington, Kent BR6 0JF
Access Card accepted. Tel: 0689 22196
All prices include VAT and P&P

MICRO MEDIA

Computer Supplies Ltd. **0707 52698** (5 lines)

3½" Unbranded Discs MICRO MEDIA

	10	20	50	100	200
DS	11.30	21.76	47.90	91.50	172.00
SS	13.70	26.90	64.40	122.60	236.00
DS	14.90	28.60	68.20	130.50	252.00

3.5" HEAD CLEANING DISC £5.00 **MOUSE PAD £4.90**

Printer Ribbons

Price (£) per Ribbon	2	6	12
Atari 1029	2.70	2.55	2.40
R, BL, GR, BR, Y	3.70	3.55	3.30
Atari SMM804	4.10	3.85	3.55
Centronics GLP	3.65	3.45	3.15
Canon 1080/1156	2.99	2.85	2.60
Citizen 120D	4.30	3.95	3.70
Epson LX80/86 GX80	2.80	2.65	2.40
R, BL, GR, BR, Y	3.80	3.65	3.40
MX/FX/RX80 FX800	4.35	4.20	4.05
R, BL, GR, BR, Y	4.35	4.20	4.05
KAGA KP810/910	2.99	2.85	2.60
Panasonic KXP 1080	4.65	4.40	4.20
Star LC10	3.50	3.10	2.85

One off if ordered with other products.
Please mix colours and types for best prices.
R=Red, BR=Brown, BL=Blue, GR=Green, Y=Yellow.

Computer Paper

Plain fanfold, micro perf edges

Size	Weight gsm	1000's per box	Price per box 1 box	3bxs	5bxs
11x9.5	60	2000	14.50	13.90	13.25
11x9.5	70	2000	17.60	15.30	14.45
11x9.5	80	2000	19.75	18.10	16.05
11x9.5	80	1000	11.90	–	–
Exact A4	70	2000	20.50	19.25	17.99
11⅔x9.5	80	2000	23.95	22.50	19.65
11⅔x9.5	90	1000	13.90	12.85	12.30

Computer Labels

Continuous fanfold, sprocket fed

Price per 1000	1000	3000	5000
70x36 2⅔x7/16th	4.85	4.30	3.55
89x36 3½x7/16th	5.35	4.50	4.10
89x49 3½x15/16th	7.50	6.60	5.90

Please state no of labels across sheet (1,2or3)

MD 80 3.5" x 80 Disc Box
1+ £8.90
3+ £7.99
6+ £7.40

MD 40 3.5" x 40 Disc Box
1+ £7.25
3+ £6.55
6+ £6.05

Orders to:
Micro Media, Freepost,
Dept. ASU, Rydal Mount,
Baker St., Potters Bar,
Herts. EN6 3BR

ACCESS OR VISA
0707 52698
(5 LINES)
OUT OF OFFICE HOURS
(ANSWER MACHINE)

ALL PRICES INCLUSIVE OF VAT & DELIVERY

Orders despatched 24 hrs. Please allow 5 days for delivery. For guaranteed next day delivery please ring – from £2.50 extra.

Personal callers welcome
Weekdays 8.30am-5.30pm
Saturdays 9.30am-1.00pm

AUTUMN CATALOGUE OUT NOW
(12 pages) Please ring or write for your free copy

GOODMAN P.D.L.

Established as one of Britain's leading suppliers of Public Domain Software for the Atari ST.

The New Autumn Catalogue gives details of the 100's of programmes that are now available including games/utilities/Demo's etc.

Prices from only £2 fully inclusive
or from 75p if you supply your own discs.

Send a 19p stamp for further details to:

GOODMAN P.D.L.
16 Conrad Close, Meir Hay Estate
Longton, Stoke-on-Trent ST3 1SW

ATARI ST PUBLIC DOMAIN

Why reinvent the wheel? We have a large selection of languages, demo's, utilities, comm's and games etc. available. Send a stamp for our list, which will save you hours of frustration.

DISCS from £1.50

McSOFT

21 PURBROOK ROAD, TADLEY, BASINGSTOKE, HANTS, RG26 6PR

EDA-ST Computers

250 Barandon Walk, Lancaster Road, London W11 1RU, England
Telephone: 01-229 8260

BARGAINS for ATARI STs & AMIGAs

Due to large stocks we are able to give away ATARI ST & AMIGA Hardware and Software at the lowest possible prices.
Look below at a small selection of our large range of goods and compare our prices.

HARDWARE	RRP	Our Price
Atari 520ST-M	£229.99	£177.00
Atari 520ST-FM	£299.99	£265.00
Atari 1040ST-FM	£499.99	£442.00
Atari Mega ST2	£934.99	£826.00
Atari Mega ST4	£1279.99	£1130.00
Summer Pack	£399.00	£350.00
SOFTWARE While stocks last		
Outrun	£19.99	£13.50
Gauntlet II	£19.99	£13.50
Xenon	£19.99	£13.50
Oids	£19.95	£13.50
Defender of the Crown	£29.95	£21.95
Flight Simulator II	£39.95	£27.00
Virus	£19.95	£13.50

All prices include VAT

Send SAE for full hardware and software price list
Orders: Please make cheques or postal orders payable to:
EDA-ST Computers
24 hour answering service
Call: 01-458 4480 or 01-229 8260

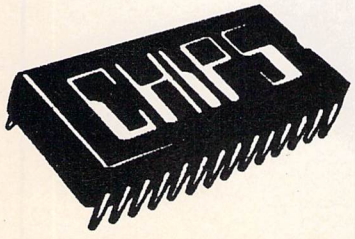
MIDI MUSIC

C-LAB, D.R.T, HYBRID ARTS, PASSPORT, STEINBERG

For the best service and advice call us today.
We also offer a full part-exchange service on most types of popular computers.
Please ring us for an appointment for a MIDI demonstration by the MIDI EXPERTS!

REMEMBER – WE CAN OFFER YOU THE LATEST IN MIDI COMPUTER TECHNOLOGY FOR ALL OF YOUR NEEDS. PHONE NOW!!

WE DON'T SELL SYNTHESISERS – WE JUST SELL COMPUTERS
MAIL ORDER AND SHOP CALLERS WELCOME
OPENING HOURS: MONDAY TO FRIDAY 10AM TO 6PM
SATURDAY: 9.30AM TO 5.30PM



Data Direct Limited.
53 Rugby Road,
Worthing,
West Sussex.
BN11 5NB
Tel: (0903) 700804
ACCESS/VISA

POWER COMPUTING

TREMENDOUS NEWS FOR ALL ST USERS

Britain's leading technical innovators now offer their superb range direct to you at prices that make peripherals affordable

NOW

AT35S – 3.5" 1 Megabyte External Disk Drive, with the latest NEC 1037 high technology mechanism in a neat slimline casing with thru-port. This drive is suitable for all models and comes complete with power pick up lead which plugs into the mouse or joystick port. The port is not lost as the socket is repeated on the power pick up lead. Total power consumption is less than 0.35 watts. Your Atari power supply won't even notice the extra drive but you will wonder how you ever managed without it!!!

PRICE ONLY £87.50

****

AT35S+ – 3.5" 1 Megabyte External Disk Drive, same specification as the AT35S, but with an integral silent power supply, mains lead, illuminated on/off switch and external fuse.

GREAT VALUE AT JUST £99.00 COMPLETE

****

AT5S+ – 5.25" 1 Megabyte 40/80 track switchable disk drive, high performance drive unit with integral power supply. An essential addition for PC emulation programs in 40 track mode or as a direct first or second drive using much lower priced 5.25" diskettes.

UNBEATABLY PRICED AT ONLY £115.00

****

ATMD+ – Power computing innovation has produced the incredible multi-drive. A superb combination 3.5" and 5.25" disk drive unit with integral high capacity low noise toroidal power supply. This new very compact unit plugs directly into your Atari providing drives A and B for ST/M computers or as a switchable drive B for STF/M models (select 3.5" or 5.25" without resetting the computer). Each drive has an unformatted capacity of 1 megabyte and uses double sided double density diskettes. The 5.25" drive is switchable 40/80 tracks – ideal for PC emulation programs.

FANTASTIC VALUE FOR THIS OUTSTANDING UNIT AT £199.00
(Please state ST or STFM version)

****

BARE DISK DRIVES:

NEC 3.5" 1036A	£74.00
NEC 3.5" 1037	£75.00
Mitsubishi 5.25"40/80 track 1 Mbyte	£89.00

****

ATSC1 – Super hand held scanner complete with interface and software – instant graphic capture from illustrations, drawings, text, logos on any paper.

AMAZING PRICE AT ONLY £320.00

****

MONITORS:

Philips 14" colour CM8833 with lead	£220.00
NEC Multisynch 14" Colour high res	£499.00

****

PRINTERS:

Citizen LSP10 (Tractor/Friction/NLQ)	£175.00
Star LC10	£189.00
Star LC10 CL Colour Printer	£220.00

****

20 Megabyte Turbo Hard Disk complete	£450.00
40 Megabyte Turbo Hard Disk complete	£650.00
Rom Cartridges 2 x 16k 2 x 32k	£12.00
Pro Sound Designer	£64.95
Teletext Adaptor	Enquire

Leads/Cables/Adaptors for all applications.

****

POWER COMPUTING
44a Stanley Street, Bedford MK41 7RW
Tel: 0234 273000. Fax 0234 270133
Export Welcome. Prices include VAT and delivery

ATARI ST PUBLIC DOMAIN

IMPORTED FROM THE U.S.A.!

DROID ON THE RUN

BLAST COMMODORE 64's, LITTLE GREEN MEN ETC. TO STAY ALIVE!
A SUPERB GAME WITH EXCELLENT GRAPHICS & SAMPLED SPEECH!
RUNS ON ALL ST's WITH COLOUR MONITOR

ONLY £2.25
(£1.25 IF YOU SUPPLY YOUR OWN DISK!)

THIS IS JUST ONE OF THE HIGH QUALITY U.S. IMPORTED PD DISKS AVAILABLE FROM EXCEL SOFTWARE. SEND A 19p STAMP FOR OUR LATEST CATALOGUE OR GIVE US A CALL
(AFTER 6pm PLEASE, ASK FO NIALL OR SHARON)

EXCEL SOFTWARE, PO BOX 159, STOCKPORT SK2 6HN
TELEPHONE: 061-456 9587

Mag-Media

78 Medcalfe Way, Melbourn Royston, Herts. SG8 6HU

3.5" Branded Disks 135 TPI			5.25" Branded Disks 48 TPI		
	SS/DD	DS/DD		SS/DD	DS/DD
3M	£15.00	£20.00	3M	£10.00	£12.00
Dysan		£22.60	Dysan		£13.00
Nashua		£22.00	Nashua		£11.00

All disks are Branded and Guaranteed
HARDWARE – Write for details

Prices include 1st class post to your door
What You See Is What You Pay

B-SOFT

PUBLIC DOMAIN SOFTWARE PACKS FOR THE ATARI ST SERIES

HOME OFFICE PACK: Superb fully integrated 3 disk pack consists of First Word word processor, Word Count, Spell Check, Mail Merge, 350K Data Base, Spreadsheet, full documentation. £7.50

ARCADE GAME PACK: Another three disk pack compilation of the very best PD Arcade Games. Includes Boulderdash type, Space Invaders type, Gauntlet type games. Many others. £7.50

STRATEGY GAME DISK This single disk has a number of strategy games, includes OGRE (Tank warfare) STARTREK and others. £3.00

BOARD GAMES PACK: A two disk compilation of board game favourites. Includes CHESS, MONOPOLY, BACKGAMMON, OTHELLO etc. £5.00

ADVENTURE GAMES PACK: A two disk pack, contains my favourite adventures. Includes HACK, a massive simple graphics game, COLLOSAL CAVE, text only, COLUMBUS, text only. Hours of fun here for the dedicated adventurer. £5.00

KIDS DISK PACK: One for the younger members of the family. Simple but excellent art programmes, music, piano, and games such as a PACMAN type, SLOT MACHINE type game. Two disks. £5.00

BEST OF BASIC: One disk of the best of the BASIC games around. Includes arcade type games, board games, strategy, adventures, and many others. Includes BASIC language. £3.00

BUY ALL THE PACKS AND GET 10% OFF!

SEND PAYMENT, MADE PAYABLE TO B-SOFT, TO
33 CORSHAM ROAD, CALCOT, READING, BERKS RG3 5ZH. TEL. READING (0734) 416492

Cheque or P.O. to:

MAIL ORDER ONLY

VIKING

P.D. LIBRARY
12 Carnot Street, Leeman Road, York YO2 4YY

MAIL ORDER ONLY

The Vikings have landed with another boat load of PD for the Atari ST

Send SAE for new catalogue

Official Secrets
or
Special Reserve
P.O. Box 847
Harlow
CM21 9PH

Send S.A.E. A.S.A.P. or be left in the dark.

ADVERTISERS' INDEX

16 Bit Centre	112	HSV Computer Services	56
16 Bit Software	112	Incentive Software	3
Allied Control Services Ltd	115	Ladbroke Computers	82
Apolonia Software	90	Logotron	35
Arnor Ltd	38	Mag Media	130
Ashby Computers & Graphics	115	Mail Centa	126
Bargain Software	117	Mailsoft	118
Bath Computer Shack	96	MC Soft	128
BBD Dustcovers	126	Melton Computer Services	99
B-Bytes Computer Systems	112	MD Office Supplies	91
Best Byte Software	78	MJC Computer Supplies	54
BRK Ltd	111	Microdeal Ltd	36
B-Soft	130	Micromedia	128
Byteback	18	Microsnips	75
Byteware	111	Mirrorsoft	2,132
Cambridge Business Software	118	Miles Better Software	94
Care Electronics	50	Mydisk	128
Castle Computers	44	North Notts Computers	19
CBS	127	Power Computing	129
Centec Computer Supplies	88	Precision Software	11
Cestrian Software	79	Pyramid and Video	95
Chips	129	Qualsoft	58
City Music	119	Romantic Robot	86
Compumart	15	Rainbird	29
Computer Express	32	RSD Connections	127
Computer Wize	116	SCC	116
Cottage Software	94	Selec Software	84
Cut Price Software	57	Silica Shop	123,131
Delta Computers	40	SK Marketing	103
DGA Software	111	Softstuff	95
Digita International	64	Software PD Service	126
Dr Soft	83	Software Supa-Sales	127
EDA Systems	129	Southwest Software Library	48
Eidersoft Ltd	107	Special Reserve	130
Electric Distribution	16,17	ST Amiga Club	128
Evesham Micro Centre	42,43	Star Micronics	51
Excel Software	130	Stat	128
Fidget Computerware	20	ST Club	118
Firebird	47	Stortsoft	99
Frontier Software	6	ST UK	126
Games Shoppe	95	Trybridge Ltd	64
Gamersoft	112	T Systems	128
Glentop Press Limited	57	Turtlesoft	41
Goodman PDL	128	Viking PD Library	130
Gould Computer Services	78	We Serve	84
GSE	25	Wight Computing Home Micros	118
Gultronics	63	Worldwide Software	48
Homesoft UK	115	York Computer Centre	60

NEW LOW PRICE ST!

From Only
£2.51 Per Week
Return Coupon for details

ONLY FROM SILICA

Finally, there's a personal computer that not only solves problems like other computers, but also solves the one problem that other computers have created. Affordability. Silica Shop are pleased to present the ST range of personal/business computers from Atari. The ST was designed utilizing the most recent breakthroughs in semiconductor technology, producing a personal computer that performs tasks with fewer parts. Which means it costs less to make. And less to buy. The latest ST computers now include built in power supplies and built in disk drives. The TOS operating system and GEM window environment are now on ROM chips which are already installed in the ST keyboard. This enables automatic instant booting when you switch on. Silica Shop are pleased to offer the complete Atari ST range. Our mail order department is situated in Sidcup and we have 3 retail outlets at Sidcup, Lion House (Tottenham Court Rd) and Selfridges (Oxford Street). We have eight years experience of Atari products, longer than any other UK company, and are well established as the UK's No.1 Atari specialist. With a group turnover of over £9 million and in excess of 80 staff, we offer you unbeatable service and support. We provide several facilities which you will find invaluable during your Atari computing life and most of these facilities are available **ONLY FROM SILICA**. We suggest that you read through what we have to offer, before you decide where to purchase your Atari ST.

FREE STARTER KIT - Only From Silica

When you purchase any Atari ST keyboard, you will not only receive the best value for money computer on the market, but you will also receive the following from Atari Corporation as part of the package:

** BASIC Language Disk * BASIC Manual * ST Owners Manual * TOS/GEM on ROM*

If you buy your ST from Silica Shop, you will also receive:

** NEOchrome Sampler - colour graphics program * 1st Word - Word Processor*

In addition, we at Silica would like to see you get off to a flying start with your new computer, so we have put together a special **ST STARTER KIT** worth over £100, which we are giving away **FREE OF CHARGE** with every ST computer purchased at our normal retail prices. This kit is available **ONLY FROM SILICA** and is aimed at providing users with a valuable introduction to the world of computing. We are continually upgrading the ST Starter Kit, which contains public domain and other licensed software, as well as books, magazines and accessories all relevant to ST computing. Return the coupon below for full details.

DEDICATED SERVICING - Only From Silica

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

1Mb RAM UPGRADE: Our upgrade on the standard Atari 520ST-M or 520ST-FM keyboard will increase the memory from 512K to a massive 1024K. It has a full 1 year warranty and is available from Silica at an additional retail price of only £86.96 (+VAT = £100).

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

THE FULL STOCK RANGE - Only From Silica

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

AFTER SALES SUPPORT - Only From Silica

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

FREE CATALOGUES - Only From Silica

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

FREE OVERNIGHT DELIVERY - From Silica

Most orders are processed through our computer within 24 hours of receiving them. Most hardware orders are sent by the overnight GROUP 4 courier service FREE OF CHARGE to customers within the UK. This method helps to ensure minimum delay and maximum protection.

PRICE MATCH - Only From Silica

We hope that the combination of our low prices, FREE UK delivery service, FREE Starter Kit and FREE after sales support, will be enough to make you buy your Atari equipment from Silica Shop. If however, there is something you wish to purchase, and you find one of our competitors offering it at a lower price, then please contact our sales department, providing us with our competitor's name, address and telephone number. If our competitor has the goods in stock, we will normally match the offer (on a 'same product - same price' basis) and still provide you with our normal free delivery. We realise that we are not the only company who will match a competitor's price. However, if you come to us for a price match, you will also be entitled to our after sales service, including free newsletters and technical support. This makes our price match promise rather special, something you will receive **ONLY FROM SILICA**. We don't want you to go anywhere else for your Atari products. So shop at Silica, the UK's No1 Atari Specialist.

SIDCUP (& Mail Order) **01-309 1111**
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

LONDON **01-580 4839**
Lion House (1st floor), 227 Tottenham Court Rd, London, W1P OHX

LONDON ..... **01-629 1234 ext 3914**
Selfridges (1st floor), Oxford Street, London, W1A 1AB

£260 +VAT=£299

SO MUCH FOR SO LITTLE!

There is nothing that can compare with the incredible value for money offered by Atari's 520ST-FM. For only £260 (+VAT=£299), you can purchase a powerful 512K RAM computer, with a 95 key keyboard (including numeric keypad), MIDI interface, GEM, a palette of 512 colours, mouse controller, and a 512K built-in disk drive. The 520ST-FM has a TV modulator built-in, and comes with a lead to allow you to plug it straight into any domestic colour television set. The mains transformer is also built-in to the keyboard, so there are no messy external boxes. You couldn't wish for a more compact, powerful and stylish unit. Atari ST computers are now firmly established in the UK, there are nearly 500 software titles already available for a wide variety of applications and the list is growing all the time. And that's not all. When you buy your new 520ST-FM (or any Atari ST computer) from Silica Shop, you will get a lot more, including a FREE Silica ST Starter Kit worth over £100. Read the ONLY FROM SILICA section on the left, to see why you should buy your new high power, low price 520ST-FM from Silica Shop, the UK's No1 Atari Specialists. For further details of the range of Atari ST computers and the FREE Silica ST Starter Kit, complete and return the reply coupon below.

ATARI 520ST-FM NOW ONLY £260 (+VAT=£299)

520ST-FM with 512K RAM & mono monitor £399 (inc VAT) **Upgrade from 512K RAM to 1024K RAM £100** (inc VAT)

ATARI 1040ST-F - NEW PRICE

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

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

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

MEGA ST's NOW IN STOCK

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

MEGA ST 2Mb Keyboard + CPU ..... £899 (inc VAT)
MEGA ST 2Mb Keyboard + CPU + SM125 Mono Monitor ..... £999 (inc VAT)
MEGA ST 4Mb Keyboard + CPU ..... £1199 (inc VAT)
MEGA ST 4Mb Keyboard + CPU + SM125 Mono Monitor ..... £1299 (inc VAT)

If you would like further details of the MEGA ST's, return the coupon below.

ATARI ST

To: Silica Shop Ltd, Dept ATUSR 1188, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

PLEASE SEND ME FREE LITERATURE ON THE ATARI ST

Mr/Mrs/Ms: ..... **Initials:** ..... **Surname:** .....

Address: .....

.....

.....

..... **Postcode:** .....

Do you already own a computer
If so, which one do you own? .....

COMING SOON

SPEEDBALL

ATARI ST – £24.99. AMIGA – £24.99
PC AND COMPATIBLES – £29.99

SPEEDBALL – TOTAL ACTION, TOTAL AGGRESSION – THE ULTIMATE SPORT FROM THE BITMAP BROTHERS.

"SPEEDBALL IS FAST, FURIOUS AND GRAPHICALLY VERY STYLISH." COMPUTER GAMESWEEK 94%.

The BITMAP BROTHERS

© 1988 THE BITMAP BROTHERS.

image works™

Headway House, 66-73, Shoe Lane, London, EC4P 4AB. Tel: 01-377 4645 Fax: 01-583 3494 Telex: 265451 MONREF G