6th BIRTHDAY ISSUE

ATARI ST USER

March 1992 • £2.99 • Issue 73

REVIEWED: MultiDesk Deluxe • ATonce 386 • Midistudio Mas

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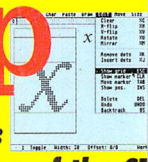

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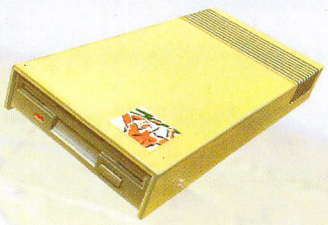

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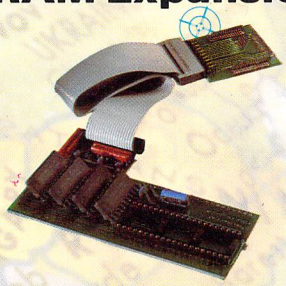

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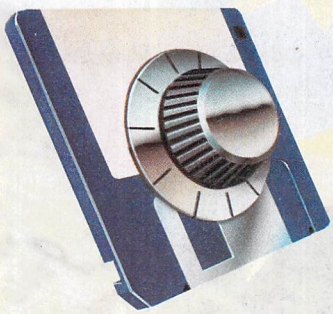

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EDITOR John Butters
ART EDITORS Terry Thiele, Tym Leckey
TECHNICAL EDITOR Andrew Wright
PRODUCTION EDITOR Phil Morse
GAMER EDITOR Daniel Whitehead
STAFF WRITER Jonathan Maddock

GROUP AD MANAGER Jane Conway
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CUSTOMER SERVICE Sandra Childs, Lance Concannon, Linda Thomas, Sirje Green, Brigid Ruddick

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DISTRIBUTION COMAG (0895) 444055
SUBSCRIPTIONS 051-357 2961

ABC Member of the Audit Bureau of Circulation

Published by Europress Publications Ltd.
Europa House, Adlington Park,
Macclesfield SK10 4NP
Tel: 0625 878888 (All departments) Fax: 0625 879966

PUBLISHER Richard Williams
ASSISTANT PUBLISHER Eddie McKendrick

CHAIRMAN Derek Meakin
MANAGING DIRECTOR Peter Glover
FINANCE CONTROLLER Ian Bloomfield

We regret *Atari ST User* cannot offer technical help on a personal basis either by telephone or in writing. All reader enquiries should be submitted to the address above for possible publication.

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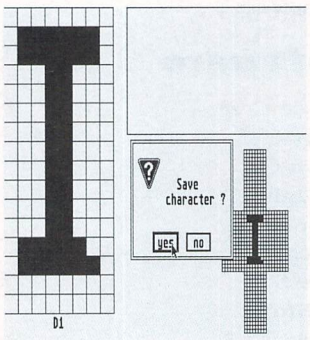
REVIEWS

Midistudio Master

A cheap and capable re-write of the popular Ladbroke Computing sequencer 23



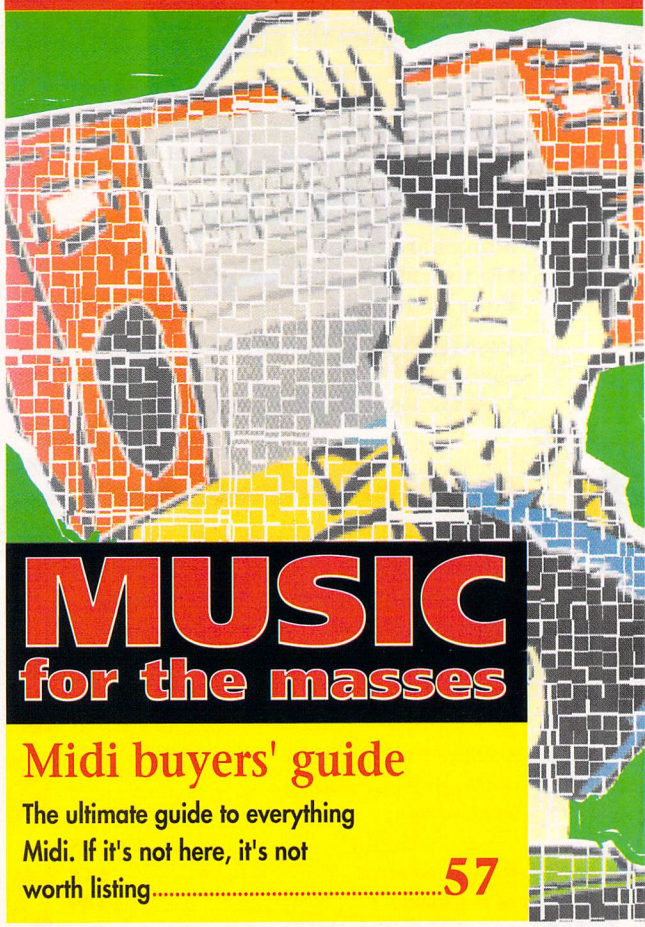
ATonce 386SX

Ever wanted to take your office PC work home? The first 386SX emulator for the ST is put through its paces 31

MultiDesk Deluxe

The upgraded version of a special utility for controlling your desk accessories 48

COVER FEATURE



MUSIC for the masses

Midi buyers' guide

The ultimate guide to everything Midi. If it's not here, it's not worth listing 57

THE COVERDISK

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- *After reading our complete guide to comms, go online with the latest and best shareware program – Freeze Dried Terminal. Full of features, it might well be the only communications software you'll ever need*
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- *Two complete games! Flipped is an exciting puzzle game and Plax Atax is a quick reaction clean-'em-up. Boot it up and you'll see what we mean!*

The DISK starts on page 25

aspects

midi and music

Everything that the dedicated ST musician should ever need to know. You'll find it every month in the chart-topping *ST User!* 115

emulation

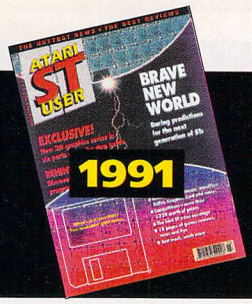
Do you long for your ST to be something else? Then tune in to our Emulation bonanza and chat to anything from Amigas to PCs. 117

communications

The fastest way to communicate from computer to computer. All the news from the world of modems and bulletin boards. 119

desktop publishing

Hints and tips on producing your own magazines, news-letters or leaflets, the professional way! It's easy when you know how. 121

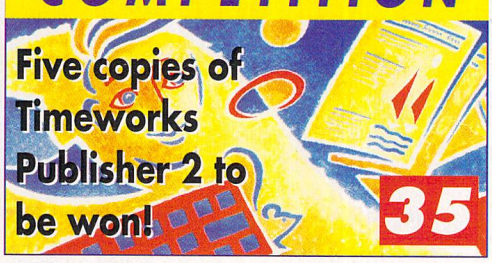


CONTENTS

REGULARS

News
New sales centres to be opened, STBook for 16-bit show and more 9

COMPETITION



Write Now
Praise, grumbles, comment. A chance for you to have your say 38

Beginners Guide
We complete our exploration of the Desktop with a look at the Options menu ... 95

Learning Assembler
Create your own programs with our new step-by-step tutorial to programming assembler 101

Public Sector
The youngest and best public domain and shareware programs tested 102

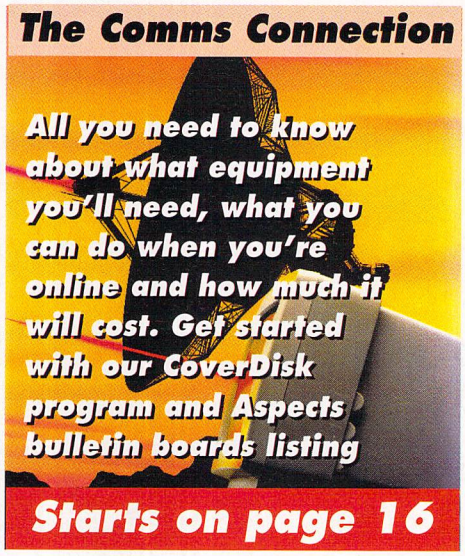
Advice Service
Your technical questions answered by our man in the know 109

Gallery
The Louvre comes to your living room 130

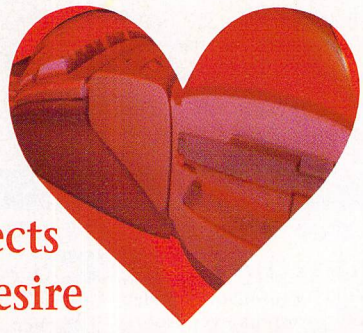
24 pages of game reviews, news and cheats

SPECIALS

The Comms Connection



Six of the best
We're six years old! Read about the rise and rise of the ST as it appeared in *Atari ST User* 50



Objects of desire
Hints on which inexpensive accessories to buy your loved one this Valentine's Day 44

New start for Calamus
Calamus is being distributed by a British firm. We talk to Halco about their plans for the top DTP package 57

business

Keep on top of your bank account, and use your ST to guide you through the financial storms. We tell you how in detail!

123

aspects

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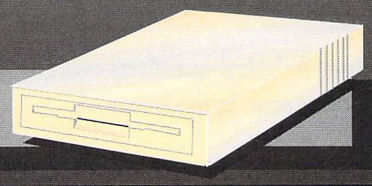

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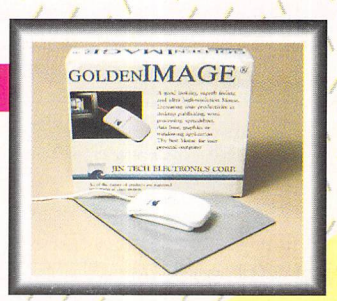

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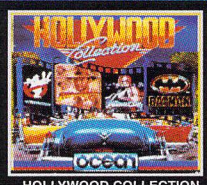
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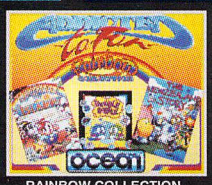
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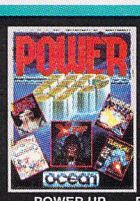
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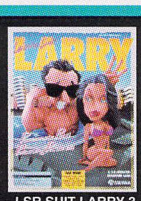
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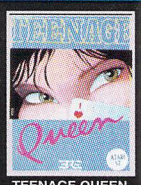
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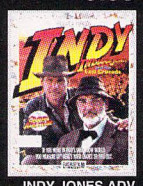
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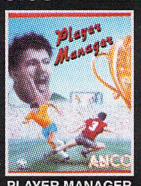
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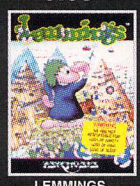
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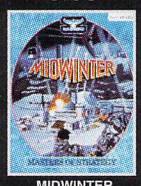
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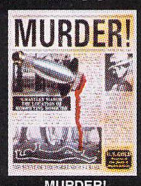
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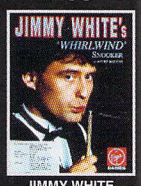
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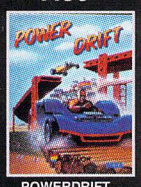
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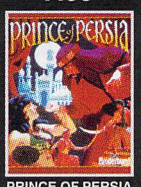
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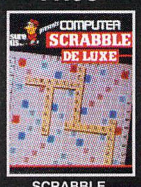
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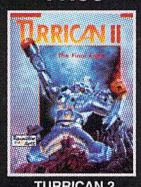
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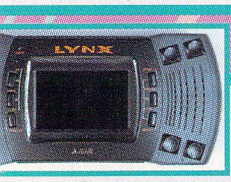

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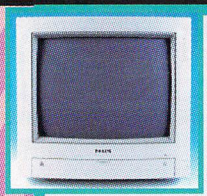

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Atari get Mega serious

Mega STE gets recognition as a business machine

By John Butters

TOP ST developers met at Atari UK's Slough headquarters recently to hear a new plan which could push high-end STs into more British businesses.

Seventeen companies – each with at least one exclusive ST product – were represented around the table, where Atari also detailed hardware plans for the ST and TT.

Regular developer gatherings and the forming of a nationwide network of ST centres were also discussed.

The first of between 20 and 30 of the showrooms is expected to open at the beginning of March.

Fifteen firms are already committed to the scheme but the manufacturer says that each will have to comply to strict regulations and their staff learn about the products they intend to sell. Called the Professional System Group, the new centres will promote Mega STEs and TTs in a similar way that Apple Centres push Macintosh equipment.

Support will be given to all key areas of ST computing including desktop publishing, and music.

Already three high-quality colour brochures have been published covering these areas.

For many it was the first time to talk openly with Atari and fellow software and hardware developers about the ST market. Compo Software's Neal O'nions described the meeting as "promising".

Weak dollar good for buyers

AS THE pound continues strong against the US dollar, speculation is rife that Atari will announce price falls for the ST range soon, in particular the entry-level 520STE.

It was as a result of an unfavourable US to UK exchange rate that the package Discovery Xtra rose from £299 to £329.99 a year ago.

Falls might be more substantial than a simple return to the £299.99 price point because the one megabyte Commodore Amiga continues to sell at its "temporary" Christmas tag of £369.99.

One industry expert has even predicted a sub-£200 price for the ST. He said that if Atari could reduce the 520STE to £199 people would be inclined to buy a computer instead of the cheaper consoles.

Atari are not giving any secrets away. "It's always been our intention to deliver the best value for money machines, and price adjustments are being considered," said spokesman Peter Walker.

However, he ruled out a price fall before mid-March. He added that at least four weeks' trade notice is needed and said this has not been given.

Notebook arrives for show

JUST as we were closing for press Atari issued details of their latest plans for attendance at the forthcoming 5th International Computer Show.

ST notebook computer STBook is now the confirmed highlight of the show, being displayed for the first time in the UK. About 15 of the baby STs will be available for visitors to try out although its price remains unfixed.

Also due for the first time will be TTs running Unix. The machines are claimed to be ideal cheap cost solution for programmers, running the latest version of Unix.

The firm's staff will also offer advice for ST owners and people considering becoming part of the ST community.

And companies – many from overseas – plan to use the show as a platform for launching new ST products. Among them Compo Software will be previewing ComBase which is due late this year and That's Write 2.

Other ST-related exhibitors consist of HiSoft, GFA, Power Computing, Roland, Pandaal Marketing, Precision – Oxxi, Soft Stuff, Rombo and the Association of Atari Users Group.

More than 35,000 visitors are expected at the show – due to be held at Wembley Exhibition Halls on February 14 to 16.

TTs with Unix for the first time at a British show

ST teachers join forces

EDUCATIONALISTS are being invited to join a new group which has been formed by a Chelmsford teacher to bring together teachers and lecturers who use the ST in their work.

Called the Association of Atari Users in Schools and Colleges, part of its purpose is to spread teachers' own education software to a wide audience.

Readers requiring more information should send a stamped addressed envelope to: Terry Freedman, 16 Hall Rise, Witham CM8 1DH.

Frontier pass on DRAM savings

PRICE falls have again been announced for Frontier Software's (0423 567140) XTRA-RAM range of ST memory upgrades as the cost of DRAM chips continues to fall.

The company's cheapest board is the unpopulated XTRA-RAM Standard which now sells for £29.99 while the unpopulated Deluxe upgrade now has a £34.99 price tag.

"The fall in prices on the DRAM market has allowed us to pass on the savings to our customers," commented Frontier's marketing manager Martin Walsh.

"The XTRA-RAM half megabyte Standard upgrade is an expandable unit which now retails for less than an equivalent fixed upgrade. We expect to sell many more at this new price to add to the 10,000 sold over the last two years."

Music partner comes to London

FRENCH music software firm Music Pro Import are set to sound out the British market for the first time from a London office.

First product to be released will be Feeling Partner which combines an arranger incorporating real time harmony with a 16-track Midi sequencer.

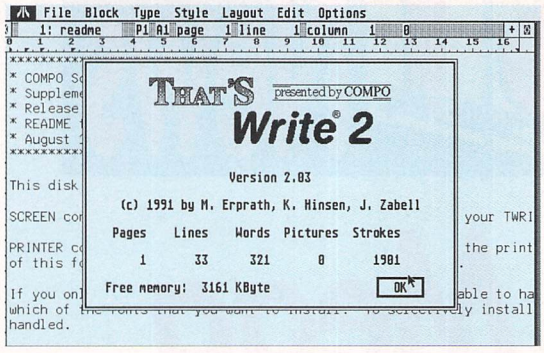
A variety of preset but programmable features can be used including six predefined instruments, 74 music styles, 2 x 16 algorithms and a library of models for each group of styles.

"Feeling Partner is the ultimate Midi arranger for musicians to date because arranger and sequencer functions are genuinely combined with one another," said MPI's Stephan Israel.

Price: £175 from Music Pro Import, 15 Gartmoor Gardens, Southfields, London SW19 6NX. Tel: 081-789 8841.

DO YOU KNOW SOMETHING WE DON'T?

Although *Atari ST User* has scores of contacts in the ST world, we need you. If you have some hot news ring John Butters on the news-desk now on 0625 878888. All information supplied will be treated in the strictest of confidence.



Improvements for That's Write

That's Write gets more

WRITERS are soon to be offered an improved version of Compo Software's (0480 891819) That's Write wordprocessor.

Among That's Write 2's new or improved features are the ability to open up to nine documents simultaneously, a GEM user interface with optional scroll bars, and a command language which can be used for adding numbers in definable-width columns.

The firm's C-Font utility which converts Calamus fonts into GEM fonts for use in the wordprocessor is bundled free of charge.

Said Compo's Neal O'nions: "When it's first booted you can't see a difference from the earlier version. But its Mac-like dialogue interfaces make it look a lot prettier."

Requiring at least one megabyte of memory it will be available from early March for £129. In the meantime Compo are supplying That's Write v1.5, with a free upgrade voucher worth £29.95, for its normal £99 price.

Recognition for text

ST SCANNER users will soon be able to buy an intelligent optical character recognition program to enable scanned characters to be produced as an Ascii text file.

Developed by American company Migraph (010 1 206 838 4677), Migraph OCR uses Omnifont technology which lets the program recognise characters based on mathematical definitions rather than a set of patterns.

Graphics can be loaded and saved as IMG and TIFF files and text files can be saved in Ascii format. Other features are four linguistic databases – English, French, German and Dutch – and the ability for other dictionaries to be created for multi-page documents.

"Since the release of the Migraph Hand Scanner we have been searching for an OCR solution that would meet Migraph's high quality and performance standards," commented Migraph president Kevin Mitchell.

"Migraph OCR is the result of a joint development effort between Migraph and a top developer of OCR software on Unix-based systems. The combination of the OCR engine and Migraph's interface provides a powerful, yet easy-to-use program."

Requiring at least two megabytes of memory and a hard disk drive, it costs $299.

Even scans to be merged

DESKTOP publishers are being targeted for two new ST products from Migraph (010 1 206 838 4677).

Merge It and Scanning Tray is a package to enable users of hand scanners to scan full page graphics for use with DTP, multimedia or optical character recognition.

The tray holds the scanner head and artwork in position, enabling users to scan a full page in two strips without getting uneven scanning.

Merge-It software is then used to merge the two .IMG scans into a complete image, enabling images from other types of computer to also be linked.

"This package offers the most accurate, low cost alternative to flatbed or sheetfed scanners," said Migraph boss Kevin Mitchell.

"The beauty of it is that the tray can be used on all three platforms and holds almost any scanner head.

"For instance, a person could use the tray on the PC with another scanner, save the image in IMG format and bring it back to the ST for merging."

Utility Scan and Save is the firm's second ST release, allowing people to scan and save an image. For use with Migraph and Golden Image scanners it can save images as 16 level true greyscale, 31 level apparent greyscale or 32 level true greyscale.

Merge-It and the Scanning Tray costs $149 and Scan and Save sells for $20.

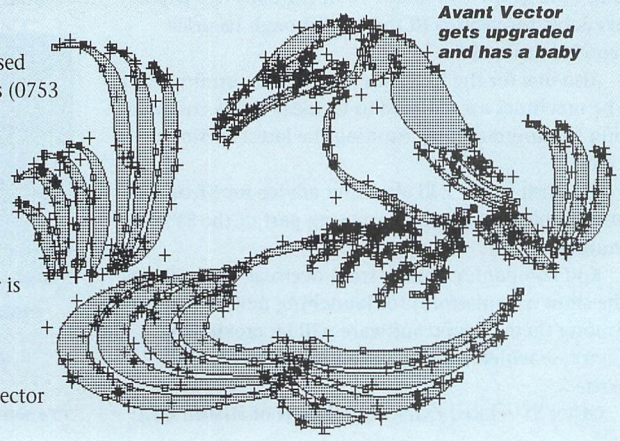
Tracing cut-down

GRAPHICS program Avant Vector is due to be released as a cut-down package, distributor System Solutions (0753 832212) have announced.

The baby version will share most of the features of its father, although the editing options will be taken away. All the Autotracing modules are to be included and support is to be given for all popular file formats.

The firm have also announced that Avant Vector is to be upgraded soon to give it the ability to handle Encapsulated PostScript files.

Requiring one megabyte of memory and a mono monitor, Avant Trace will sell with the full Avant Vector manual for £99.



Avant Vector gets upgraded and has a baby

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Leicester
Tel: 0533 628182

Analogic
Kingston Upon Thames
Tel: 081 546 9575

Atari Business Centre
Nottingham
Tel: 0602 810009

Atari Workshop
London SE15
Tel: 071 708 5755

Atari Workshop
Windsor
Tel: 0753 832212

Cambridge Software
Royston
Tel: 0763 262582

C & P Rossiter
Nottingham
Tel: 0602 631631

Evesham Micros
Birmingham
Tel: 021 458 4564

Evesham Micros
Camhridge
Tel: 0223 323898

Evesham Micros
Evesham
Tel: 0386 765180

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STU 3/92

Shoe People go First Class

A LEADING games software house have broken into the education market with the establishment of a new label, First Class, and a program which is based on characters from the Shoe People cartoon series.

The program is presented as a series of six learning games which are intended as an opportunity for four- to six-year-olds to practice early learning skills.

Difficulty increases gradually to enable children to progress through the package on their own, although publisher Gremlin Graphics (0742 753423) recommend initial parental help.

Subjects consist of shape and colour recognition, paint and drawing, distinguishing upper and lower case letters, patterns and simple addition.

Price: £25.99.

An educational break for Gremlin Graphics

Opening up America

NORTH AMERICANS can now guarantee they receive *Atari ST User* only days after it is published by taking a subscription through our new Canadian office.

To receive 12 copies of the world's best dedicated ST magazine and free monthly CoverDisk send $94 to Europress (North America), Unit 14, 225 Bysham Park Drive, Woodstock, Ontario NT4 1P1, Canada, or telephone (519) 539-0200.

Evening for beginners

THE Bournemouth and Poole Atari User Group are to hold a free open evening for beginners soon, covering a wide range of ST-related subjects.

The group's Mike Hosking said the night is "aimed at those recent recruits to ST ownership who are interested in gaining some idea of the full potential of their machine".

Other special interest subjects such as Midi, desktop publishing, digitising and programming will also be featured. Enthusiasts should go to Kinson Community Centre, Pelhams Park, Millhams Road, Kinson, Bournemouth at 7.45pm on March 6.

File viewer goes to Titan

TITAN Designs (021-415 4155) are the exclusive distributor for a file viewer called GUCK which enables text and graphic files and font sets to be displayed from the Desktop or from within any GEM-based program.

Full control is given over all text files with Page Up and Down, Line Up and Down, Home, End of File, Print and Save options. Graphics can be converted into any resolution and IMG and GEM pictures of any size scrolled horizontally or vertically using the mouse.

Price: £29.95.

Videos in a loop

VIDEO users can now take advantage of extra features which have been added to Laser Distribution's (0579 82426) Video Titling package.

It now has increased effects, colour cycling, variable speed for effects, variable time pause, ability to add text to pictures with GDOS and FSMGDOS support.

A new loop facility in the program allowing for videos to be used for advertising. Upgrades are available but for newcomers the cost is £34.95.

Deltronics start dial-a-game

GAMES players can now get hold of the latest releases within a day of placing their telephone order with a South London-based company.

Customers have their name and address taken over the phone and only pay for the software once it has arrived at the door. All 16-bit formats including the ST are supported and prices are claimed to be slightly below recommended retail.

Deltronics can be called on 081-769 9568.

Logical joystick additions

THE LOGIC 3 joystick range is to be joined by three new desk top models – Alpha Ray, Sigma Ray and Gamma Ray.

All contain microswitches but otherwise they are different, such as the Gamma Ray which has a digital timer display and countdown clock.

"There are now five joysticks in the Logic 3 range and we now cover a broad spectrum of tastes," said company boss Ashvin Patel.

"The Sting Ray and Manta Ray joysticks mean that we cover the hand-held market thoroughly and the three new sticks mean that Logic 3 can mix it with anyone on the desktop joystick front."

Prices range between £11.99 and £22.99.

Evesham race into first

TEAM Evesham Micros were awarded a new Rover 216GTi 16-valve twin cam racing car recently after dominating last year's Dunlop Rover GTi Championship.

Winning driver, Dave Loudoun claimed his prize after a season in which he had five wins, three pole positions and one fastest lap.

Managing director of Evesham Micros, Richard Austin, had his best result, finishing 12th. The team are now preparing for this year's season which starts in March.

Team Evesham Micros drivers Dave Loudoun (left) and Richard Austin (right)

DIARY DATES

14 to 16 February 1992
5th International 16-bit Computer Show
Organiser: Westminster Exhibitions (081-549 3444)
Venue: Wembley Exhibition Halls
The first post-Christmas show for ST owners, and a new venue for this growing event.

7 to 10 April 1992
Which Computer? Show
Organiser: Reed (081-948 9800)
National Exhibition Centre, Birmingham
One of the country's top shows, but heavily biased towards the PC.

12 to 14 April 1992
European Computer Trade Show
Organiser: Blenheim Online (081-868 4466)
Venue: Business Design Centre, London
A trade-only show where many of the year's releases can be previewed.

28 to 31 May 1992
Spring Computer Shopper Show
Organiser: Blenheim PEL (081-742 2828)
Venue: Olympia, London
Promised to attract many ST exhibitors.

10 to 12 July 1992
6th International 16-bit Computer Show
Organiser: Westminster Exhibitions (081-549 3444)
Venue: Wembley Exhibition Halls
The year's second 16-bit Computer Show, promising plenty of ST support.

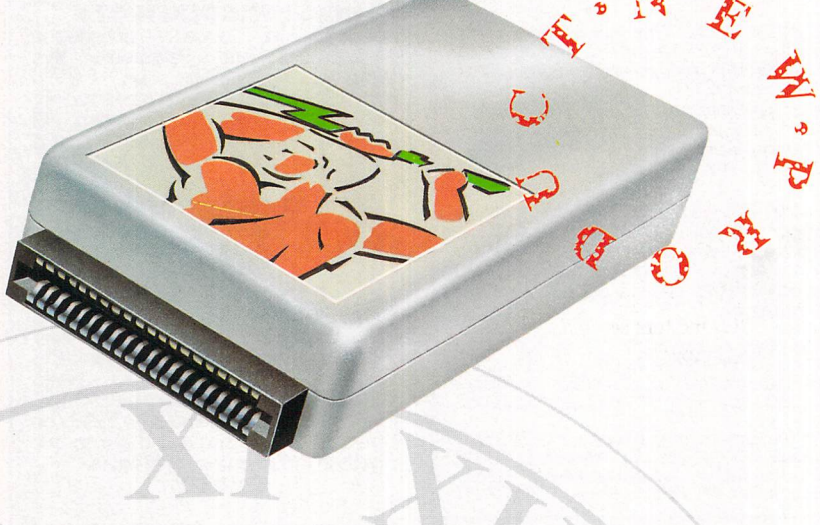
Overseas

11 to 18 March 1992
CeBIT
Organiser: Deutsche Messe AG (010 49 511 890)
Venue: Hannover Messegelaende, Germany
New Atari hardware promised.

● *If your company is organising a show relevant to the Atari ST and it's not listed, let us know so we can include the information in the diary.*

POWER COMPUTING

POWER CLOCK



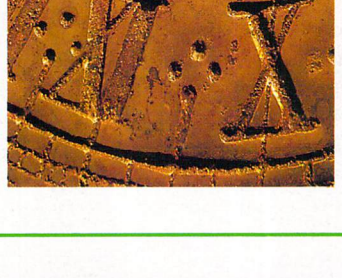
Make use of your cartridge port with the Power Computing Battery backed clock! This compact cartridge contains a full calendar and clock which ensures that your files are always dated correctly. Software utilities are included to set the time in your computer, and examples are given of how to access the clock from your own programs. A thru' port is available so you can plug in your existing cartridges.

Available with or without cartridge thru' port

Plugs neatly into the cartridge port

Power Clock without thru' port	£14·95
Power Clock with thru' port	£19·95

£19·95
with thru' port



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128MB Optical Hard Drive (External cased)	£1199
128MB 3½" Optical Media Cartridge	£36 each

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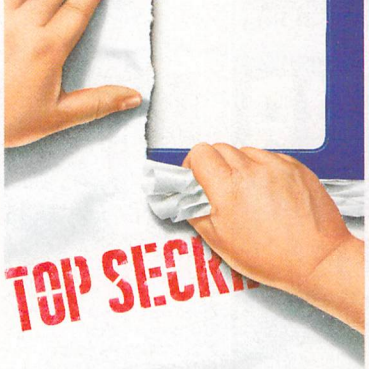

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Progate 150Mb Tape Streamer	£775.00
Progate 160Mb with Cache	£899.00
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STE Ram Kits

DIY 1 - 512k upgrade	£22.99
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DIY 4 - 4mb upgrade	£159.00

All STE Ram Kits come with instructions and DO NOT require soldering in most machines.

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Hewlett Packard DeskJet 500 *(ink jet, 3 pages per minute)*	£399.00
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ST Software

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ATARI STE STANDARD PACK. consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software.	£279.00	£309.00	£339.00	£419.00
ATARI STE DISCOVERY A. consists of the Standard Pack and First Basic, ST Tour, NeoChrome and 4 games (Dragons Breath, Super Cycle, Indiana Jones, Anarchy)	£289.00	£319.00	£349.00	£429.00
ATARI STE DISCOVERY B. consists of the Standard Pack and First Basic, ST Tour, NeoChrome and 4 games (Final Flight, Sim City, 9 Lives, Planet of Robot Monsters)	£289.00	£319.00	£349.00	£429.00
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ATARI STE KUMA BUSINESS. consists of Standard Pack and word processor K-Word 2 (incl. K-Spell Checker), K-Data database, K-Spreadsheet, K-Graph business graphics and Metacomco Basic Language.	£309.00	£339.00	£369.00	£449.00
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AS RECOMMENDED BY **ST FORMAT** SUPPLEMENT OCTOBER 1991

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Plugging your joystick into the STE is a pain because the ports are annoyingly located underneath the keyboard. With this cable plugged in, two extended sockets means you can plug your mouse and joystick into these. **PRICE £4.99 - STF RATING 80%**

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The comms connection

Tom Butler joins in the comms revolution to bring you a beginners' guide to going online.

Don't miss our list of bulletin boards, including any in your area, on page 119.

Computer communications is one of the fastest growing industries in the world today, and when you look at the benefits of online conferencing, electronic mail and data transmission, it's not difficult to see why.

With your ST, a telephone line and a cheap modem, you too can join in the comms revolution. You can leave messages for friends, join in conferences on any topic under the sun, or download megabyte after megabyte of free software from all over the world.

Getting into computer communications isn't easy, despite what the growing band of dedicated enthusiasts will tell you, but once you have mastered the basics, it opens up a whole new world of friendly chat, information and advice.

Logging on to a network or bulletin board service – known as a BBS – can be a little daunting the first time you try it. The alien command structure takes a bit of getting used to and, of course, we're all frightened of making fools of ourselves, aren't we? Don't worry – other users are always willing to help and most BBS operators, known as "sysops" in comms jargon, are perfectly willing to spend at least half an hour giving help and guidance to a beginner.

Let's face it, the commercial networks depend on new users to keep growing and the BBSs welcome beginners with open arms, simply because such networks are run by enthusiasts who enjoy what they do.

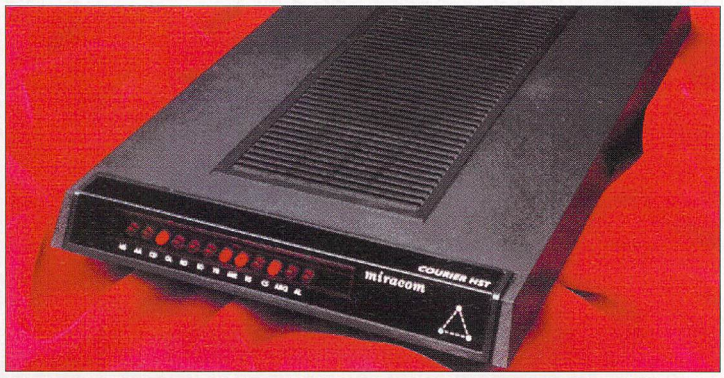
Computers communicate via a modem, short for modulator/demodulator. A modem is a small box, roughly the size of a floppy disk drive. It is connected to the ST by a special serial cable running from the modem port on the back of the computer to a similar port on the modem itself. Most of them have external power supplies.

The modem then plugs directly into the BT telephone socket. The majority of up-to-date models also allow a standard voice telephone to be plugged in at the same time, which means that the modem can be permanently set up without affecting normal telephone calls.

The complex business of actually sending the data down the telephone line is handled by the comms software, which acts as an interface between the user and the modem.

The software is also known as terminal emulation software because the ST acts as a dumb terminal hooked up to a remote computer (the computer running the BBS or network).

PD programs such as Uniterm and Vanterm, the best known communications packages, handle most of the work using a series of menus or short-cut commands.



More modern packages, such as the Freeze Dried Terminal on this month's CoverDisk, have many other features such as sophisticated text editors for composing long messages, macro facilities for recalling series of key presses at a single stroke, and the ability to capture all output to a large buffer and scroll through messages at the user's leisure, preferably while offline.

Programs called offline readers are also available. These useful packages allow the user to log on to a network, compress and download all the messages very quickly,

upload any replies to previous messages and then log off again, in the space of a few minutes. The messages can then be decompressed and read thoroughly without the clock ticking away and the 'phone bill mounting up. Replies can also be drafted more carefully and with more thought, which makes the whole communications concept even more valuable.

If the thought of talking to the rest of the world puts you off, you can also use your modem to communicate with a friend. The same technology will allow two STs, hundreds or even thousands of miles apart, to communicate with each other and even play games such as Falcon or Vroom against each other.

Broadly speaking, there are two types of communications network – the commercially run services such as CiX or Compuserve and the privately run networks which consist of thousands of BBSs from all over the world linked by communications systems such as FNet or FidoNet.

The commercial networks – CiX, Prestel, Compuserve – exist solely to distribute data and information as quickly and as effectively as possible. As they are commercial ventures, profit is obviously a consideration, and the charges can mount up.

Joining CiX, short for the Compulink Information Exchange, for example, requires a £15 joining fee and minimum charges of £6.25 a month thereafter. Online charges are £3.10 an hour at peak rate and £2 an hour off-peak.

Benefit

The main benefit of joining one of the commercial networks is the wider spread of users and the vast range of conferences available. Conferences in the traditional sense involve a group of people meeting at a specified time and place to exchange views and discuss ideas. Online conferences are a different concept entirely so let me illustrate how they work.

Assume there is a conference on a major network called "ST". Under this broad banner, there may be several topics ranging from hard disk drives to games. Once you have logged on and joined the conference, there are a number of options available. You can read all or a just few of the recent messages left in the conference and even add comments.

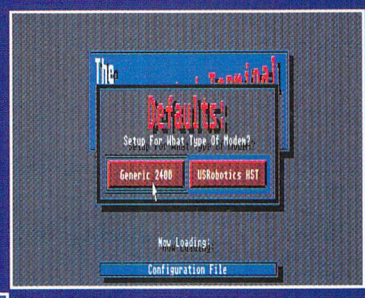
Let's say the last message in the DTP topic is a cry for help from another ST user who is having problems getting his program to

➤

A step by step guide to getting online

Follow the simple steps below, using the demo of the Freeze Dried Terminal given away on this month's CoverDisk

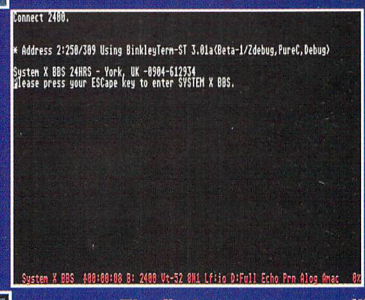
With your modem set up and connected to your ST and the telephone socket, double click on FZT_D210.PRG, press Return when asked about the configuration file and then select the appropriate modem. Here, unless you have an HST modem, select Generic 2400.



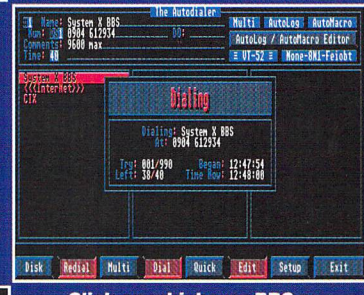
Select the baud rate and change any other settings as required. More than 90 per cent of modems should work well with the default settings so don't go mad.

This screen helps you set up your system and save the information as a default setting. Click on the RS232 settings to specify the baud rate of your modem.

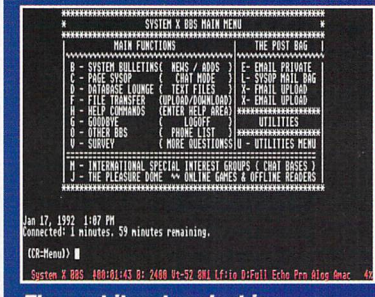
This is the main menu of the Freeze Dried Terminal. From here you can enter the text editor, the scrollback editor (for looking back on previous screens), the macro menu or a million and one other functions, including changing the font. For now, select the Autodialler.



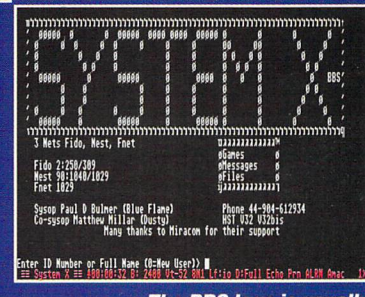
The first message you will see is the Connect message, often telling you the baud rate the connection is using. Many BBSs require you to confirm the connection by pressing a key, in this case the Escape key.



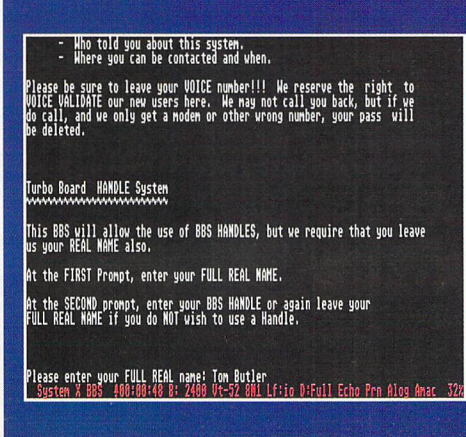
Click on whichever BBS or network service you want and select Dial. The modem will kick into life and, provided it has an internal speaker, you will hear it dial the number. When the modem at the other end answers, you will hear a high pitched screech – this is the happy sound of two computers talking!



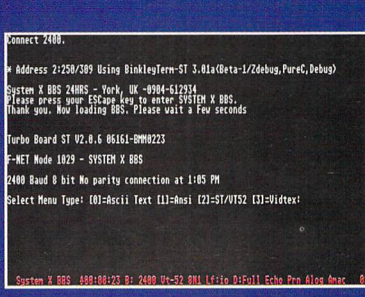
The next item to select is the menu style. Ascii mode is simply a character-based display but adequate for most BBS work. Other styles such as Instant Graphics and ANSI can offer graphical menus and even animation.



The BBS logo is usually the next to appear – in this case, the System X board message gives some details and then moves on to the login procedure.



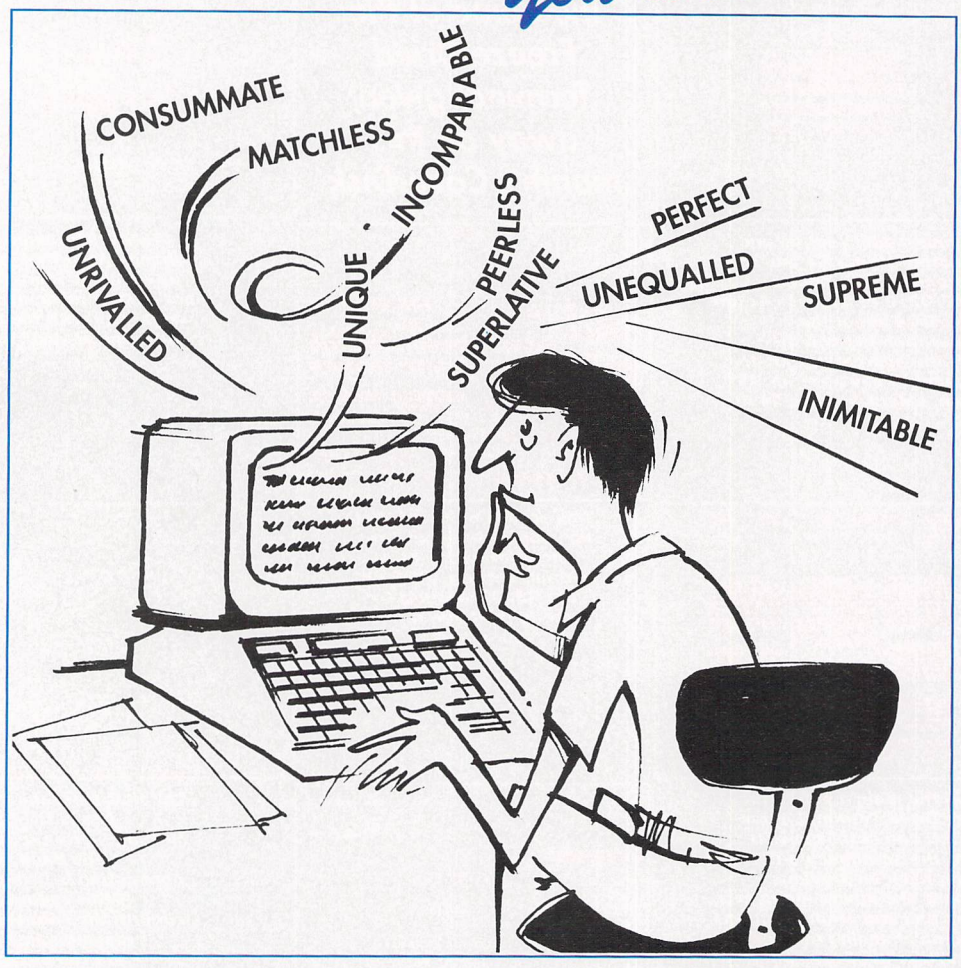
Here you have to enter some personal details including name, address and telephone number, choose a "handle" and password and then carefully record the ID number assigned to you. In future you can log in by quoting the number and password only.



Once you are in, the world is your oyster! There are programs to download, messages to read and reply to, questions to ask and loads of help files to pore over. Go to it!

PROTEXT 5.5

"You won't be lost for words" . . .



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print out correctly. You might have the same program and know the answer to the problem, in which case you could comment on the message and give your advice. Alternatively, you might be experiencing the same problem yourself, in which case you might want to keep a close eye on the topic in case someone else has the answer!

You can also send private messages – known as electronic mail or Email – to any other user, provided you know his or her "handle". This handle is a development of the handles used by early ham radio operators and CB enthusiasts – it is often just a contraction of the user's name but occasionally they can be a little more imaginative!

There are also a huge number of PD and shareware programs available for downloading from CiX and Compuserve and some excellent online games such as Federation, the space adventure game. However, these can be a little expensive as you pay both for the telephone call and the online charges.

A typical BBS will offer a number of similar services but there are no online charges apart from the cost of the call itself. In addition, the BBS is likely to be local – you should be able to find one near you, which will cut your costs considerably. If the BBS is part of one of the networks, then it is possible to send a message to someone in another country, all by dialling the local number.

As well as the same conferencing possibilities, BBSs offer software for downloading, a selection of online games similar to those offered by the commercial networks, and wide-ranging messaging facilities.

The BBSs can be slower than the commercial networks as they rely on the nodes (the BBSs at the edge of the network) to send messages and files to a central BBS known as the hub, and on to its destination. On the other hand they are cheaper to use and can be a little more user friendly to start with.

BBS networks span the entire globe although the majority are in the US and Europe. STs are well represented although it doesn't really matter which computer you have – any computer can speak to any other using the appropriate communications software.

The speed of the communications links means that a new PD or shareware program can be available on the network to any user, within hours of the author releasing it. It often takes PD libraries weeks, if not months, to add the same program to their catalogues.

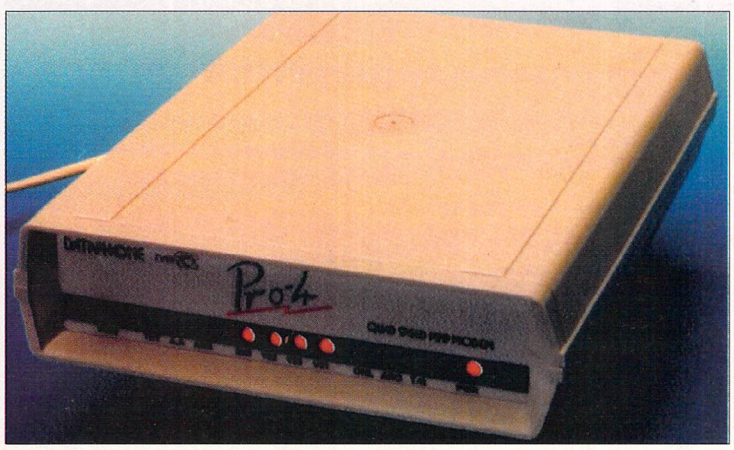
If you're new to comms, the jumble of figures and technical jargon can act like a bank of heavy fog. Manufacturers quote a number of technical specifications for their modems but the most significant figure for the average user is the speed at which it transmits data. This has a very real effect on your 'phone bill, as faster modems generally require less time to be spent online.

Second-hand

Modems are a good second-hand buy because they are relatively robust and very reliable. It is important, however, to get a manual, especially if the modem is from a lesser known manufacturer. The reason is that modems are similar to computers in that they can be programmed by sending short commands from the keyboard, which are then stored in memory.

Many modems can actually be programmed to store often-used telephone numbers, for example. The most widely used command set for modems is the Hayes or AT standard, although some manufacturers add extra commands or leave others out.

There are two ways of expressing



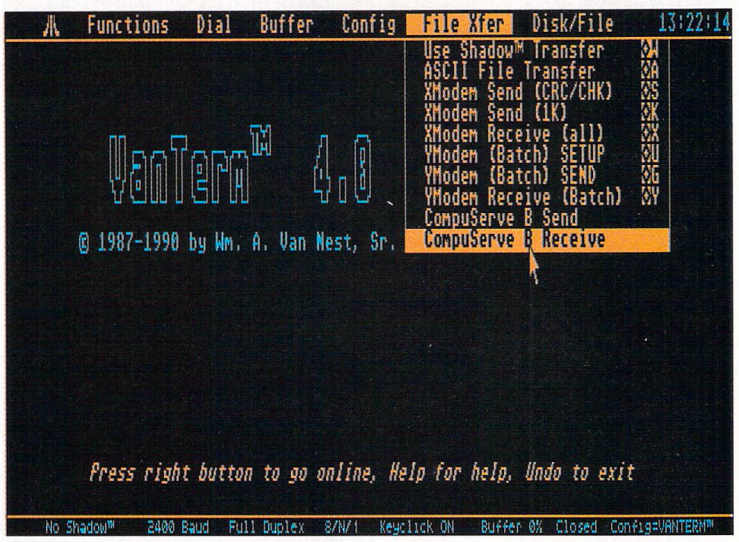
The System X bulletin board

Telephone: 0904 612934

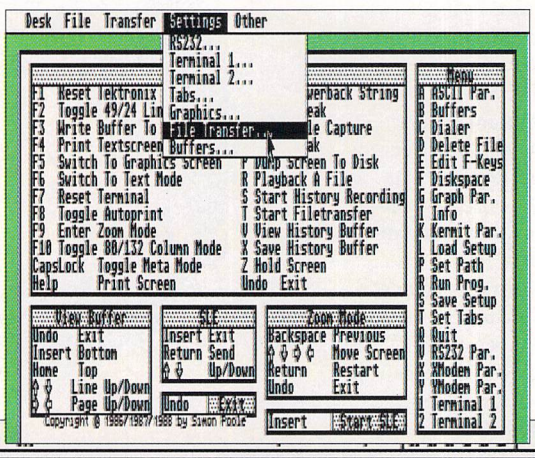
The System X BBS in York is typical of the many hundreds that have grown up around STs in the last few years. Although the conferences and software are mainly for ST users, PCs are equally well supported.

Sysop Paul Bulmer has been active in the ST comms scene for a number of years – System X is already two years old and still expanding. The BBS software, which controls user access and stores the messages and data, runs on an expanded 520 STFM with 4Mb of memory and a 250Mb hard disk. A Miracom 9,600 baud HST modem has just been installed.

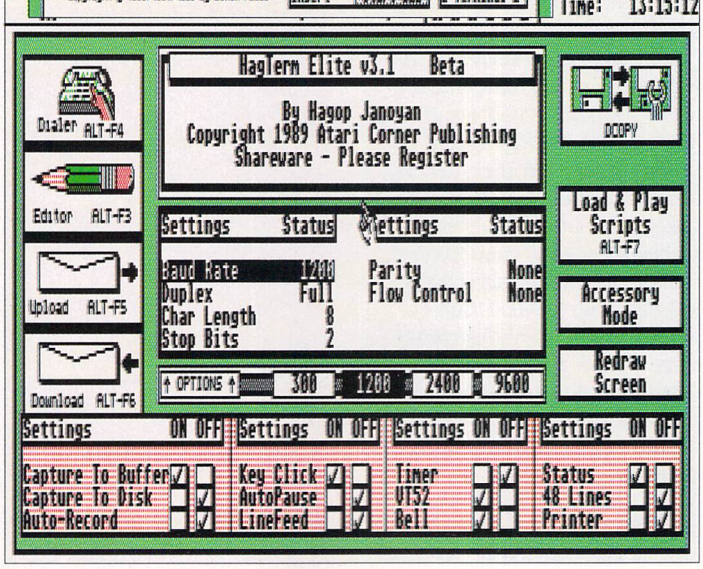
And what of the future? According to Paul Bulmer: "The ST comms scene is really set to take off in the 1992 – judging by the number of new callers dialling into the BBS, a lot of new ST users are keen to get online."



Vanterm, recently updated to v4, has long been one of the most popular ST comms packages, largely owing to its GEM interface and ease-of-use



Uniterm is another favourite terminal package for ST users. Although it doesn't use GEM as well as Vanterm, it is nevertheless easy to use and very flexible. It is available from all good PD libraries



Yet another ST comms package, Hagterm

the speed at which a modem can pass data – the baud rate (the number of bits of data per second transmitted) or the CCITT standard protocol reference. A protocol is a method of communication – just as diplomatic protocol dictates how to meet VIPs and royalty, for example, communications protocols dictate how two modems will talk to each other.

The slowest and hence cheapest modems are 300 baud models (CCITT standard V21) but these are rarely used these days as they are too slow for convenient use. Next up is the V23 standard which works at two speeds.

Data is transmitted at a snail-like 75 baud but received at 1,200 baud. This is fine for users of online databases such as Prestel where information is essentially flowing one way, but it prevents you uploading files to other users and makes sending long messages slow and costly.

V22 covers 1,200 baud in both directions and V22bis is a variation of this standard but it supports either 1,200 or 2,400 baud. Newer standards are also appearing, including the V32 standard modems capable of up to 9,600 baud and V32bis for up to 14,400 baud. Another increasingly popular standard is HST, used in the Miracom Courier HST modem.

Significant

Two other significant factors when deciding on which modem to buy are error correction and data compression. Error correction protocols include the Microcom standards, MNP2, 3 or 4.

These check to ensure that any data transmitted is correct – particularly important at very high speeds. It also works in the background without the user knowing anything about it, so it is a useful feature to look for.

Data compression is another way of speeding up data transfer. There are two standards – MNP 5 and V42bis. The former can double transfer speeds while the latter can effectively quadruple it. When hooked up to another modem capable of using the same protocol, a 2,400 baud modem can actually send data at up to 9,600 baud.

This leads on to another consideration – while a 14,400 baud modem can still send data at 2,400, for example, if you are only using it to dial your local BBS supporting a maximum of 2,400 baud, it's rather a waste. Most BBSs are 2,400 baud although a few allow high speed access at 9,600 baud or above. If this is where your interest lies, you could easily make do with a relatively cheap 1,200 or 2,400 baud modem.

Having said that, however, it makes sense to buy the fastest modem you can afford. What seems ultra-fast today will probably be laughed at as prehistoric tomorrow, as the comms revolution really starts to take off.

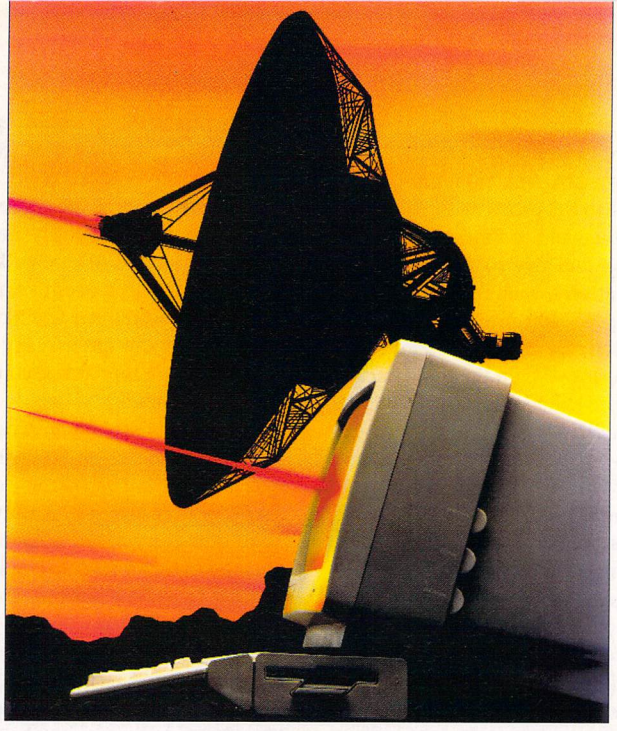
High speed

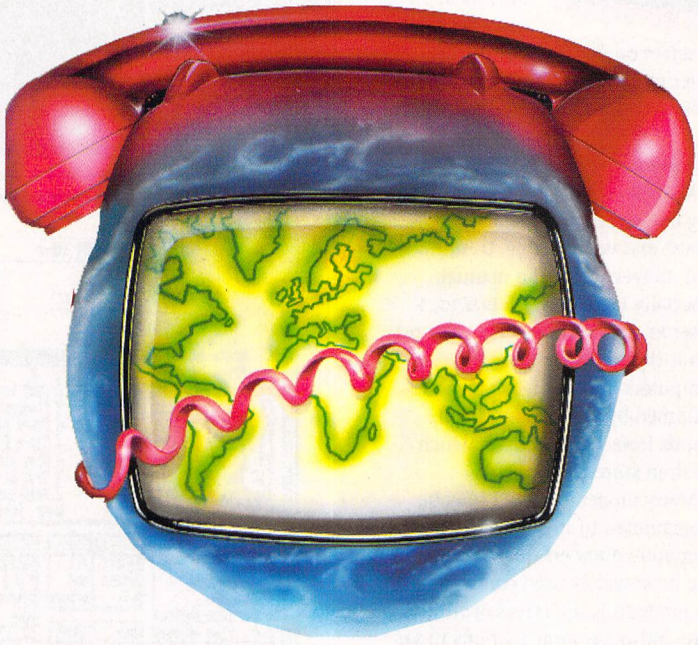
If you want to download text files or software from boards or networks where high speeds are supported, high speed modems can make a big difference. For example, a 1,200 baud modem will download data at a rate of around 90 to 110 characters per second (cps) depending on the transfer protocol used.

Transfer protocols are ways of sending data – in small blocks, large blocks or whatever. The earliest protocol was Xmodem – still widely used – although faster ones such as Ymodem and Zmodem are a lot more efficient. The 90 to 110 cps achieved with a 1,200 baud modem translates into about 6k of data each minute.

Assuming the average file is around 30 to 50k in size, it will take between six and eight minutes to download. A 2,400 baud modem will take around half the time (210 to 230 cps) and a 9,600 baud modem (around 900 to 940 cps) will take under a minute to download a 50k file.

Provided you make use of the cheap rates – after 6pm and at any time during weekends – you can download software quite cheaply. A 100k file can be downloaded in about 16 minutes using a 2,400 baud modem, which will cost roughly 20p in 'phone charges.





Approval

One word of warning – some suppliers offer cheaper modems without the green sticker, which is British Telecom's seal of approval. Apart from the fact that the use of such equipment is illegal, these modems can sometimes fail to connect properly and often come supplied with a US-style telephone lead – if you go for one of these, don't expect sympathy when things go wrong!

Modems – which one to go for

Choosing the best modem to fit your budget can be tricky. Supra modems have long been popular with ST owners, particularly the 2,400 baud models such as the SupraModem 2400. These are available for a little over £100 and they offer full Hayes compatibility, automatic answer and dial, programmable memory, an internal speaker and excellent, reliable performance.

For those who require error correction and data compression, a slightly more expensive model features MNP 2 to 5 for under £150. Although this still transmits data at 2,400 baud, the MNP 5 compression can double effective throughput to 4,800 baud when connected to another MNP 5 modem.

The latest product from Supra is the SupraModem 2400 Plus, which features both MNP 5 and the newer, more effective V.42bis data compression. For £169.99, the modem can actually achieve 9,600 baud under the right circumstances. It automatically adjusts itself to the correct protocol and rate and works with all ST communications software. Contact Surface UK on 081-566 6677 for details.

If you are on a tight budget but you'd still like to try out the world of comms, *ST User* reader Keith Rider has found a source of modems for the princely sum of £20! They are old Tandata terminals, using 1,200/75 baud transfer, and the sockets are non-standard, which will require a custom cable to be put together. If you feel up to a little DIY, contact Bull Electrical 0273 203500. We haven't tried them but Mr Rider assures us that he has successfully logged on to several BBSs and networks.

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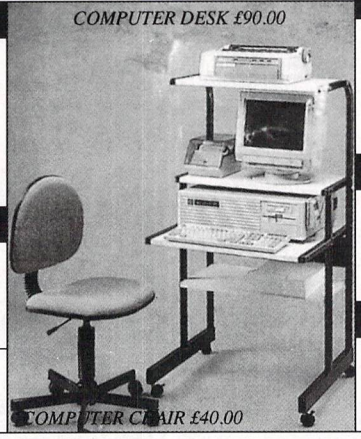

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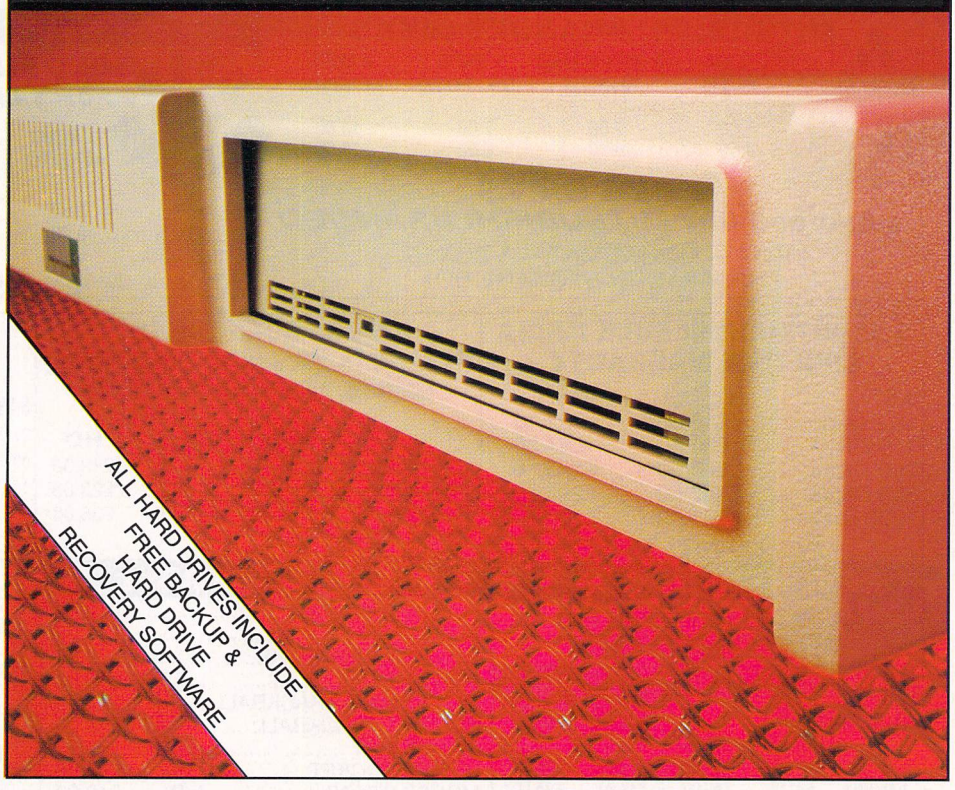

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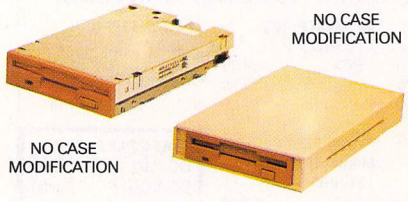

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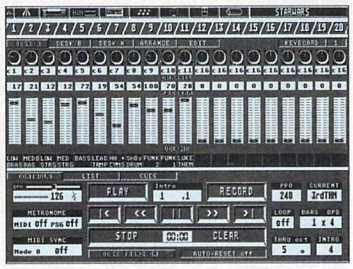
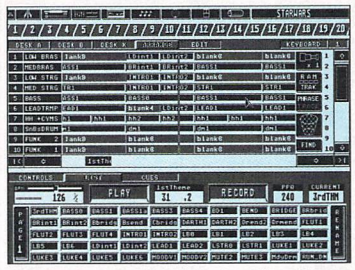
E&OE — Advertised prices and specifications may change.

His master's voice

Ladbroke's Midistudio Master is a massive improvement on its predecessor. Lillian Richards checks it out



Midistudio Master's Desk, showing volume faders and pan pots with the tape transport controls below



The Arrange window showing 10 tracks each containing phrases linked to form a song

When Ladbroke's Midistudio was released in '88 it offered a good range of facilities at a good price. It was one of the few sequencers which adopted a pattern-based approach to sequencing, a method I suspect many "old hands" use as it's far more flexible than the traditional linear approach to recording – although it may initially take a little longer to get in to.

Midistudio Master is not a mere update, however. The program has been totally rewritten and enhanced. It uses a dongle, which is nobody's favourite form of copy-protection, and it could make life difficult if you use another dongled program – a voice editor, say.

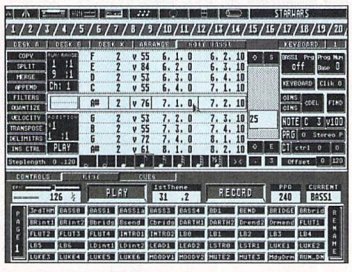
Unlike traditional sequencers which record music lines on individual tracks, in Midistudio Master you record a number of patterns – which the program calls phrases – which are then assigned to tracks. Phrases can be as short as one beat or as long as 68 bars (at four beats per bar). They can be copied, edited and dragged around the screen in the Arrange window in a way not totally unlike that used by Cubase's front end.

Recorded phrases are listed in the Phrase window and you can drag them from here into the Arrange area. Up to 100 phrases can be used in a single song. Phrases can be named but only up to six characters.

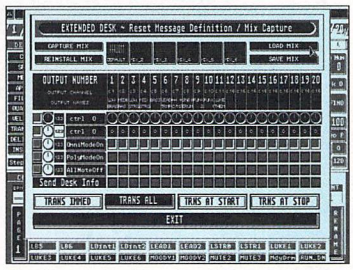
You have to set the length of a phrase before recording, although it's easy enough to set a long length and trim it after recording. If you're given to long improvisations, however, the maximum phrase length may prove restrictive.

The program has 100 tracks and although only 20 can play back at the same time, this will be more than adequate for the vast majority of users. However you can only see ten at once, which can be restrictive.

You can configure eight keys on your Midi keyboard to control the transport controls and to access different windows. Loop Record mode lets you build



The Edit window showing a phrase in the process of editing. Below is the Phrase window which stores the phrases



The Extended Desk window allows five sets of Midi control messages to be sent to each of the Desk outputs

up a drum track, for example, without losing "feel". You can "slice off" the last layer if you don't like it.

There is a comprehensive system of cues which let you move rapidly around the song. You can have up to ten cue points (eight user-definable) which can be named.

One really neat feature is the Desk. This contains 20 sliders, one for each track, which can be used to control and record the volume in real time. It also houses program numbers, pan pots, Midi transmission channel and transpose buttons. Here you select which 20 tracks are to play.

You can edit individual phrases in an event editor. It gives the start and end positions of the of the notes but not the duration, which can make editing a very numeric business. I'm sure many users would appreciate a grid or piano roll editor.

As well as recording in real time from a keyboard, you can also record in step time either from a Midi keyboard or from the program itself.

There are global phrase edit functions, too, such as Copy, Split, Merge and Append. There are also filters which remove aftertouch, pitch bend, notes and control codes from a phrase.

The Quantise function includes a Humanise setting which randomises the events by a certain amount, and there are staccato and legato functions, too. There are scale controller and scale and humanise velocity operations which are very useful. You can also transpose a single note pitch which could be useful when working with drum patterns.

Most of the edit functions are potentially destructive (some sequencers retain the original recording and only apply quantisation, for example, during playback) so it's wise to save your work often – which I'm sure you do anyway.

Midistudio Master has its own GUI (Graphic User Interface) but it has a hook into GEM so you can run desk accessories – although the program is temporarily disabled when you do so. You can also run an external program but the manual is, wisely, full of caveats about this. You can load and save individual phrases as well as complete songs, and the program supports the Midi file format type 1 files. Loading can take a long time.

A separate program is supplied which can record and save System Exclusive data although you can load and transmit it from within Midistudio. If it finds a file with an .EXC extension with the same name as a song file, it will load this when you load the song – nice.

The program contains many interesting features. For example, you can define the length of a song and it will calculate the tempo to fit (unfortunately, there is no onscreen clock to show you elapsed time). Continuous Load and Play mode will automatically load and play all songs in a particular folder.

You can select the mouse shape, adjust sensitivity and repeat speed, and decide whether the left or right button will increment values. There is a text area for making notes (oops!).

Interesting

One of the most interesting features of Midistudio Master is the use of modules. These are loaded on booting and the program "talks" to them through a programming pipeline. It's a similar idea to Dr.T's MPE (Multi-Program Environment). It allows users who are short of memory to decide which extra functions they need.

The manual is a vast improvement over Midistudio's although a few more – and better – diagrams would be nice. Seven line drawings can hardly be called generous.

It's informative and not without a touch of humour which includes digs at earlier reviews of Midistudio Junior, GEM screen updates, active sensing, composition and other phrase-based programs. And why ever not?

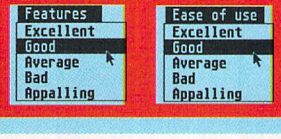
It uses a dictionary approach (defining functions under headings such as function, purpose, method and description with sub headings and further notes) which takes the friendly edge off it. I'm afraid the space after and before parentheses (like this) would not have amused my English teacher. There is a good contents list and comprehensive index.

Finally, if you do have a problem, a helpline is available from 8 to 9pm. A demo disk is also available – with saving disabled – so you can try before you buy. This is always a good idea.

Bottom line

FEATURES: A well-featured, budget-priced alternative sequencer with many powerful functions.

EASE OF USE: Like any program with lots of features, you'll have to read the manual carefully to become fully versed in all of Midistudio Master's functions.



Product: Mudi Studio Master
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CoverDisk

We couldn't have got any more on to this month's CoverDisk – with music, fonts, games and programming utilities, there's something for everyone

Using the CoverDisk

In order to cram as much as possible on to the CoverDisk, some of the files have had to be archived. To help identify these programs, they have all been named with an initial letter X. For example, XFONTKIT.TOS is the archived demo of the ST Club's GEM font editor.

To extract and run programs like this, you will need to format a blank disk, copy the XFONTKIT.TOS file (for example) across to this disk and then double click on it. The files will be displayed onscreen as they are extracted.

FLIPPED

You'll really flip your lid over this infuriating puzzle game!

Programmed by Andrew Oakley
Configuration: All STs, lo-res only
Filenames:

FLIPPED – Folder
FLIPPED.PRG – The program

Flipped can be run straight from the CoverDisk. Just double click on the program FLIPPED.PRG and click the "i" button for a brief description of how to play the game.

The object of Flipped is to change a board of nine by nine tiles so that all the tiles are the same colour. Each tile can be either red, blue or yellow, and the user "flips" tiles over by selecting one of three three by three grids. Each grid changes a different selection of tiles. There are 100 levels ranging from an utter doddle to painstakingly complex.

For those who just can't get enough, an even bigger version of Flipped will soon be available as part of the Microcare charity licenceware collection. This will include 100 totally new levels, music and a level randomiser. For the softies among you, the passwords for the first three levels are anagrams of the following – GEBINRENS, DELLONEW and TROWMENY. we're not telling you the rest!

FREEZE DRIED TERMINAL

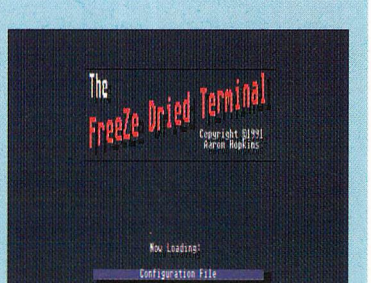
The latest in communications programs, Freeze Dried Terminal is taking the bulletin boards by storm

Programmed by Aaron Hopkins
Configuration: All STs with 1Mb or more of memory, med or hi-res
Filenames:

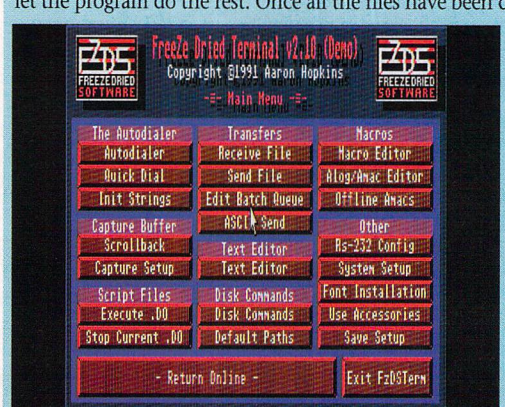
FZDT – Folder
FZT_D210.PRG – The program itself
X_FZDOCS.TOS – Self-extracting archive program containing program documentation and registration form
FZDSTERM.NUM – A handful of BBS numbers to get you started
FZDSXFER.TTP – Separate protocol module (for advanced users only!)
XYZ_PD .TOS – Self-extracting archive program containing file transfer protocols
BBSUPPRT.TXT – Information on where to get the registered version

The Freeze Dried Terminal (FizzDizz or Fizzy to its friends) is the very latest communications program for the ST – and one of the finest examples of shareware programming around. It has an incredible list of built-in features for you to explore – but, unfortunately, you will need a 1Mb machine. The program is just too sophisticated to run on a standard 520ST/STE.

To run the program you will need to format a blank disk and copy all the files in the folder across on to it. Two of the files are self-extracting archives – XYZPD.TOS contains the X, Y and Zmodem file transfer protocols and X_FZDOCS.TOS contains all the text files and other documents, including an easy-to-read manual stretching to more than 70k! To de-archive them, simply double click on each one in turn and let the program do the rest. Once all the files have been de-archived, double click on FZT_D210.PRG to load and follow the prompts. FizzDizz bypasses GEM and replaces it with a faster, fully mouse-controlled, click and point interface. It has so many features that they can't all be described here – consult the hefty manual on the disk for more details.



Setting the RS232 parameters couldn't be easier with Fizzy



A whole range of options on ice just waiting for you to warm them up

It supports data transfer rates up to 19,200 baud, Instant Graphics, Z-Modem Batch, Y-Modem Batch, Y-Modem G Batch, F-Modem Batch, X-Modem 1k, X-Modem CRC and X-Modem Checksum. Logon sequences can be fully automated and it contains a text editor that resembles a fully-fledged wordprocessor – complete with alternative system fonts!

FizzDizz is a shareware program – its author needs your support to continue to develop the program. See the documentation for more details. The *ST User* CoverDisk version is a fully usable demo, with only non-essential commands disabled and no time limit imposed.

FONTKIT PLUS v 3.41

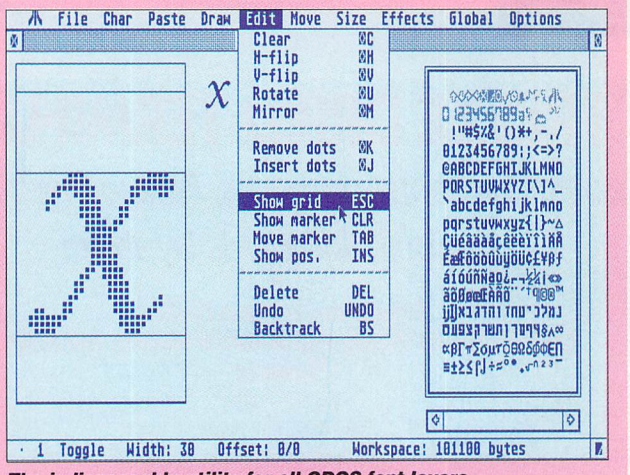
A working demo of the best GEM font editor around – complete with a collection of superb quality fonts provided exclusively for ST User readers

Configuration: All STs, med-or hi-res
Filenames:
FKIT – Folder
DERWENT – Folder containing Derwent fonts
CASTLE.TON – Folder containing Castleton Roman fonts
XFONTKIT.TOS – Automatic de-archiving program

Owing to the size of this complex program, we have had to compress the files into one archived file, XFONTKIT.TOS. Follow the instructions above under the heading "Using the CoverDisk".

Once de-archived, change to the correct resolution and double click on FP3_DEMO.PRG to get straight into the program. Select the *.FNT file type, click on "OK" and then load a font to edit. Some sample fonts are included on the disk – all are fully documented in the FP3_DEMO.TXT file – along with advice on where to get more. Once you have loaded a font, you can select a character from the box on the right using the mouse or just press the appropriate key on the keyboard.

In the folders DERWENT and CASTLE.TON are two sets of compressed GDOS fonts provided exclusively for *ST User* readers. They are all 12 point fonts which can be uncompressed using GFU.PRG (read the accompanying GFU.TXT files for instructions) and used in GDOS programs such as Timeworks and Wordup. Alternatively they can be loaded into the Fontkit demo and edited or rescaled. To make any permanent changes, however, you will need the commercial version of Fontkit.



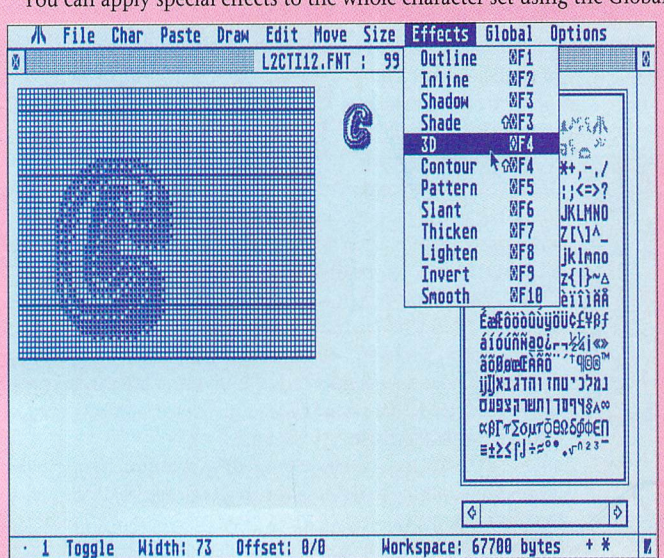
The indispensable utility for all GDOS font lovers

The fonts prefixed H3 are high resolution screen fonts while the M3 fonts are for medium resolution. There are also X1 fonts (for nine-pin dot matrix printers), Q1 and Q2 fonts for 24-pin printers (don't confuse them with the Q1 and Q2 prefixed downloadable printer fonts – these have a different extension) and L2 fonts for Deskjets or laser printers.

Fontkit is a very sophisticated font editor for designing or modifying fonts in a variety of formats including GEM (GDOS), ST screen, DEGAS and downloadable printer fonts. The full version, available from the ST Club, can also import Calamus, Macintosh, Signum and Hewlett-Packard fonts and convert them for use with programs such as Timeworks and That's Write. See the FP3_DEMO.TXT file for further details of what it can do.

You can try out some of the special effects by loading a font (a high resolution one such as the 300 dot per inch L2 font is best) and selecting any of the commands from the Effects menu.

You can apply special effects to the whole character set using the Global – Change font menu. Once done, go to the Options menu and select Show font to see the complete font onscreen. There's too much to the program for a full tutorial, but the commercial version comes with a comprehensive 200+ page ring-bound manual. It's highly recommended.



Fontkit can add a wide range of special effects to fonts

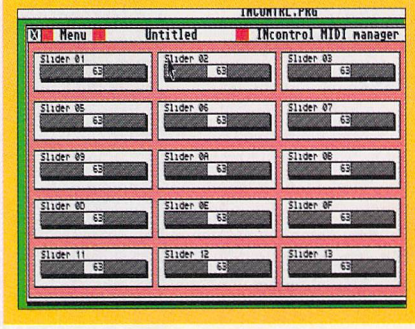
INCONTROL

A neat Midi controller with setups for the Roland MT32 and Kawai R50

Programmed by James McLennan
Configuration: All STs, med-and hi-res and large screen monitors
Filenames:
INCONTRL – Folder
X_CNTRL.TOS – Automatic de-archiving program

Incontrol can work as both a program and an accessory. It cannot, however, be run straight from the CoverDisk. First, follow the instructions under "Using the CoverDisk" and once you have de-archived the program and its files, double click on INCONTROL.PRG. INCONTROL will now be available from the desk menu. It will not, however, work in low resolution so ensure you boot up in medium or high resolution.

Running INCONTROL brings up a dialogue box containing 20 sliders. Across the top is the close box, the "menu" and the title of the current setup. The sliders can be programmed to control your Midi instruments. Possible applications included a mixer, which will allow you to control the volume of each of the 16 Midi channels, or a basic synth editor. Setup files are provided for the Roland MT-32 and Kawai R-50 and there is a comprehensive document file on disk.



Making music with INCONTROL

INFORMER

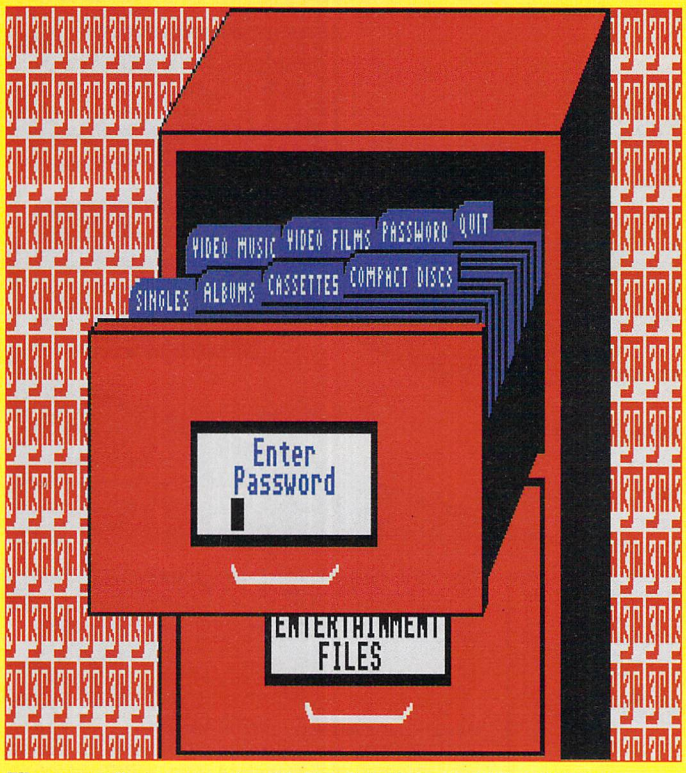
This nifty little program will keep you well informed

Programmed by Nik Henson
Configuration: All STs, med-and hi-res only
Filenames:
INFORMER – Folder
INFORMER.PRG – The program
INFORMER.DOC – Instructions

Informer can be run as an AUTO folder program or a desk accessory. It cannot be run straight from the CoverDisk – you will need to copy it into the AUTO folder on your boot disk or rename it to INFORMER.ACC and place it in the root directory of your boot disk.

Informer is a complete information update system. Its purpose is to provide the user with constant up-to-date information about the system. Onscreen information that can be provided includes a 24 hour clock with or without the date, the mouse co-ordinates, the amount of free memory available, a drive reading/writing display and a Caps Lock indicator.

It uses very little memory and can be turned off by pressing both Shift keys simultaneously. Full instructions are included in the text file, INFORMER.DOC, on the CoverDisk.



File away all your records with The Entertainment Files database

THE ENTERTAINMENT FILES

Keep track of all your videos, albums and cassettes with this easy-to-use database program

Programmed by Kevin Hall
Configuration: All STs, med-res
Filenames:
ENT – Folder
ENTFILES – Folder containing sample database files
ENTFILES.PRG – The program
ENTFILES.DOC – The manual

The Entertainment Files cannot be run directly from the CoverDisk. You will need to copy the files from inside the ENT folder, including the ENTFILES folder, to a blank formatted disk. The program can then be run by double clicking on the program ENTFILES.PRG, after ensuring that you are in medium resolution.

The program is entirely menu-driven and features printer support and password protection. At the opening screen, simply press Return and you will be at the first menu screen. From here you can insert a password or look at the sample files. There's a handy text file on disk (ENTFILES.DOC) to get you further.

Problems with your CoverDisk?

Hotline Number: 0780 55604

With thousands of disks being duplicated each month, a few will inevitably be faulty. Fortunately we can help – send the faulty disk to: Atari ST User CoverDisk, Europress Direct, FREEPOST, Ellesmere Port, South Wirrall L65 3EB and a replacement will be sent free of charge.

If you have any other problems with the disk, our technical editor, Andrew Wright, will be available on the *ST User* CoverDisk hotline between 3.30pm and 7.30pm every Monday. Please do not call outside these hours as we will be unable to answer your query.

DATA STATEMENT KIT

Automatically create data statements for Basic and assembler with this handy programming tool

Programmed by Craig Smith
Configuration: All STs, med-res only
Filenames:
DSK – Folder
DATAKIT.DOC – Program documentation
DSK.PRG – The program

Some assemblers and versions of Basic do not allow for a data file to be included in the compiled program. Until now the only option was to load the file when the program was run.

The Data Statement Kit takes any file, and turns it into either a list of Basic DATA statements, or a list of assembler DC.L statements, which can then be loaded into your program and compiled.

The Data Statement kit should not be run from the CoverDisk. Instead, the program should be copied to a disk with enough room to contain both the file required for conversion, and the output file from the program.

Change to medium resolution, double click on DSK.PRG to run the program, and after a small wait, the menu will be displayed. Select the appropriate option by pressing the key indicated on the menu – the program will ask you to select the file for conversion, and the file to be output.

PLAX ATAX

Get your own back on those horrible little things that cause you so much pain

Programmed by Eddie Thomas
Configuration: All STs, lo-res colour only. Joystick required
Filenames:
PLAXATAX – Folder
PLAXATAX.TOS – The program

Plax atax may be run directly from the CoverDisk by double clicking on the program PLAXATAX.PRG. The objective couldn't be simpler – blast those plax out of existence by firing gel from the toothpaste tube. The joystick controls the tube – left and right are obvious, up and down change the direction of fire and the Fire button squirts the gel.

You have a fixed time limit – watch the counter at the top of the screen – to blast the plax to oblivion without losing too many teeth. If the "teeth" count gets to zero the pain becomes unbearable and you die a screaming, horrible death at the dentist's. Aaargh!

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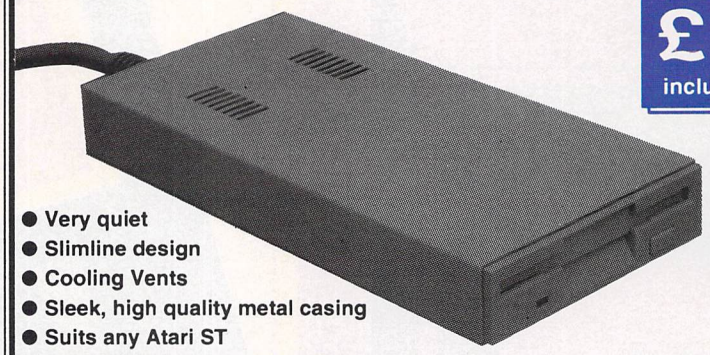

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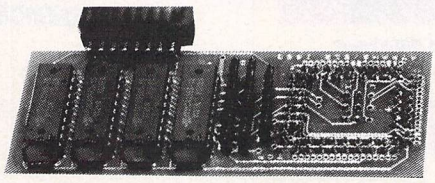

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Please note: Not suitable for STE machines

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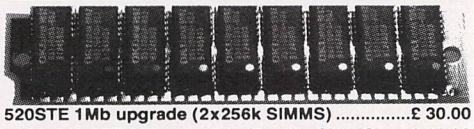
N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

ATARI STE RAM UPGRADES



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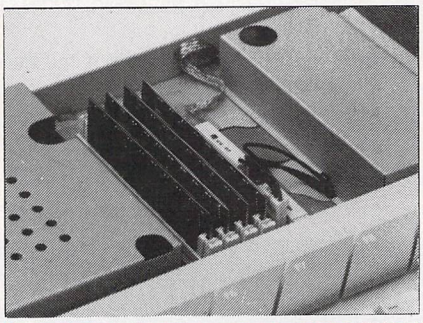

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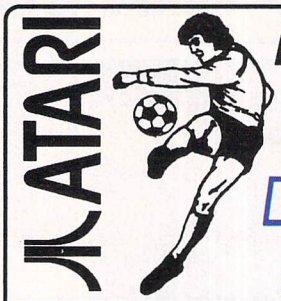

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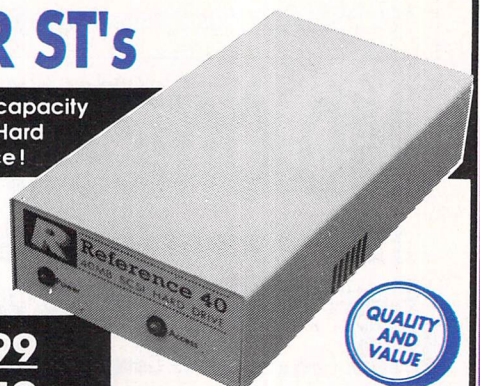

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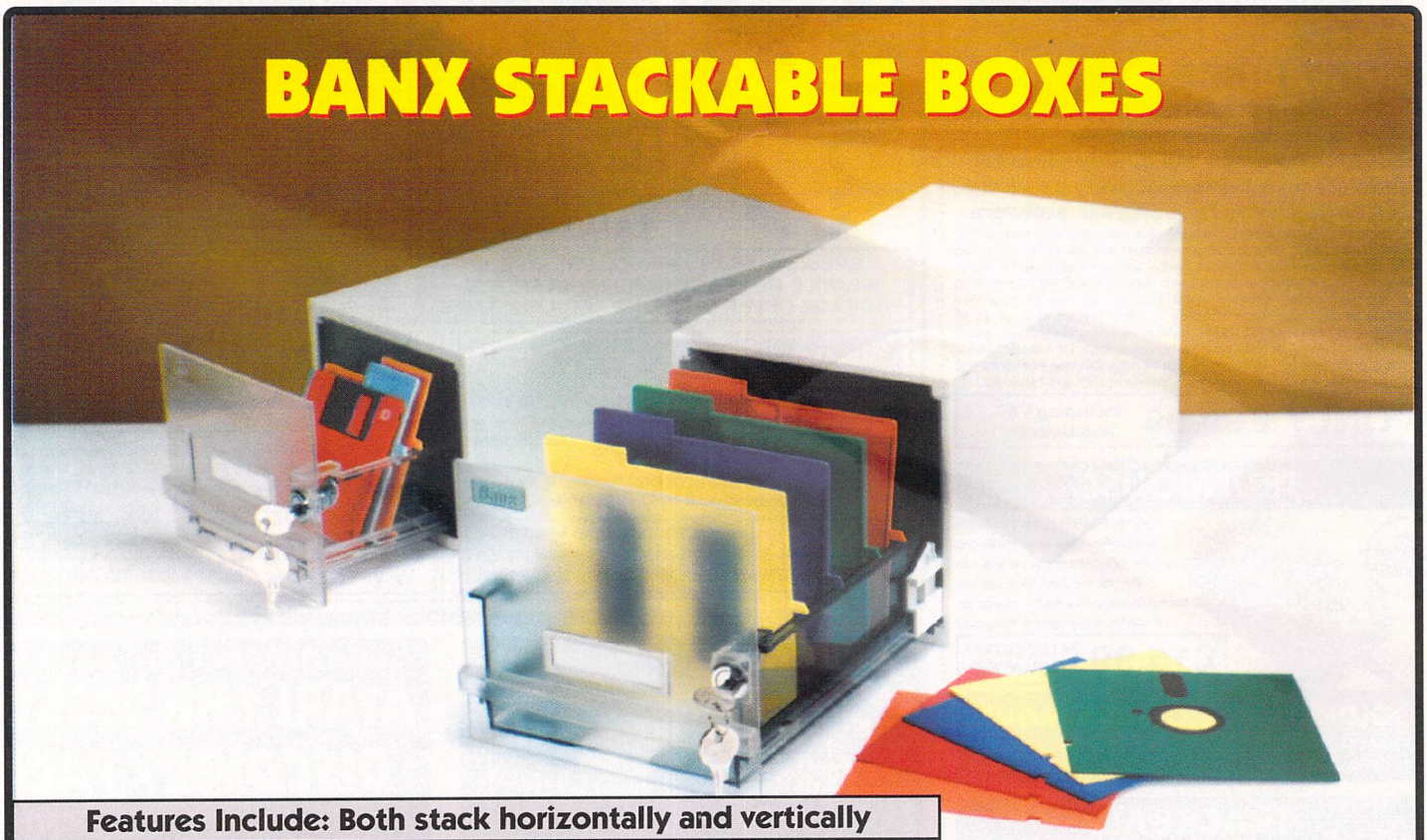

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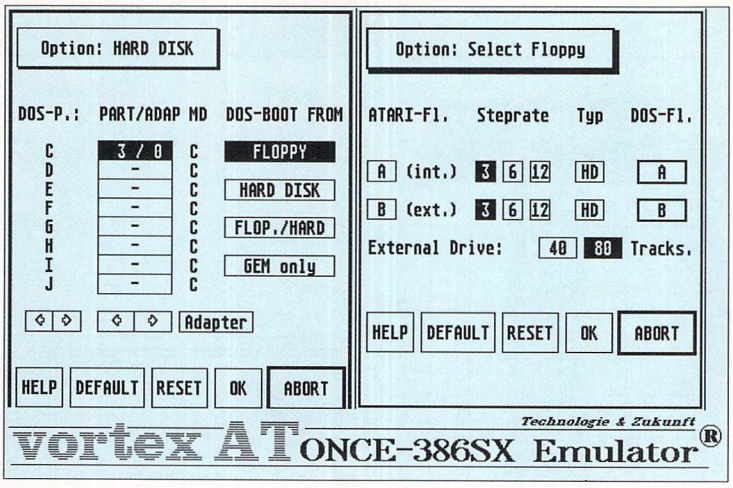
Into the Vortex

Günter Minnerup reviews the first 386-based PC emulator for the ST



To get the hard disk configuration right, you need to understand about device and partition numbers, both starting from zero. Here, DOS drive C is partition F (number 3, or the fourth – geddit?) on the first hard disk connected. Floppies are more straightforward, although high density disks are only supported, of course, if your ST has been suitably modified with the right controller and drive mechanism!

you find that the massive catalogue of commercial, shareware and public domain programs available in the PC world includes items which just cannot be found in ST software libraries. This is where emulators come to the rescue.

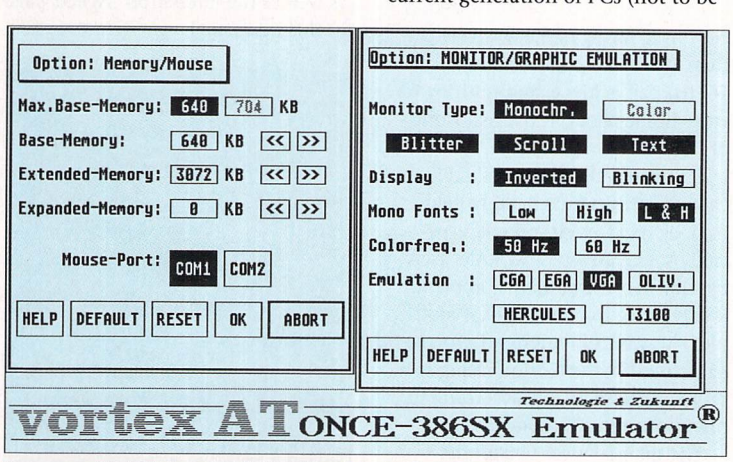
Emulators are software programs or hardware gadgets – usually a combination of both – which enable a computer to run an "alien" operating system.

Selling point

The ST is extremely well served by PC and Apple Macintosh emulators, making it the closest thing you can currently find to a universal personal computer.

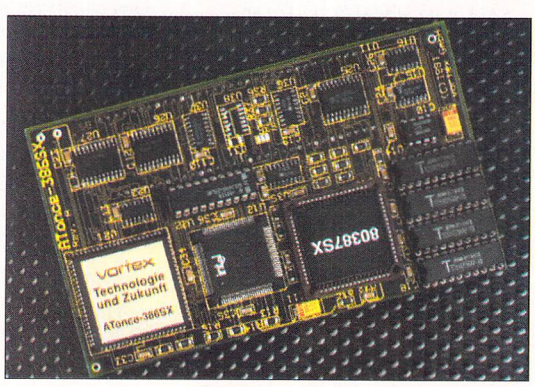
To my mind, this is one of the strongest selling points in favour of Atari's machine, given that it is impossible to make a PC run Apple Mac stuff. An ST with PC and Mac emulators has at its beck and call pretty much the entire range of the three largest software lists for micros in the world.

The latest arrival on the emulator market is the Vortex ATonce-386SX. Decoded, this name means that it emulates the PC-AT rather than the older PC-XT, and that it features the Intel 80386SX central processor chip – a standard offering for the current generation of PCs (not to be confused with the 386DX, which is a full 32-bit processor).



For use with Windows, it is best to leave all your RAM as extended memory and forget about expanded memory – although Windows 3 will use expanded memory, extended memory is a lot faster. VGA is by far the best of the video modes for Windows 3, but the Atari mono monitor can only display 400 of the 480 vertical pixels, so some scrolling is required

Running at a clock rate of 16MHz, the ATonce-386SX offers respectable performance, although 20MHz or faster ATs are now common in the marketplace.



The Vortex board – a bit big for some STs

The main attraction of the 386, however, is not raw speed as such, but its full compatibility with Windows 3, Microsoft's hugely successful graphical interface for DOS computers which has at last begun to drag the dated PC design into the world of user-friendly computing.

Windows 3 can be run on a 286, even the earlier XTs at a pinch, but only a 386 offers the multitasking and memory-management facilities to enable you to make the most of Windows.

Or, to put it in technical terms, only a 386 can run Windows 3 in "enhanced" mode, running even your older non-Windows applications in a resizeable window, and offering true multitasking.

In "standard" mode with a 286, by contrast, ordinary DOS programs can only run in the foreground using the entire screen, and background applications are simply suspended rather than continuing their work. Only in "enhanced" mode, furthermore, will the hard drive be used as virtual memory should you run out of real RAM with all that multitasking.

In principle, the installation of ATonce-386SX is fairly straightfor-

➤

ward, being a question of simply soldering a DIL64 socket to the pins of your Motorola 68000 CPU and then slotting the emulator board into that. STEs with their square CPU need a special adaptor, and yet another adaptor for the Mega ST expansion bus can make installation an entirely solder-free operation.

In practice, however, you may encounter some problems – the 386 board is somewhat larger than its 286 predecessor and some versions of the ST motherboard make the process awkward – you may have to cut a hole in the metal shielding or even temporarily remove the power supply and disk drive.

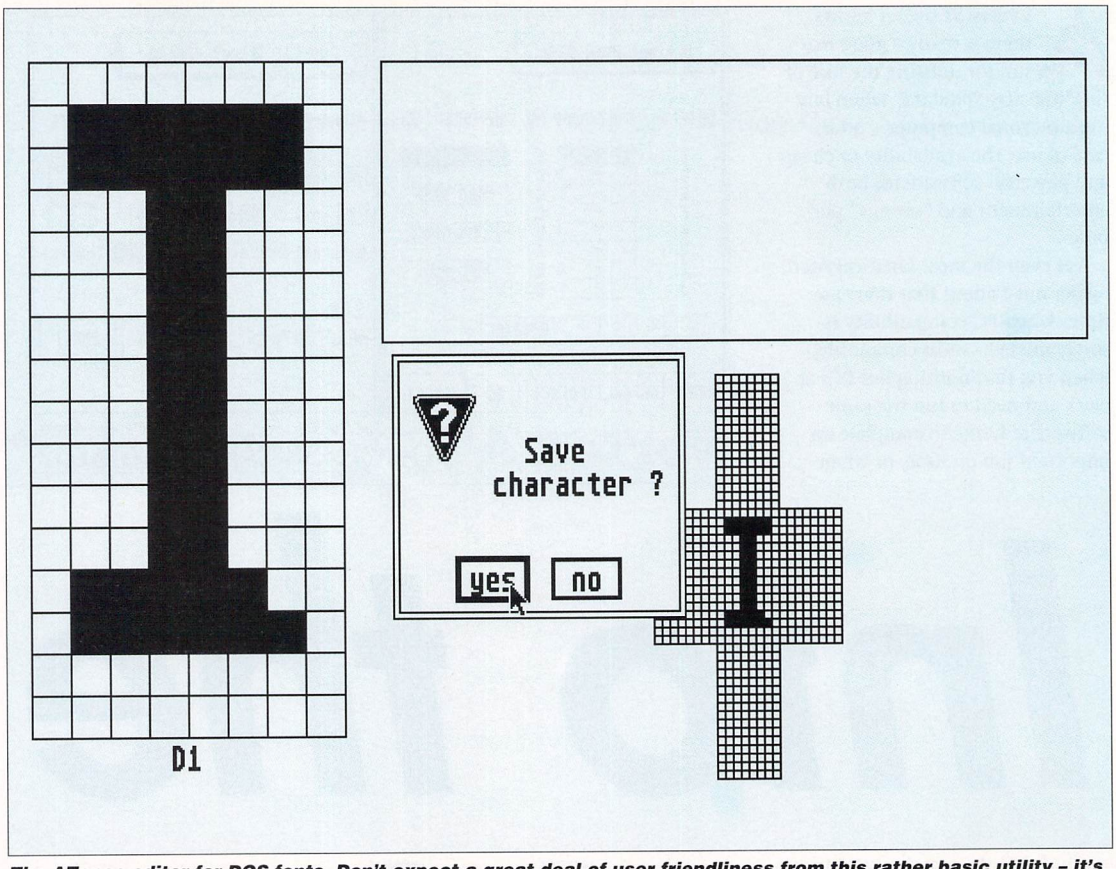
Gremlins

A particular problem exists with at least some Mega4 STs. The manual warns you that a couple of Motorola RAM buffer chips can cause the computer to hang, but the same warning appeared with the 286 version and I never had any such problems with my Mega4.

This time, however, the gremlins struck – sometimes the computer would hang during the initial memory test carried out by ATonce and could be brought back to life with a push on the Reset button, sometimes it crashed altogether and sometimes it would boot DOS and then bid farewell at the most unforeseen and inconvenient moments.

So if you own a Mega ST, and before you part with your money, check that the two chips at locations U33 and U36 on your board, next to the RAM chips, are not marked 74LS373 – if they are, be prepared for some remedial work at your own expense! This is a bit rich really, since the chips in question work perfectly well with everything else and Vortex (the manufacturers of ATonce) should really have found a way around this – especially as Mega STs are probably the most likely hosts for ATonce-386SX and memory-hungry Windows 3.

I also encountered a peculiar problem with screen corruption under GemDOS, which I finally tracked down to the blitter. With the blitter disabled, things were fine – presumably the "full blitter support" refers to DOS mode only?



The ATonce editor for DOS fonts. Don't expect a great deal of user friendliness from this rather basic utility – it's definitely not Calamus! Why you should want to use this is not immediately obvious to me, but it's there if you want to have your command line prompts appear in Olde English or Hebrew!

Identical

The software configuration is more or less identical with the earlier 286 version. The option to assign TOS hard drive partitions to DOS partitions may be a bit confusing for the uninitiated, but has the advantage of being extremely flexible. 1.44Mb high-density floppies are supported if you are lucky enough to own one – and have the appropriate disk controller – as are a range of video displays from CGA (the only choice on colour monitors) to VGA monochrome.

The other goodies familiar from earlier incarnations of ATonce – the Hyperswitch task switcher between several "virtual" PCs or STs, depending on RAM, and the DOS font editor – are, of course, also included with the new version. The only slight disappointment – "disappointment" being very much a relative term here – concerned speed. A Norton SI rating of 8.4 is no faster than 286-based emulators run at 16MHz can achieve, and nothing to write home about in the real world of PCs.

The machine you can emulate with a £348 board

This is not the designers' fault, as the emulator is unavoidably held back by its ST environment, especially the relatively slow RAM used by Atari. To alleviate this problem, it is possible to buy fast RAM modules – as well as a maths co-processor – to bring the Norton rating to a more impressive 15.4, according to manufacturer's information.

The manual gives you all the information you need to get up and running with ATonce-386SX, although it occasionally betrays its German origins in a somewhat rough translation. What it cannot do, of course, is provide instruction in a new operating system and the Windows interface, hence the importance of obtaining your copies of MS-DOS (or even DR-DOS) and Windows just as legitimately as you would with full-blown applications software – you get a manual with them... If all else fails, there are, of course, a wealth of books around, as well as the Emulation Aspects page in this magazine!

Bottom line

FEATURES: *The only PC emulator to give you the full benefits of Windows 3, with a range of screen options and good support for ST peripherals such as hard disks and printers.*

EASE OF USE: *Installation can be awkward, depending on ST model, and hard disk configuration is initially confusing, but otherwise as easy as a real PC...*

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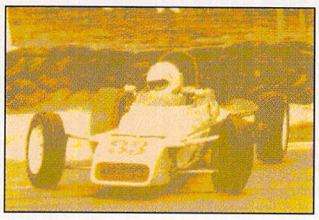

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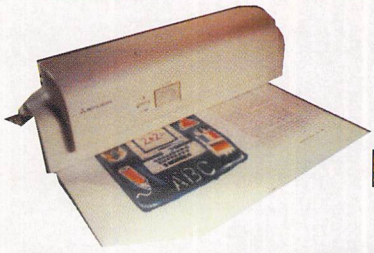

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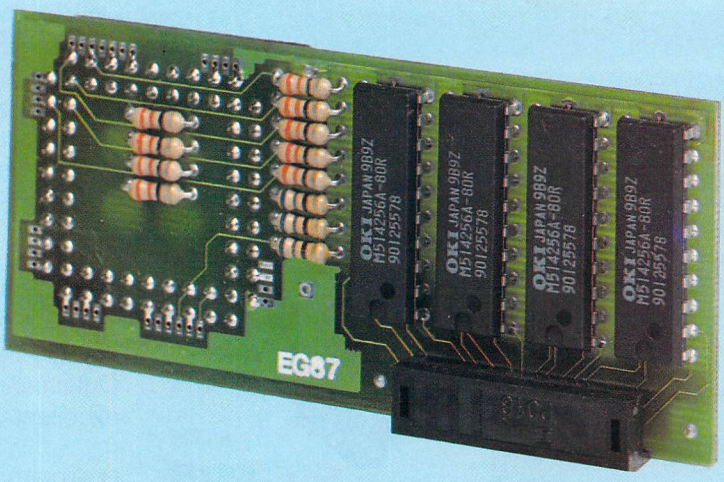

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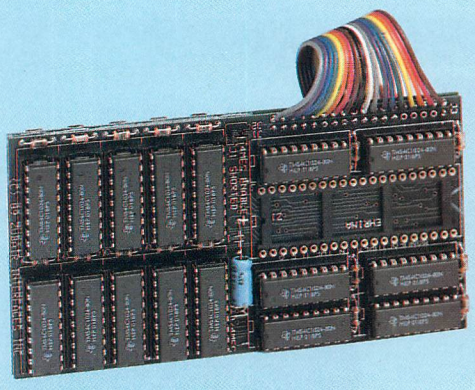

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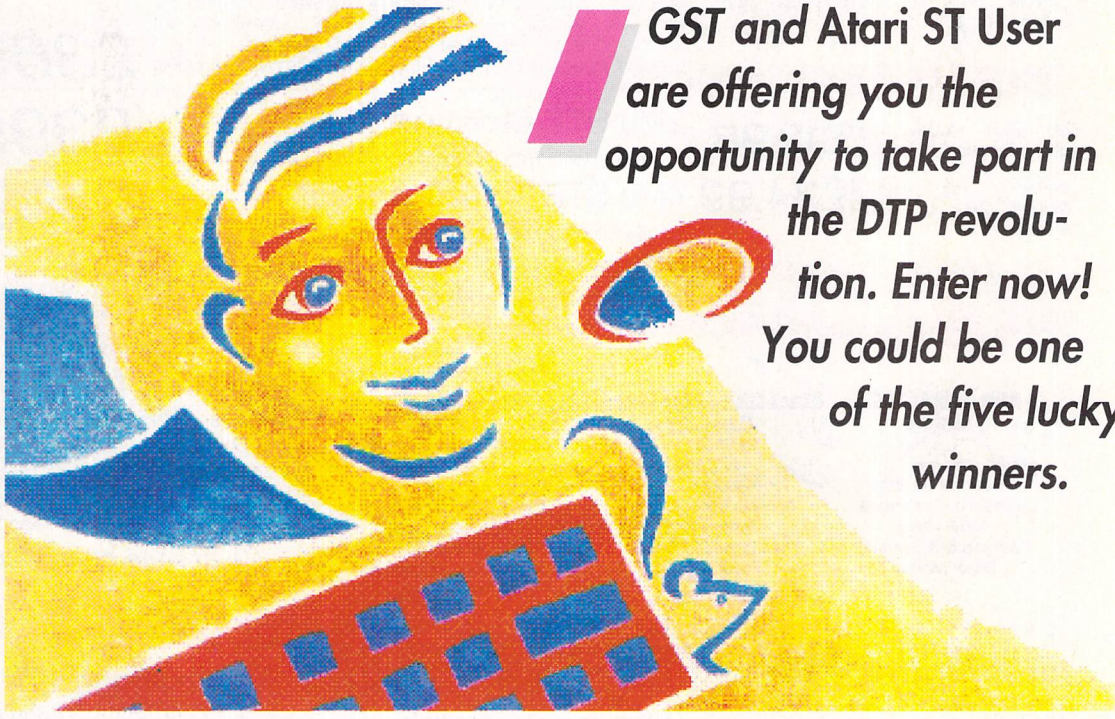

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All Star printers come complete with 12 months on site warranty (Mainland UK) and a free ST/Amiga/PC compatible centronics cable. Printer stands paper and replacement ribbons/cartridges are available from stock. Please phone for more details.

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The cached Quantum Mechanisms used in the Data-Pulse range of Hard Drives are made to very high American Military standard and are covered by a 2 year manufacturers warranty (from date of manufacture). They are all 3.5" mechanisms with a height of just 1 inch and integrated SCSI controllers. They have an average access time of 11ms utilising a 64K look ahead disk cache.

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Data Pulse Hard Drives

The Data Pulse range of drives come in a variety of capacities and include the following.

- *Full Metal case providing good shielding and can be used as a monitor stand.*
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- *DMA Out for Daisy chaining.*
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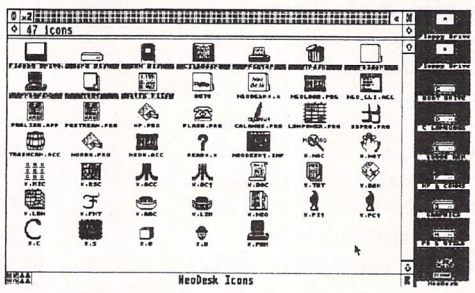
Special Offer



NEO Desk 3 Special Offer

Due to the popularity of our hard drives and bulk purchasing power, We can now offer NEO Desk 3, the replacement desktop which was voted "Software utility of the year" for 1990 by ST Format readers, to buyers of our hard drives for just an extra £24.99. We can also offer this perfect hard drive companion to all existing Ladbroke Computing Hard Drive owners (Phone for details).

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"Neodesk 3 is truly invaluable for the ST owner."
-ST Format-

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52Mb 11ms (GE-Soft)	£ 369.99	52Mb 11ms (ICD+clock)	£389.99
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All prices include VAT & Delivery. Dealer enquiries welcome.

Aries Upgrades

Ladbroke Computing have been active in the field of ST Memory upgrades for a number of years and can offer upgrade advice and solutions for the entire range of ST's. In that time our engineers have gained experience in the field and have used that experience to research and develop our own range of upgrade boards.

We have developed our own .5/2/4Mb upgrade board using an in house designed, Multi layer circuit board which measures just 52mm x 62mm, smaller than a credit card. We have achieved this miniturisation by utilising 4 Megabit memory chip technology. The result of this reduction in size is a reduction in cost and more reliable operation, due to the fact that the board resides under the ST's shielding protecting it from interference and reducing Electromagnetic emissions.

The board is manufactured in the U.K and hand assembled in our workshops by skilled technicians. The boards are then thoroughly tested before despatch.

The board now comes in three configurations, .5Mb, 2Mb and 4Mb. By using high density ZIPP RAM chips of different capacities it is possible to start with a .5Mb board and to upgrade it to 2Mb and then 4Mb at a later date.

The boards require some soldering, due to the instability of some plug in devices, but are very easy to fit and come complete with full instructions to fit ANY ST including Mega's(except STE's which use SIMM boards). If your shifter chip is not socketed, you will have to desolder it and install a socket which is supplied.

To check your board has been installed correctly we supply you with a disk which has a memory check program. If for any reason your upgrade should refuse to work we have skilled technicians on hand to offer technical support.

IMG Scanner for ST Still available. Requires 9 pin Epson compatible printer to operate. Best results obtained from Photocopies. Now only £29.99

Our 1/2Mb upgrade board can now be upgraded to 2Mb and then 4Mb

Aries Upgrades (Any ST(F)(M))

512K Upgrade Board	£39.99
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Our skilled technicians can install the above upgrade boards for £20 including VAT and return delivery.

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All the above prices include VAT & Delivery. Please check configuration of your machine with our staff before ordering chip or SIMM's upgrades.

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Now £99.99

- ☑ 100 tracks storage, 20 tracks playing simultaneously.
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- ☑ Realtime scrolling arrange window.
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- ☑ Works on 1040STF(M)(E)

Midistudio Junior Now £29.99

ST Secure £25

ST Secure is a hardware protection system for the Atari ST. ST Secure can stop unauthorised use of the ST computer and any hardawre connected to it using a combination of password software contained on a "key disk" and a hardware unit which installs inside the ST's case.

The hardware unit measures just 1 inch square and can be installed very easily in about 30 minutes and does not require any soldering.

Once installed the hardware unit will allow approximately 45 seconds of computer use before resetting the computer. If during this time the password is entered correctly then the unit is disabled until the next power up.

GI Hand Scanner

The Golden Image Hand Scanner is a high quality 100,200,300,400 Dpi scanner with a 105mm scanning width. Software included as standard, the excellent Touch Up and Deluxe Paint software.

£149.99

Got anything to say to the ST world?
Send your scribblings to:

**Write Now! Atari ST User,
Europa House, Adlington Park,
Macclesfield SK10 4NP**

Memory reminder

After two years subscribing to *ST User*, I was made redundant from my job, and now find that I can only afford the mag occasionally.

This month I chose it because your disk has Protext on it. I had an earlier demo of it and liked it, and thought – being a computer operator at work – perhaps I could start my own wordprocessing business. Maybe I could make some money out of it.

By the way, I can't afford the full version of Protext. I was disappointed when I found your version needed 1Mb which my poor little STFM has not got, as upgrading would cost so much.

Please indicate on your front cover when any file will not work on an STFM.

A E Adams, Eltham

Apologies for not stating clearly that our Protext demo required a meg of memory to run. It's something that we are making an effort to ensure doesn't happen again.

I don't think you could have run your business on the strength of a demo version of the program – unless of course you were only planning to do very short documents!

Hard and fast

Would anybody allow me to borrow a hard drive for my STE which I bought in January 1991?

Why have I not got one, you ask yourself? Well the fact is, I did not know of the DMA problem until this year.

I have recently got married and bought my own house, so money is a bit tight until the summer of '92.

I'm being careful so as to check my machine works with a hard drive so that I won't be spending money on something that's not going to work, and is going to mean extra costs of any sort.

I've read quite a few letters recently related to problems encountered, so I want to be careful. I'm sure you would agree.

I mean, why buy a car if a catalytic converter can't be connected? This all boils down to compatibility.

M Baker, Swindon

Hmmm... well, if any reader wants to lend you a hard disk they can get in touch and we will pass it on. I wouldn't hold your breath though!

In all seriousness, the best thing to do is take your ST along to the shop you propose to buy a hard drive from and insist that they set it up for you. If they can't get it to work, you certainly won't be able to. If the shop is unwilling to help out to this degree, tell them you will buy the drive from somewhere else.

Discrimination down under?

I have been buying *Atari ST User* from my newsagent since November 1987 and have all but three issues in my collection. The July '91 issue was the last one I missed out on as none of the six newsagents in town received it to put on their shelves.

It wasn't until the following issue that I became aware of what I had missed out on – a fully working version of TCB Tracker on the CoverDisk. I was one very unhappy chappy to put it mildly and immediately got on to my local Atari Club, 450km away, and arranged to borrow that issue from the library. I considered writing to *ST User* for a back issue copy of it but £3.50 for the magazine, plus postage, plus the bank draft to pay you with – no way. The Tracker isn't worth that much to me as I can't play music to save my life!

The article on the German chap with his Chameleon program was a boon though. I've desired such a nifty and cheap little utility for a long time. By the time you get this letter I hope to have my copy of Chameleon from him.

Missing out on that July issue made me think about subscribing directly as no extra financial expense is incurred and it would mean getting my issues several weeks earlier than I currently do. For example the November issue will arrive in mid-December (I hope).

I decided to wait until the October issue arrived in case the new look issues would mean a price increase in subscription. Savouring this new look issue, I finally came to the subscription page. Oooh, there was no increase but shock, horror, UK subscribers can receive 15 issues for the price of 12.

Fair suck of the savv, why couldn't that offer be given to us overseas readers? It's so unfair! UK subscribers six, overseas subscribers nil! I'm sure there are many other overseas readers who feel as I do and I hope they too will write and let you know, please consider!

D Kretzschmar, Australia

I'm glad you got a hold of the Tracker eventually, it was a rather special giveaway!

I can understand your frustration at receiving your *ST User* late and having to pay a bit more for it into the bargain. The problem is that as we are based in the UK, it is easier for us to sell the magazine here. When we sell copies overseas there are more factors involved. We have to pay for shipping and distribution costs and so on.

I hope that Australian readers will continue to write in and express their views about obtaining the magazine. We do listen! If you look at the current subscription form, you will see that it is now possible to obtain the magazine directly if you live in America and Canada. That arrangement came about because there was an obvious, and substantial, demand for it.

If we get enough demand from down under we will set up the same sort of arrangement without hesitation.

What a bind!

One year ago we bought our STE and decided that regular reading of a good supportive magazine would speed up the learning curve and supply some useful extras by way of the CoverDisk.

PRIZE letter

STE support

I would like to congratulate Atari on producing the STE. It is one of the best machines that I have ever used.

Now if Atari would just start supporting it, maybe other companies would follow suit. Having just obtained my second STE, I was amazed that none of the bundled software took advantage of the machine.

I mean, what is the point in buying a machine with stereo sound and hardware scrolling if we just get ordinary ST (very average) games to play on it?

What makes it worse is that Final Fight actually tells you that it is running on the STE, and they plays crappy AY chip music whilst presenting you with possibly the worst scrolling ever (jerky is an understatement).

If Atari would just take the time and effort to make a bundle that shows off the STE, then I'm sure that they would have a winner on their hands.

Another thing that lets the STE down is the pathetic manual that comes with it. There are so many loose inserts and bits of paper that it seems a total shambles.

It's about time that Atari started to print some new and up-to-date manuals, and for them to get rid of the old ones which have been going since the late 80s.

Finally, on a totally different note, I recently fitted PC Speed to my STE along with a new Power 900 hard drive, both of which are excellent products.

M Howkins, Leamington Spa

You've hit the nail on the head. The STE is a great machine, but people are not going to realise its potential until the manufacturer does.

The ball really is in Atari's court on this one. Let's hope they seize the initiative soon..

Giving the game away

I am writing to ask if in the not too distant future if you could possibly put a complete game on the cover that isn't a PD game.

I know that it would cost a lot of money with the recession and all that, but Amiga magazines have lots of complete games on them.

Don't you think that ST users and *ST User* readers deserve a free game?

G Heaslip, Birmingham

The *Gamer* team would love to give away a full game on the CoverDisk.

It isn't simply a matter of expense though. All ST magazines have agreed not to put full price games on their CoverDisks because an organisation called ELSPA doesn't approve of us doing it. ELSPA is short for the European Leisure Software Publishers Association. It is their job to represent the best interests of games companies.

ELSPA were worried that putting too many commercial games on CoverDisks would damage sales and therefore hurt the industry as a whole.

Although it would be nice to give away a complete game now and then, I do appreciate and understand ELSPA's viewpoint.

The Amiga magazines you refer to must be quite old, as the same agreement exists for them too.

Finally, don't dismiss PD games – some of them are as good, if not better than commercial offerings!

Taking both *ST User* and another ST magazine for nine months resulted in an ever-growing pile of books.

I sent for two binders from each magazine to keep the first year's and second coming year's magazines in order.

What a coincidence that both magazines expanded with the October 1991 editions to greater size and thickness.

Have you tried getting three editions of *ST User* into one binder section?

If I was to rip out the *Gamer* section it might be possible or do I now accept that the binder will only hold eight copies of the magazine?

I have scoured the pages of your magazine for an admission of failure on your part but I must of either missed it, or you are not aware of the problem. Apart from being too big the mag is great!

Tom Stevens, Yorkshire

We do indeed know that the magazine is now bigger than the old binders.

If you have been following the magazine closely, you will doubtless already realise that we are exchanging old binders for new bigger ones, free of charge.

All you have to do is send your old binder, or proof of purchase back to the supplier.

Thanks for your comments on the magazine.

We are not amused

I am sure that you must have many readers who, like myself, have been eagerly hanging on to their dosh, vainly waiting for the Mega STE to arrive.

I can only assume that Sam Tramiel was using the Royal "we", when he said "Right now we have the Mega STE..." in the recent interview he gave.

My present kit is long overdue for an upgrade to cope with the DTP and graphics work I punch out in my job as a college lecturer.

P Cheverton, Isle of Wight

Hold on just a bit longer, the Mega STE will finally be available in volume very soon, or so I'm told!

A balanced approach

A letter I sent to Write Now! about a solution to the magazine disk and ripped cover problem was chosen as letter of the month.

Trouble is, I've yet to receive the £10 prize money. Therefore, could you please check this out for me?

Anyway, while I'm writing this missive to you, let me congratulate you and all at Europa House on the continually improving magazine. I feel you have the balance between serious coverage and games reviews about right.

Somebody should tell the other big ST magazine if it wants to be a comic it faces terrific competition from the Beano at only 26p a copy!

G Hawtin, West Sussex

You should be a crisp tenner better off by now. Sorry it took so long, we lost a few files during our legendary office move a few months ago.

I'm glad you think we've got the balance right between serious and games coverage. Both areas are important and providing the coverage each deserves between one set of covers is a tricky business. As with any publication, there is still room for improvement, and the new editor, John Butters, will continue the good work over the coming months.

Modulator blues

I recently bought a Mega ST (1Mb) with an SM124 mono monitor.

Rushing home with my new toy I settled down in front of my television eager to test out the system – games first, of course.

Eventually, after checking all the sockets and reading the manual I came across my first obstacle. Why have Atari neglected to install a TV modulator on the ST to enable their free games to be played on a colour TV?

Apparently an external modulator was available at an extra cost, but now this unit is no longer available.

B Thompson, Northern Ireland

It does seem a bit silly. I had exactly the same problem with my Mega ST when I first bought it a couple of years ago. In the end I bought a modulator second-hand.

Gamer gaff

First I would like to congratulate you on such a good games magazine. I think it is very good for reviews and cheats etc.

I feel you have let me down in a way though. I have recently bought your January issue of *ST User* and was quite pleased in doing so (mainly because of the excellent CoverDisk).

Well, I was happily reading the reviews when bang, that dreaded Amiga word cropped up not once, but twice! I mean what kind of an ST magazine has the word Amiga written in it?!

I feel quite cheated really because I have the feeling that you have just whacked an ST cover on an Amiga magazine.

Don't think that I am criticising the rest of your brilliant magazine, but I am sure that they were not misprints.

L Fletcher, Northumberland

Well, the truth be told, there are two different versions of *Gamer*. One for the Amiga owner and the good one for ST owners!

Over the Christmas period things got a little bit mixed up and that is why the dreaded "A" word appeared a couple of times in *Gamer*.

The person responsible has been hung upside-down for two weeks now and we're just about ready to

➤

Get serious

Having only just begun a subscription to *Atari ST User*, I hope you won't take offence at what I have to say to you after having read only a mere three issues. However...

Now that Atari themselves are going to aim for the more serious user (as well as the games end) will it be possible for the *Atari ST User* magazine to adopt a more serious layout?

I am sure many of your readers find the present layout very exciting and I would be the last to advocate a dull or boring presentation, but with all the neon-type bright light presentation I feel a little alienated, as it rather strikes me as being designed more for the 17-year-olds and under. Sigh... maybe I'm just feeling my age!

Perhaps something more sophisticated or, dare I say it, British. At this end of the world we tend to get rather a lot of flashy magazines coming from the USA full of gloss and no content.

My next gripe has to do with the huge number of capital letters that appear in the articles and are short for some other meaning. They seem to be occurring like a virus. These DMUTW (drive me up the wall) when I come across them.

Is it part of the computer mystique that one has to undergo before being allowed to enter the hallowed halls of the initiated? Rather like some obscure religious rite that you have to undergo for... how long?

I have only been at it for two years so I guess someone will be able to tell me when all the capital letters will be known for all the phrases. Maybe it just makes computer devotees feel more scientific, rather like having to learn the periodic table at school.

Keep up the good work, I have enjoyed my first three issues a great deal and look forward to the next!

G McGhie, Canada

With *ST User* WYSIWYG (what you see is what you get)! We have worked very hard on striking a balance between serious coverage and the lighter side of the machine. I think you will be hard pushed to find another magazine which covers as many topics in such understandable detail.

As your subscription continues, I hope you will see that we provide detailed, easy-to-understand glossaries explaining every new term as it occurs. This month we take a look at Midi and Communications – let's hope you learn something and we don't blind you with too much science!

antie him and let him get back to producing the cheat pages.

It certainly isn't the case that we just put an ST cover on the Amiga version of *Gamer*.

Caught short?

Firstly, let me say, January 1992's *ST User* is the best issue yet. My second point is to K Jones of Bracknell, on his letter "shortage scandal".

Mr Jones, how can you be so gullible? Every year Atari announce shortages at Christmas, every year people like you rush out to make sure you get your ST bought early. Think about it!

After this year's announcement, I went and did a local check. I could not find a shop who couldn't get stocks (and they were selling particularly well by all accounts).

What does this suggest to you? That Atari UK cannot get their act together?

I think your reply in which you say "Atari UK are really switched on" is enlightening! It's called creating a demand for the product!

R Strich, Bucks

Erm, I think you might be taking me just a tiny bit out of context. I think Atari have got their act together as far as pitching the machine to the correct market goes.

Getting it into the shops is another matter entirely and there is room for improvement.

Scare shopping

An extremely well attended, indeed crowded, show was held at Wembley on 6 December.

Unfortunately the organisers were a little less than honest by advertising in national magazines.

Approximately five per cent of exhibitors had any Atari software or hardware, with say, eight per cent for Amiga owners. The rest was entirely PC bits and pieces.

Can I therefore ask the organisers of the Computer Shopper show not to advertise the show as "all formats" when they won't be. If they want a PC show, they should not advertise in *Atari ST User*.

I'm sorry this letter seems like one long moan, but quite frankly I really did feel that I'd been cheated. My advice to other readers is simple. – Don't go, it's a rip off!

J Frodsham, Kent

Sorry to hear that you didn't get much out of the show. I bought a printer, a monitor stand and some floppies – none of the items ST specific.

I do take your point though.

Two sides to every story

Thanks for a great magazine, I have been a reader and *ST User* since 1987.

I would like to make just a few suggestions that may be helpful to both myself and other readers.

Firstly, why not state somewhere prominent in each issue the publication and availability date of the next issue?

Secondly, could you state clearly in the magazine upon which side of the CoverDisk the programs appear – from my point of view this would make use of the disk much easier (as I own an old ST with only a single sided drive).

Following some problems that I have experienced recently in buying software for the ST, could you suggest to the software publishers that they state very clearly on the packaging the exact requirements of the program in terms of machine compatibility (ST, STFM, 520, 1040, STE, MEGA, and so on), memory requirements, disk drive requirements and additional requirements such as joysticks.

Also they should state very clearly on the box exactly what the contents of the software package should contain, for example number of disks and booklets.

D Kitching, Isle of Wight

The whole issue of single sided support on the disk is under review at the moment.

After a lot of research and consideration we are going to experiment with a disk which does not support single sided users.

Although this seems rash and harsh, we have had a steadily reducing demand for our side two service, and the special format required to support single sided machines is depriving the bulk of ST owners of a much enhanced disk.

Don't panic though, we will be willing to copy the CoverDisk onto two single sided disks for anyone requiring the service, completely free of charge.

There will only be limited instances where this won't be possible (when a program is larger than a single side, for example).

It is with regret that we are leaving behind the single sided disk format, but we have a duty to serve the majority of our readers rather than hold them back because of a tiny minority.

ATARI ST USER online!

We can be contacted on a whole host of bulletin boards and conferencing systems. If you have anything to say, why not get it off your chest online?

Speak to Eddie McKendrick on the following services:

Prestel	999900386
Telecom Gold	74;MIK911
CiX	stuser
CompuServe	75300,1505
TDC	uad1132

ATARI ST USER CONTACTS

It's not what you know – it's who you know!

TECHNICAL PROBLEMS

We are happy to answer your technical problems in our Advice Service section. Send your letters to **Advice Service** at the address below

NEWSDESK

If you have a news story, send it to **John Butters** at the address below. If your story is URGENT call him on **0625 878888** during office hours

GALLERY

We are always on the look-out for good ST art. Send your work to **ST Gallery** at the address below

WRITE NOW!

Got something to tell other *ST User* readers? Send your general letters to **Write Now!** at the address below

COMPETITIONS

Enter competitions using the details on the form. If you have any enquiries connected with our competitions, contant **Jonathon Maddock** on **0625 878888**

PUBLIC DOMAIN SUBMISSIONS

PD libraries are welcome to submit their latest releases. Submissions should include a detailed list of what each disk contains. Jiffy bags to **Andrew Wright**

ASPECTS

Our Aspects authors can be contacted via *ST User*. Please mark any correspondence clearly and send it to the address below

ADVERTISMENT PROBLEMS

If you have had a problem with one of our advertisers please contact **Martin Fitzgerald** on 0625 878888 or write to him at the address below

FAULTY COVERDISKS

If your CoverDisk is faulty send it to: **Stanley Precision,** Unit F, Cavendish Courtyard, Sallow Road, Welldon North Industrial Estate, Corby, Northants NN17 1JX

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To subscribe or order back issues please use the form at the back of this issue or call **Europress Direct** on 051-357 1275. Please note we only hold back issues for six months

COMMENTS

If you have a comment about the editorial content of *ST User* please write to the Assistant Publisher, **Eddie McKendrick** at the address below

TELEPHONE CALLS

Except in the situations listed above we **cannot accept telephone enquiries.** Please write in to one of the departments listed in this panel

SAVE THOSE SAEs

Please don't send us SAEs, we can't promise to reply to every letter so it really is a waste of your stamp. Sorry!

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- Graphics Resolution: 240×240dpi
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Colour Option Extra - See Accessories

192 CPS **136** COLUMN

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- A3 landscape printing
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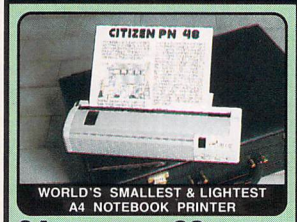

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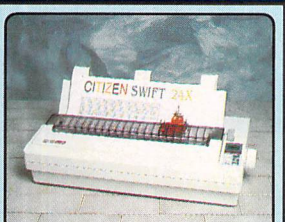

Colour Option Extra - See Accessories

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24 PIN PRINTERS

NEW!

FREE! COLOUR KIT

216 CPS **80** COLUMN

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NEW!

Colour Option Extra - See Accessories

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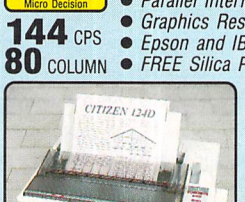
- Graphics Res: 360×360dpi
- Epson and IBM Emulation
- FREE Silica Printer Starter Kit



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PRA 1753	124D/224 Swift 24/24e	£13.10

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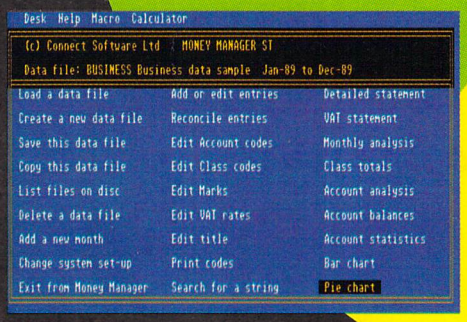

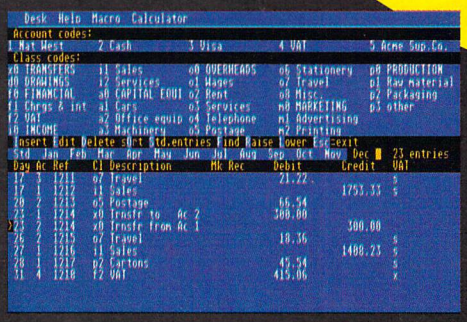

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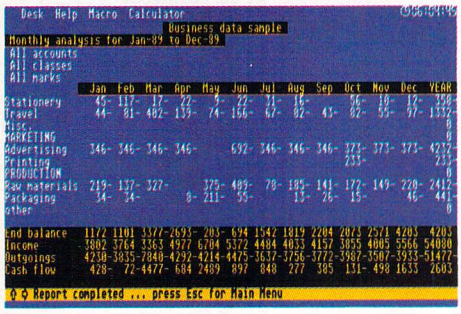

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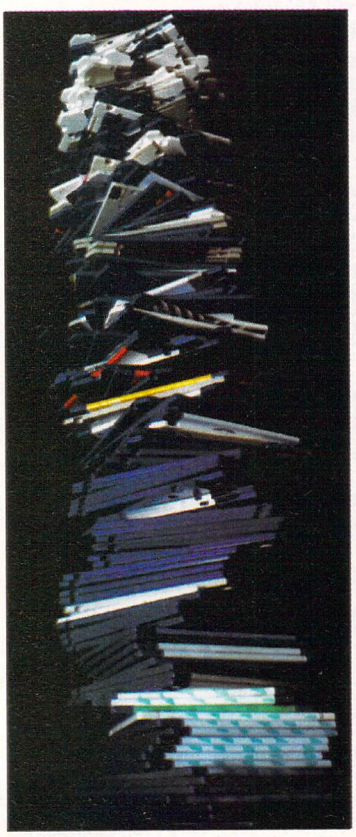
With Valentine's Day upon us, Simon Lawson takes a look at some of the presents you might be buying for your loved one. Useful, fun and inexpensive, here are a few suggestions as to what you might buy your ST to show you care...

Objects of desire

Floppy disks are one of the most common items bought by ST users. At one time or another we've all been faced with needing to find a source of reliable disks, hopefully at a reasonable price. 720k many sound like a lot of storage space, but you soon realise that it's not really all that much.

When looking for disks, it is important to remember what you are buying and what they will be used for. The data your store on your disks is probably a lot more valuable to you than your ST. Loss of data can be a disaster, so keeping it safe is important.

Branded disks, those that are boxed and badged by one of the big companies, are often seen as the best bet for safe data storage. Sony, Maxell, 3M and others are all well known for producing high quality, reliable floppy diskettes. Many manufacturers even offer a lifetime guarantee on their disks as further proof of their quality.



Unbranded disks are just as reliable as top name ones

Branded disks are always supplied in stiff cardboard boxes, with labels and usually instructions for caring for the disks.

Unfortunately for the average user, you have to pay a premium price for these top branded disks. A box of 10 720k floppies could set you back as much as £15 for one of the well known brands. You might have the peace of mind of a top make, and somebody to complain to if something goes wrong, but your pocket will be a lot lighter than it was before.

Unbranded

The other option is the generic, or unbranded, disk. These are usually sold loose, with none of the fancy boxes or instruction sheets that come with the expensive branded version. Often they may be sold without labels.

Many people refuse to trust unbranded disks, believing that they are of poor quality and prone to disk errors. In fact, unbranded disks are no more or less reliable than their branded cousins. The unbranded disks are produced in the same factories and use the same materials as the branded versions.

When a company is manufacturing disks, it is more economic for them to make the largest possible quantity. Most of those disks will be boxed and identified with the maker's name, but not all.

The excess from the production run is simply sold off at the best price the manufacturer can get, which is where unbranded disks come from. Other companies buy up the spare disks and repackage them, sometime as a lower priced brand name, but more often than not simply as bulk disks with no brand name at all.

Bearing this in mind, unbranded disks can represent quite a bargain for the careful buyer. If you do decide to buy unbranded disk, look for disk that have a serial number printed on the back of the disk. This is usually a sign that it has passed all the manufacturer's quality control tests before being sold.

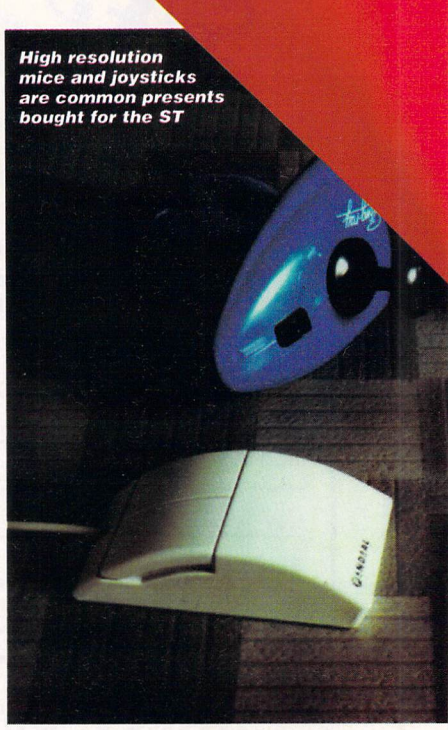
So, you pays your money and you takes your choice. For everyday storage, unbranded disks are fine. For really important data, like the first chapter of your latest novel, it's probably worth paying the extra money for the security of branded disks from one of the big manufacturers.

Pristine

Well, having decided on the sort of disks you want to buy, what can you do to get the best out of them? The most important thing to do is make sure your disk drive is kept clean and in pristine working order.

Every time the tiny magnetic heads inside your drive read or write information on a disk, they pick up minute amounts of dirt from its surface. This dirt stops the drive from operating correctly and may lead to random errors being reported on perfectly good disks.

Cleaning this dirt off will ensure that the disk drive continues to operate properly and doesn't start reporting irritating errors. Cleaning disk drive heads can be a tricky business, but fortunately there are special disk cleaning kits available from most com-



High resolution mice and joysticks are common presents bought for the ST

Critters: Lovable, furry, cuddly and no practical use whatsoever

Furry friends

Critters! Lovable, furry, cuddly and of no practical use whatsoever, Critters are probably the perfect gift for your ST on Valentine's Day. Imagine a fiery dragon bursting out of the top of your monitor with a silly grin, arms and legs sticking here and there. Or how about a cute pink rabbit? Or a bear?

Critters are fun, friendly, someone to shout at when something goes wrong, and quite possibly the most silly thing I've seen in ages. Your ST will never be the same again. Everyone I know covets my dragon...

In the same category as Critters comes the furry mouse cover. Exactly as it sounds, it turns your plastic rodent in to a furry mouse, complete with eyes, ears, whiskers and a cute little black nose! Fun, and err... completely useless. Not a lot more to be said, really.

puter shops.

A disk cleaning kit is essentially a special 3.5in floppy disk and a bottle of cleaning fluid. The cleaning fluid is placed on the disk and the disk put in the drive. You then issue the normal Format command from the Desktop and your drive heads are automatically cleaned for you.

Cleaning your disk drive takes only a couple of minutes a month and will ensure that your ST will give excellent service for years. It's well worth the time, and the cost of a disk cleaning kit is minimal.

The other way to keep your disks and drive in working order is to keep your disks in a sealed box. Disk boxes are very reasonably priced, and come with dividers so you can file your disks according to their contents. Disk boxes are also made of special plastics that reduce the build up of static electricity, which many destroy data stored on your floppies.

The ST's time and date feature stamps all the files it saves to disk, and is a useful way of keeping track of your files over time.

Unfortunately, the ST forgets the date when you turn it off, and if you forget to reset the clock when it's turned back on, all your files will have the same date stamp.

Atari have rectified the problem for the Mega series machines by adding a battery-powered clock to keep the right time when the machine is turned off. For owners of the other ST models, there are several ways a clock can be added.

Internal clock cards are quite common, and priced at about £30. They do require the ST's case to be opened, invalidating any guarantee that you may have, and they also need a basic knowledge of electronics to install.

The easiest way to keep time is with an external clock cartridge. As the name suggests, these plug in to the cartridge port and keep the clock ticking over when the ST is turned off.

Inconvenient

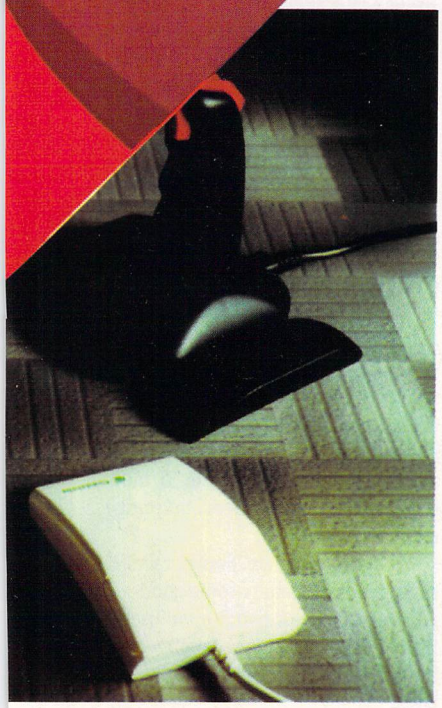
When you come back to use your ST, the internal clock is automatically reset by a small program that is stored in the AUTO folder of your startup disk.

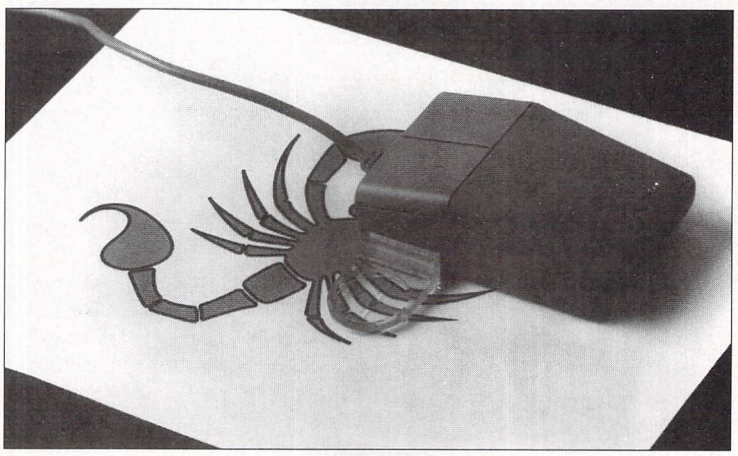
With external cartridge-type clocks, there are two important points to look for. First, make sure that the battery can be easily changed. Batteries do not last forever and sending the cartridge back to the manufacturer to have a new battery installed is very inconvenient.

The second point is that a clock cartridge will take up your cartridge port, so you won't be able to use any other cartridges like Spectre GCR or a sound sampler. To avoid this problem, look for a cartridge that has a pass-through connector, so you can attach another cartridge "piggy back" to your ST.

Let's face it, the lump of grey plastic supplied with the ST isn't the greatest mouse in the world. It's a square box with sharp edges and nothing in the way of styling to make it comfortable to hold. A replacement for your trusty rodent seems like a good idea.

Replacement ST mice are very common, and reasonably priced. They are better styled than the official mouse, which means they are more comfort- ➤





Tracy is simply a piece of plastic with a cross-hair printed on it. It sticks to the mouse to help artists copy pictures

➤

able to hold and use for a long period of time. The improved styling means an end to the aching wrists that users often get from using the Atari mouse.

When buying a new mouse, one of the things to look out for are microswitched buttons. These have a much lighter and more positive "click" than the membrane switches used in the ST mouse, and most people who try a microswitched mouse refuse to change back to the standard sort.

Resolution

Another advantage in replacing your mouse with a new, improved version is higher resolution. The ST mouse is a "low resolution" device, meaning that you have to move the mouse quite a long way on your desk to move the pointer from one side of the screen to the other. Replacement mice are usually "high resolution" so you don't have to move the mouse as far on you desk to cover the same distance on the screen.

So the things to look out for are high resolution, preferably around 300 dots per inch or higher, and microswitched buttons. It's usually best to buy a mouse in a shop where you can try it out before you hand over your hard-earned cash. A mouse that one person likes can easily be hated by another, so don't be afraid to try several different types in order to find one that suits you.

Some manufacturers try to tempt you to buy their mouse by adding extras to the package. Typically this may include a mouse mat (see below) or possibly a piece of software, usually an older game. If the mouse you like has some extras bundled with it, fine – but don't buy a mouse because you think the extras make it a good buy. Not everyone likes mice, and some people simply don't have the desk space to roll a bit of grey plastic around. For people who, for one reason or another, don't want a mouse, then a trackball may be the answer.

A trackball is really just a mouse turned on its back, so the ball is under your fingers with the buttons arranged around the ball. The advantage of a trackball is that you can keep you hand and arm still, and the body of the trackball gives you somewhere to rest the heel of your hand.

Trackballs are supposed to be more comfortable to use, and offer more precise control over the cursor than a mouse. It seems to be a matter of personal preference as to whether a mouse or trackball is the device that best suits your way of working. Moving from a mouse to a trackball feels strange at first, but once used to one, many people find it hard to go back to a normal mouse.

Having spent your dosh on a new mouse, or even if you decided to stick with the ST mouse, how about something to help it have a long and productive life?

Solution

The average desk is a dirty place, with grit and dust and all sorts of other things accumulating on the surface. On to this comes your shiny new mouse, and very soon it will be up to its little plastic rollers in muck.

Dirt from your desktop is picked up by the mouse ball and can very quickly accumulate on the small rollers inside the mouse. This build up of dirt will make the mouse unreliable and difficult to use.

The solution to the problem is a mouse mat. These small devices, about two-thirds the size of a copy of *ST User*, are specially designed for mice to glide smoothly across.

They come in two varieties, with either a hard or soft surface. Which you decide on is a matter of personal choice. I prefer a soft mat, but many people prefer the hard version. The bottom of a mouse mat is coated with a non-slip material to ensure that it doesn't slide across your desk as you roll your mouse over it.

A good mouse mat should also have an anti-static surface, which can help prevent a build up of static electricity. The static is generated by the small feet on the bottom of the mouse rubbing against the surface of the desk and can cause problems with the electronic components in the mouse.

Also designed for mouse protection is the mouse house. This small plastic bracket sticks to the side of your computer, monitor or anywhere else and provides a convenient home for your mouse when it's not in use. It helps to keep your desk tidy and gives you extra space for doing other things.

What they cost

The prices listed below are intended as a guide to the sort of price you can expect to pay for an item. To find the best price, just take a look through the adverts in this issue of *ST User*. Remember that prices will also vary depending on the exact features offered by items like mice and joysticks.

Disks:
Branded: £8 to £15 per box of ten
Unbranded: Around 60 pence each

Disk cleaning kits: £3 to £5
Disk boxes: £5 for 40 capacity, £9 for 80 capacity

Replacement mouse: £12.50 to £22
Mouse mats: £2.50 to £5
Furry mouse cover: £5

Joysticks: £8 to £15
Joystick extension leads: £5

Dust covers: £4.50 to £7

Critters: £26.95, Crittercal Computing, tel 081-398 0709

Essential

For a dedicated games player, a good joystick is a must. For zapping the invading alien hordes or jumping from level to level in the latest platform game, joysticks are the essential peripheral for almost every ST user.

When buying a joystick, there are several things to look out for. Joysticks take a lot of punishment during a game, so look for a model that is well constructed. The stick should have a metal shaft running up the centre of it for strength.

A joystick fitted with microswitches will last longer than the sort that use leaf springs and shouldn't cost very much more. You can tell a microswitched joystick by the definite "click" sound it makes when moved.

An increasing number of sticks have a contoured hand grip, like those on arcade machines. If you're thinking of buying this sort of stick, make sure that the hand grip is comfortable for your hand. A trigger-style Fire button is needed on this sort of joystick, and a second button on top of the hand grip is a definite advantage.

Fire buttons are very important. Again, microswitches will last longer, but they are not as important here. Look for a joystick that has several, conveniently positioned. If you're left-handed, make sure that you can use the buttons with the correct hand.

Look out for joysticks that sport an auto-fire button. An auto-fire circuit takes over much of the hard work in alien blasting games and leaves you free to concentrate on tactics. Some people say that auto-fire is cheating, but it's still nice to have!

Like mice, joysticks are very personal things. What suits one person may not suit another, so try before you buy. Make sure it is comfortable to hold, and the Fire buttons are easy to reach.

While we're on the subject of mice and joysticks, what about the positioning of the joystick ports on the ST and STE? Atari couldn't have found a more inconvenient place to put them if they tried. Anyone who has ever had to plug a joystick into the mouse port will know exactly how difficult it can be.

Extension leads

But what if your joystick port could be moved out into plain sight? No more scrabbling blindly under the keyboard, and no more possibility of damaging the connections by putting too much pressure on them.

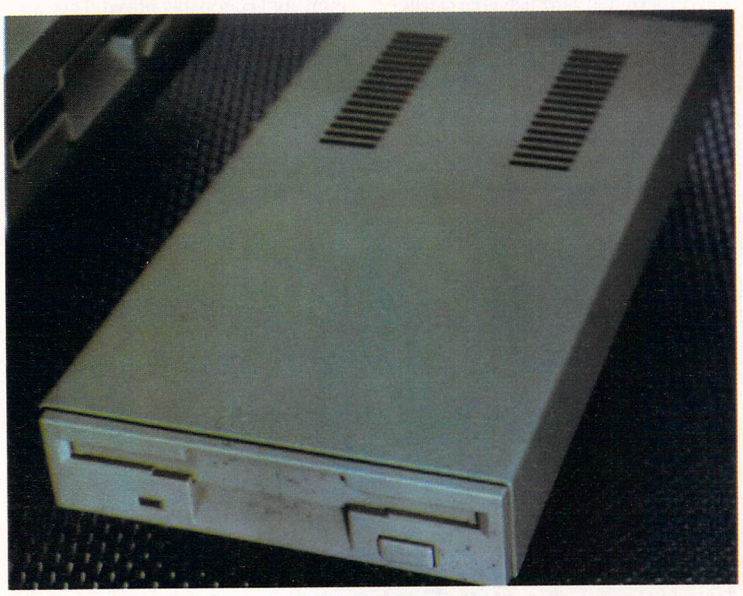
A pair of joystick extension leads will do just that, and at a very reasonable cost.

In essence, an extension lead is a joystick plug connected to another socket by about 25cm of sturdy cable. The leads plug in to the socket under your ST's keyboard and your mouse plugs in to the other end of the cable. Such cables can save wear and tear and a lot of frustration.

Dust is another problem that plagues computers. There is dust in the air of even the cleanest room, and it can enter your ST through the ventilation slots.

The easiest way to keep dust out of your ST is with a nylon dust cover. Styled to fit closely over the top of the computer, such a cover keeps it clean when not in use. Dust covers are available to fit all the various ST models, as well as for monitors and printers.

Well, there you are. Some practical suggestions, hopefully some good advice, and one or two fun but useless items that are good for a laugh – and nothing that's going to break the bank.



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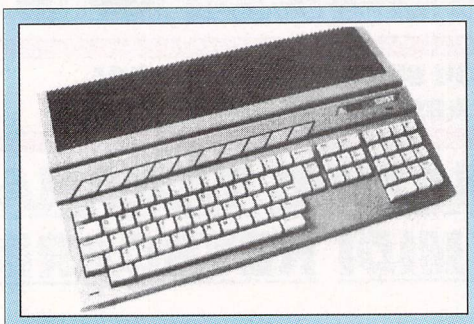

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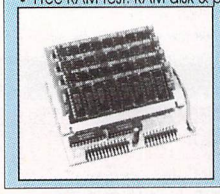

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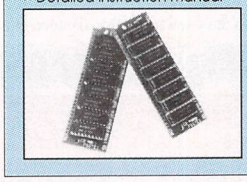

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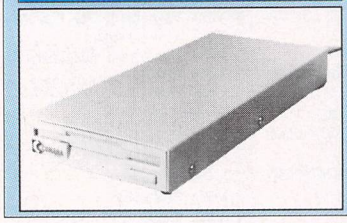

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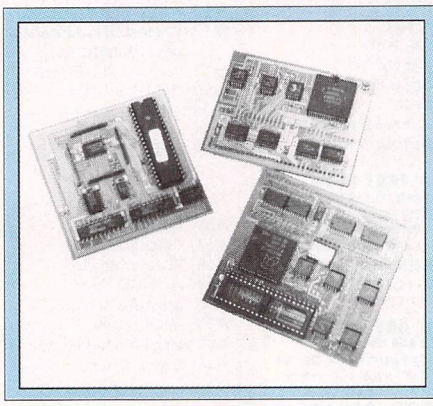

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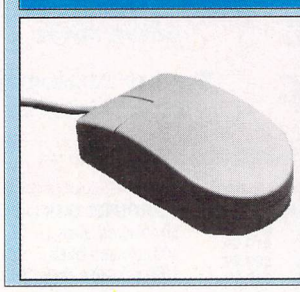

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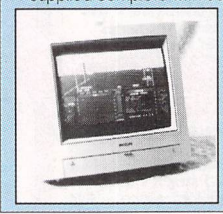

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Being able to access a virtually unlimited number of desk accessories can lead to a whole new way of working with your ST. Andrew Wright looks at the latest version of the MultiDesk accessory manager

Have you ever wanted to load just one more desk accessory but discovered that your ST won't let you? Or have you got halfway through a desktop publishing job and realised that the desk accessories you have available aren't the ones you really need?

If so, you have already discovered one of the most limiting features of the ST's operating system – you can only have up to six desk accessories loaded at any one time and you can't change them without having to quit whatever application you are working in.

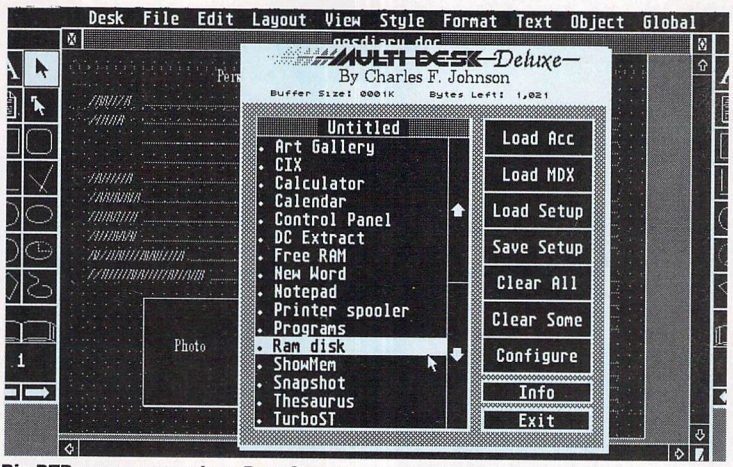
You then have to reboot your machine with another set of accessories on the boot disk and reload the original application. It's bad enough with a fast hard disk but it can be a real pain if you are working from floppy disk drives.

Happily, a number of solutions exist to help solve part of the problem. There are several public domain and shareware utilities such as Superboot v7.0 (ST Club Disk UTI.156) or STINT3_1.PRG, reviewed in the January issue of *ST User*, which allow you to choose which accessories you want to load when booting up, as well as a lot more besides.

Upgrades

There is also a PD utility called Chameleon (South West Software Library Disk 1585) which lets you load a single desk accessory and change it without rebooting.

There are utilities dedicated to getting around the six accessory limit. DC Stuffer, for example, is a PD program (ST Club Disk DES.06) which allows up to 32 desk accessories to be loaded at once. The original MultiDesk, a commercial program from Codehead Software in the US, and its subsequent upgrades did much the same job, although in a more professional manner and with much wider compatibility. The main disadvantage with stuffing your ST full of accessories, however, is that you use a lot of memory – often leaving too little for an application program.



Big DTP programs such as PageStream take a long time to load. Having access to all these accessories from within the program can save a lot of time

The new version of MultiDesk, Deluxe v3.3, takes a giant leap forward. Not only can you load up to 32 resident desk accessories (and even more, if required, by simply loading MultiDesk several times) but you can now have up to 96 non-resident desk accessories which can be called up at a moment's notice.

They do not use up your precious RAM except when actually in use – as soon as you are finished, the accessory is unloaded from memory, leaving you with the same amount of free RAM as before.

MultiDesk Deluxe runs as a normal ST desk accessory. Once the registration details have been entered on to the master disk, you can copy MULTDESK.ACC to the root directory of your boot disk, either a floppy disk or hard drive, rename all your other accessories with an ACX or similar extender to prevent them loading and reset the computer.

Once installed, you can then load any accessories you are likely to use continually, such as mouse and screen display accelerators. Once these are loaded into MultiDesk, your ST will run as if they were all in the normal accessory slots except that to run them you will need to call MultiDesk first and then select the appropriate name from the displayed list. If you have accessories that you access frequently it might be better to keep them in the spare five slots.

Any other accessories which you may need are placed in a folder in the root directory MULTDESK.MDX. When you boot the computer, the names of these accessories are displayed in the main MultiDesk window with a dot alongside them. They are not kept in memory but they are still available.

Once you have no use for a non-resident accessory or MDX it is unloaded from memory. MultiDesk is extremely clever – before it installs them it "snapshots" the ST's system variables and keeps a record so that when it has unloaded the accessory, the computer can be returned to exactly the same state it was in before and the memory is completely free for the next MDX when needed.

Once you have set up MultiDesk as you want it, you can save the configuration so that MultiDesk will always load the same accessories in the same way. You can also save any number of different configurations, each involving a slightly different setup.

MultiDesk includes a number of customisation options. The names of non-resident desk accessories, as they will appear in the MultiDesk window, can be edited using a supplied editing program.

Other options include "autorun", where an accessory is run as soon as it is loaded using the LOAD ACC option, and a memory-saving "shrink" option which reduces the buffer down to the smallest size permitted within the current setup.

MultiDesk can also be run as a program by renaming it with a PRG extender. This allows accessories to be run from the desktop as if they were programs, although it prevents their use from within applications.

Bigger

MultiDesk is not perfect and although it is getting more usable with each new release, it is also getting bigger – Deluxe takes up 44k of memory. Neither is it compatible with everything, although the earlier problems with Neodesk have been overcome. My favourite utility, Fastcopy Pro, caused MultiDesk to display messages about external programs using the same vectors before resetting the computer completely.

Installing it in a standard slot seemed to cure the problem, however. The replacement control panel, CPANEL, didn't work either. Other than that, MultiDesk worked with every other desk accessory I could throw at it.

MultiDesk Deluxe is well worth a look if you use a lot of accessories or you want to be able to use memory-intensive accessories such as databases, address books and notepads from within other applications. Its ability to load and unload accessories "on the fly" can actually change the way you use your ST – with considerable savings in time and effort.

Bottom line

FEATURES: Makes life with desk accessories much easier by allowing you to load a virtually unlimited number into memory at once.

EASE OF USE: Easy to set up and use but some programs can cause conflicts.

Product: *MultiDesk Deluxe*
Supplier: *System Solutions Ltd, Windsor Business Centre, Vansittart Estate, WINDSOR SL4 1SE*
Telephone: *0753 832912*
Price:: *£49.95*
Configuration: *All STs, mono or colour*

6

Can you remember the computers, products and events that have flashed in and out of the ST arena during the six years of *Atari ST User*? We've always been first on the scene and here we sift through our files to reveal the ST's ups and downs.

Late in 1985 the first of the new generation of home computers started to roll off Far Eastern production lines. Only months later Britain's first ST magazine, *Atari ST User*, followed from a Manchester suburb.

In the early days, as prospective ST customers debated whether to part with £700 plus for a half megabyte ST and high resolution monitor, the monthly was printed as a special pull-out section within *Atari User* – the established 8-bit Atari magazine.

News, product announcements and reviews could all fit comfortably into 16 pages and there was even spare space to allow for pages to be devoted to special advice features.

1986

While advanced for their time, the STs of '86 were rather primitive compared with today's range. Supplied with only half a meg of RAM and an external floppy disk drive which hung to the computer like a support ship, the 520ST's keyboard was more akin to today's Mega range than later models of the basic computer.

Things moved quickly for the ST. By issue two Atari had already given birth to their second baby, in what was later to grow into a quite considerably sized family. Most readers are now fully familiar with the 1040ST and don't bat an eyelid when seeing one sat in the window of a High Street chain. In April '86, however, the 1040STF's one megabyte of memory and internal floppy drive met with a warm welcome from enthusiasts – it was revolutionary.

Rival manufacturers were described as greeting it with all the enthusiasm of the local hard man finding himself matched against Frank Bruno. Cost: Just less than £800.

At the same time a cut-price version of the 520ST was launched, the 520STM. Basically the same as its brother, the updated machine had an internal modulator to enable the computer to be hooked up to a television set. Monitors were no longer included in the price, which fell to £399.

> *'The megabyte is just the start. The next one along will be the two megabyte – the 2080ST – then a four megabyte version'*
>
> **– Atari president, Sam Tramiel, talking to *Atari ST User***

"You ain't seen nothing yet..." screamed the headline in the June issue. Atari president, Sam Tramiel, told *Atari ST User*: "The megabyte is just the start. The next one along will be the two megabyte – the 2080ST – then a four megabyte version."

But how much technology did people want? "It's like owning an automobile," explained Tramiel. "You may not always need that extra power but it's nice to have it there if you do."

As hard news died away during the

Celebrating the sixth birthday of Britain's longest-running ST magazine, editor John Butters looks back at the success of the monthly and the changes it's seen with the ST

of the best

hot summer of '86, Atari UK boss Max Bambridge hit out at other sections of the computer press for reporting that the giant were developing machines capable of everything from tap dancing to unarmed combat.

He revealed "the truth". Atari were well on target for the launch of the two megabyte ST, the 2080ST. A 32-bit computer, it would be multi-user, multi-tasking, run Unix and cost less than a grand.

Third-party support was really taking off by this time. In the six months from September '86 to February '87, the number of software titles available for the ST range grew from 300 to more than 1,000.

1987

In Las Vegas, in early 1987, computers described as the flagships of Atari were being talked about. Aimed at desktop publishing and professional applications, Mega STs were to be sold with either two or four megabytes of memory.

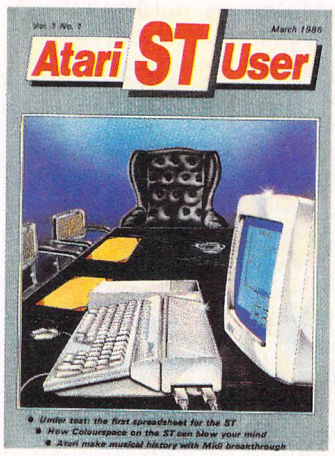
Externally, they looked different from that which ST people were used to. The guts of the computer were housed in a slim, square-shaped case and a detachable keyboard could be lap-held or adjusted for comfort on desks.

Mega STs were fully compatible with 520 and 1040STs and tucked away inside there was a battery-backed clock calendar and graphics blitter chip. US prices started at $1,000.

A prototype of the firm's laser printer was also unveiled at Nevada. It matched the performance of other lasers but was expected to cost about half as much – around $1,500.

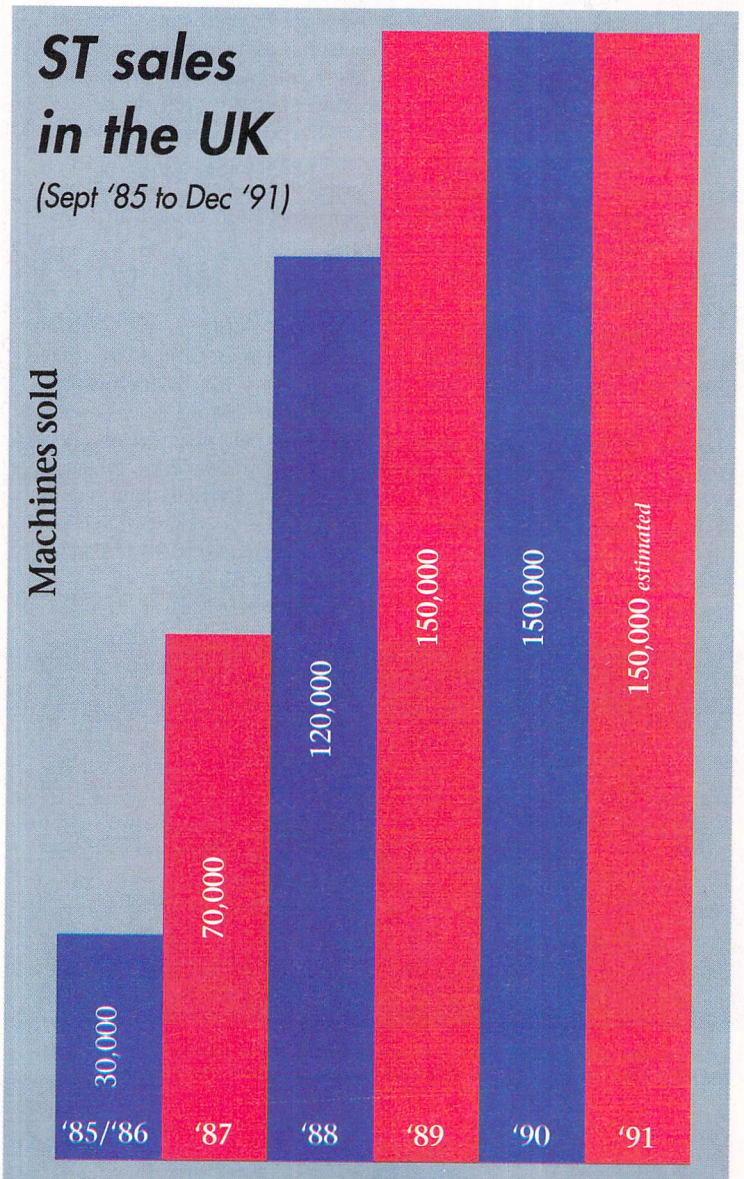
Attempts to stamp out ST software piracy had already begun. A small company called Top Copy produced a box which connected to disk drives to destroy part of the magnetism on one of the disk tracks, making sectors on that track unstable. Programmers could add routines to the original program to check the sector and verify that the disk was an original. It was said that the disk could not then be copied by normal software means.

Atari UK was being run under a new management team, headed by Bob Gleadow who continues in the number one seat today. One of his first jobs, he told *Atari ST User*, was to expand all channels of distribution. Support was now strong enough for us to brave the news-stands on our own. The first issue rolled off the presses in April 1987 with 68 pages. A month later it had grown to 92 pages.



A new magazine is born. Even with 16 pages it became the essential read for all ST owners

It was in April's issue that we reported the CeBit show in Hanover. Traditionally a major launch pad for Atari, the only exception this year was that the company's chairman Jack ➤



Nearly 700,000 STs have been sold in Britain since its launch and the computer's still growing strong as the figures above prove.

Tramiel was less than satisfied with his release. Of his new IBM PC-compatible he said: "What we are now offering is an inferior product to the ST and anybody who buys it will be buying the wrong machine. After all, it's old technology."

Ever since they broke into the PC market, most people outside the firm have considered that Atari, in the UK at least, have not felt at home there. Indeed when the press gather together to listen to new marketing plans from the firm, the PC range is seldom mentioned.

The products that had been talked about overseas finally landed in Britain in time for the Atari Computer Show. For most the highlight was the chance to play with the new Mega.

By the start of the summer only a small shipment had arrived, although Atari were confident of volume shipments by September.

By then the cost of the entry-level ST – now named the 520STFM and with an internal floppy drive – was set to be cut by £100. The firm forecast that the £299 computer would lead to a total ST user base of 100,000 by the end of the year.

October saw another £100 price fall for the ST, this time on the 1040 model. New cost: £499.

Updates to the operating system meant a short-lived incompatibility scare at the start of the New Year. The giant admitted to "minor" problems but were quick to add that they were being sorted out rapidly.

TOS 1.09 was aimed as a fix for slight bugs in earlier machines and its main addition was the ability to support a blitter.

Demand for machines was so great at the beginning of March that dealers had a shortfall of between 15,000 and 20,000 computers. Extra units were being airlifted into the country every three days.

Described by some as the poor man's Apple Macintosh, the ST got a cartridge-based emulator to enable it to run Mac software. Aladdin came from a company called Proficom and was claimed to run more than 90 per cent of software. However, an Apple dealer commented: "In comparison to today's Macs it'd be about as much good as a one-legged man at an ass-kicking contest."

Headline news, however, was a worldwide shortage of DRAM chips, and bad news for the company which was beginning to dominate the home computer market.

Whereas giants such as IBM had long-term agreements with chip suppliers including a set price, Atari were forced to pay more for DRAM. In turn they had to pass the increase on to their customers.

And so for the summer, a bundle which Atari called "the biggest promotional campaign ever devised for the home computer market" was compiled.

Twenty-two games and a joystick were given away with every 520STFM computer for a higher cost of £399.99. For the people looking to buy a computer this, and similar packs which followed, was great news. For the leisure software industry it was disaster.

ST owners now had a very healthy supply of software. Why buy more? Selling for between £20 and £30, new games sold much slower than in the past.

1988

ST User's sister company, Mandarin Software, released their STOS programming package, which burst into the charts at number one. Since November 1988 it has built a name as an easy-to-use program for games creators and many of today's public domain disks are packed with software written in the language. An updated 3D version is due for release soon.

Despite several denials of its existence throughout the year, Atari previewed Stacy – the first fully ST-compatible battery decharger – to selected visitors at the giant Comdex show in Las Vegas at the end of '88.

Stacy – A nice idea which suffered from a battery problem and high cost

A year later it went on sale in the UK. Users could connect the battery to the mains overnight and get about half an hour's operation before the power died away. The problem remains to this day.

1989

A vicar spoke up in March 1989's *Atari ST User* to say that there was nothing wrong with blasting baddies on computers, a story which was followed up later by television news.

Reverend Bob Redcup, from the parish of St Kea, Truro and an ST owner, said: "God made us to have anger, and real-life violence erupts when people do not know how to use or control that anger.

"Even the clergy have to express this. Thumping the keys on a computer is better than thumping the nearest parishioner," he said.

A new member of the Mega ST family was announced in April. Filling the gap between the 1040ST and more expensive Mega 2, the one megabyte Mega 1ST hit the streets costing £688.85 including a mono monitor.

The first CoverDisk arrived with the August issue. It appeared that readers didn't agree with the move so it was withdrawn in February '90.

Subscribers continued to get their free disk but letters from other readers begging us to bring it back flooded the office and forced us to reconsider its future. June's magazine saw the disk return and we've not dared to take it away since. This was proof that you can't please everyone all the time.

ST users angry at Atari's attitude towards its customers raised a petition of complaint to be sent to chairman Jack Tramiel and UK boss Bob Gleadow.

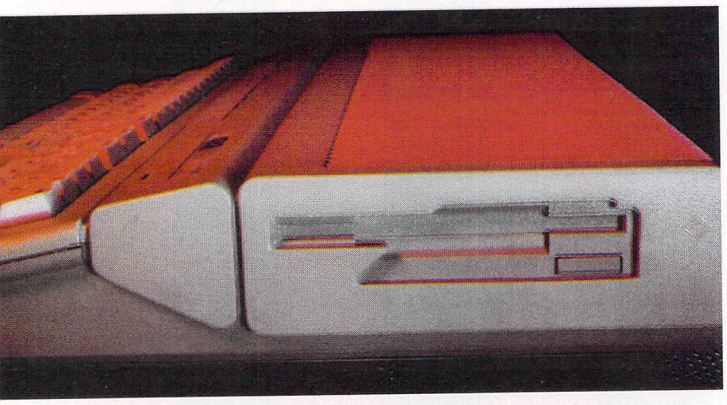
The document launched by the Association of Atari User Groups was signed by thousands. The manufacturer has been at the receiving end of much criticism ever since, although *Atari ST User* has noticed a recent change for the better.

Surprise appearance at the 1989 Dusseldorf show was the TT. The displayed model ran Unix v3 and featured a 16MHz 68030 processor, maths co-processor, four megabytes of RAM and a variety of video modes. Specifications were later changed.

1990

The last major revision to the ST range was a modification to give it, among other things, stereo sound and an increased colour palette from 512 to 4,096 colours. That was in the first couple of months in 1990.

Tagged the STE, it was only a matter ➤



It was several months before Atari designed the ST to incorporate a floppy drive inside its case. First models were supplied with external drives

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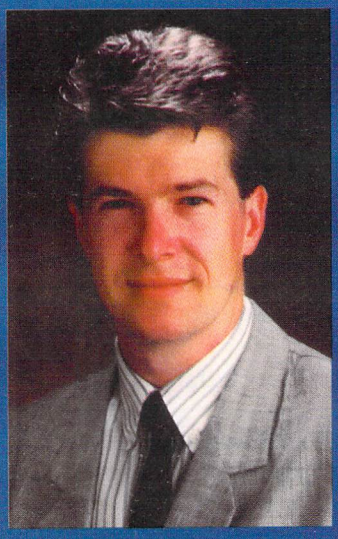
Let's get serious together!

Atari's Marketing Manager, Darryl Still, writes...



1992 is a big year for the computer industry. Technology is moving incredibly swiftly and no company can afford to stand still. The buzz words are "smaller, faster, more powerful" and Atari aim to compete on all three fronts.

Smaller

Smaller is STBook. All the features of your favourite machine and more in a notebook-sized package. Superb supertwist LCD screen which is crispy clear. We cannot wait...

Faster

Mega STEs are here. The machine's all-in-one package bridges the gap perfectly between the 1040 and the TTs. Atari are serious about it.

We are looking forward to promoting the Mega as a solution for most serious applications, especially wordprocessing, desktop publishing and music. The Mega STE can run Atari ST software at a stunning 16MHz, so speed is of the essence.

More powerful

The TT is becoming widely recognised as the best solution when power is the premium requirement. As a graphic workstation the TT has no peers in its price range and we have big plans for the machine this year.

So what about the 520 and 1040?

The repositioning of the ST in 1991 will probably go down as the most successful shift in emphasis of any computer in history. We have all known for a long time that the machine has the power and capacity to be a great all-purpose machine.

Ninety-five per cent of its use has been to play games and the problem was to get it accepted as a "serious" contender. This became especially important with the rise of 16-bit consoles. While our rivals dithered and spent this Christmas trying to sell a very expensive games machine we introduced the Family Curriculum pack, with software which enlightened people to the real benefits of computers in education, in business and in creativity.

This pack meant that none of the sales that were taken from the 16-bit computer market by the consoles went from the ST's share. What happened was that whereas 80 per cent of ST sales in 1990 were for the 520, 1991 saw a huge rise in the 1040.

The Discovery Xtra pack continued to provide the perfect introduction at a lower price level whereas the success of a non-games pack has also turned around previously waning games software sales in the UK. All this success can only bode well for the future of the machine. We have no immediate plans to change the successful packs but have a continuous strategy of improvement.

of time before it became the standard ST and STFMs became no more. Unfortunately the changeover was not without its problems. Incompatibility with previous STs overshadowed its arrival. Some software – especially games – refused to accept the updated computer and there were snags with some hard disk drives. Software houses, however, once again got things more or less back to normal.

The TT was shown for the first time in the UK at the *Which Computer?* Show in Birmingham in April '90, though the big event for the ST community was the Atari '90s Show held in London during June. The entire range had a place among the crowds and it was the ideal opportunity for users to catch a glimpse of software and hardware.

At the back end of the year, Atari's pre-Christmas marketing was headed with another show. The manufacturer's Whistle Stop Tour was unique in that it was all held on board a train.

Despite the inevitable train spotting jokes at the start, Atari claimed the journey through five city centre stations to be a success and estimated an attendance of 20,000 visitors.

On the surface just a novelty marketing ploy, it actually turned out to be an important event. Being shown for the first time were 32MHz versions of the TT, the SLM605 laser printer and the December issue of your favourite monthly.

1991

With STEs becoming the norm, it was only a matter of time before the Mega range saw improvements. It picked up STE features and more.

Among them were a new TT-style desktop, 40 megabyte internal hard drive and an option to run the computer at either eight or 16MHz. Outside it now looked similar to the TT, which itself had been likened to a wedding cake.

ST sales are still soaring. Latest figures from the manufacturer show that despite tough economic conditions worldwide and problems with production in the Far East there was strong support for the range last year.

Last year, Atari started to reposition the ST as a computer rather than a device for playing games with. It was largely done through a new bundle, the Family Curriculum Pack.

To be found in the box with the 1040ST were software packages for the whole family. For the first time the ST was bundled without leisure titles. One of the changes this brought to the ST market was the 1040 overtaking the 520 as the range's best-seller.

All was not rosy for the firm, however. The Mega STE range had already been available in many parts of the world for several months when at a press conference early in the year Atari announced imminent availability in the UK. A year later they are still not freely available.

And for this year? Well, Atari themselves remain cool on announcing new hardware in the ST range. It's likely that the long-stored CD-ROM drive will eventually go on sale, probably being launched at the CeBit show at Hanover in March.

There are various other machines in the pipeline, including the Jaguar. Exact details are not known but rumours have it as a games console which simultaneously uses a 32-bit 68030 processor and 32-bit graphics and sound processor.

But even if it all turns out to be vapour-ware, Atari will still have their ST and *Atari ST User* will continue to be the best guide for its use.

Getting bigger and better

October 1991 was an important date in the diary of *Atari ST User*. Pages got physically bigger, sister publication *ST World* was incorporated and the games content was easier to find in its own magazine, Gamer.

Response from readers and companies interested in the future success of the ST was a big thumbs up. Such as Atari's Darryl Still who wrote: "I would like to say a couple of words on the new look *Atari ST User*.

"The guys have kept in close contact with us throughout our repositioning and *Atari ST User* mirrors the ST in so many ways. "It's authoritative, responsible and friendly, easy to read, comprehensive and a lot of fun for both the newcomer to the ST and the experienced user."

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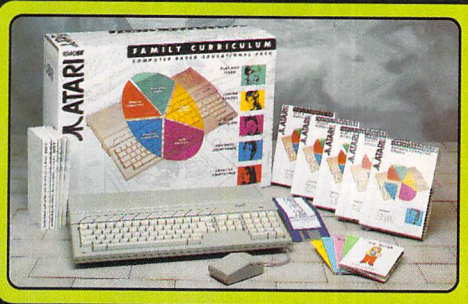

1040ST-E FAMILY CURRICULUM PACK

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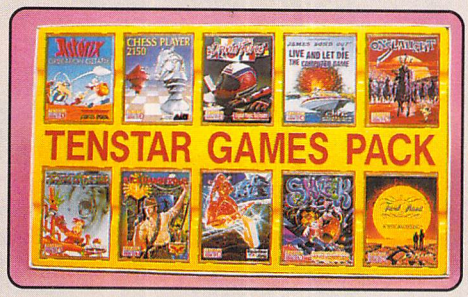

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Midi buyers' guide

The Atari ST is the most widely used computer for music control and creation in the land. More music software is available for the ST than all of its contenders put together. Packages range from impressive and cheap PD and shareware offerings to sophisticated hardware/software combinations, with prices to match. Whatever your requirements, it's a certainty there's a package specifically tailored to your needs.

Here *Atari ST User* presents the most comprehensive and up-to-date Midi buyers' guide ever published. Sequencers, scorewriters, sample editors and librarians, creative aids, educational packages and all their associated utilities and hardware are listed, together with extensive tabling detailing system requirements, features and Midi compatability.

There is a brief description of each product, and prices and suppliers are also detailed, adding up to a Midi users' bible – essential reference for anyone with any interest in utilising the Midi capability of their ST.

Sequencers

Product	Price	Current version	RAM required	Colour /mono	Number of tracks	Event editor	Piano roll editor	Score editor	Arrange feature	Graphic song display	Ext. Midi/ sync h/w	Comment
Steinberg Cubase *Evenlode*	£575	2.01	1Mb	m	64	●	●	●	●	●	●	Steinberg's full-featured top-end sequencer. Superb front end. Runs under M.ROS multitasking o/s. Includes satellite (sound edit utility).
Steinberg Cubeat *Evenlode*	£295	2.00	1Mb	m	64	●	●	●	●	●	●	Budget version of Cubase now including drum editor but lacking score edit, the Midi Manager and Midi Effects Processor.
C-Lab Notator *Sound Technology*	£550	3.1	1Mb	m	64	●	●	●	●	●	●	Top-end sequencer/scorewriter. Very powerful, not as graphic as Cubase but superior scorewriting/editing/printing facilities.
C-Lab Creator *Sound Technology*	£330	3.1	1Mb	m	64	●	●		●	●	●	Notator without the scorewriting features. Compatible with all C-Lab supporting hardware and software.
C-Lab Notator Alpha *Sound Technology*	£225	1.1	1Mb	m	16	●	●	●	●		●	Budget version of Notator. No external sync, four staves editing/printing only, fewer editing features. Available with Midia and Aura edu.package.
Hybrid Arts SMPTETrack Gold *Atlantic Audio*	£465.30	6.01	1Mb	c/m	60	●	●		●		●	Includes Sync interface which generates all SMPTE and most synchronisation formats. Fast, reliable and easy to use.
Hybrid Arts EditTrack Gold *Atlantic Audio*	£116.30	6.01	1Mb	c/m	60	●	●		●			As SMPTETrack without the hardware interface but easy upgrade option. Supports song position pointers.
Virtuoso *The Digital Muse*	£305	2	0.5Mb	m	99	●	●	●	●		●	Powerful, highly specified modular sequencer written in machine code – screen updates are fast! Multitasking. Hook into GEM for other programs.
Prodigy *The Digital Muse*	£135	2	0.5Mb	c/m	32	●	●					Budget version of Virtuoso – very well featured for the price. Written in machine code. Score Edit (£40) program module available.
Passport MasterTracks Pro *MCMXCIX*	£292.58	1.2	1Mb	c/m	64		●			●	●	Professional sequencer, very graphic, very easy to use.
Passport Trax *MCMXCIX*	£69.33	1.2	1Mb	c/m	64		●			●		Budget version of MasterTracks Pro. Lacks many of the frills but retains the same easy-to-use graphic edit features.
Dr.T KCS Omega *Zone*	£299	4	1.5Mb	c/m	48	●	●	●	●	●	●	Feature-packed bundle now replaces individual programs – KCS Level II, Graphic Song Editor, Tiger (The Interactive Graphic EditoR)
Dr.T Tiger Cub *Zone*	£99	1.1	1Mb	c/m	12		●	●				Starter sequencer but with powerful graphic edit facilities and ability to display (but not edit) score as notation.
Dr.T Realtime *Zone*	£129	1.1	0.5Mb	c/m	Unlim	●	●		●	●	●	Unique and powerful sequencer featuring note generation, graphic editing, device list for synth setups, unlimited patterns and songs.
Dr.T Keys! *Zone*	£59	2	1Mb	c/m	1			●				Creates files for KCS using step-time notation input. Includes simple Auto Composer feature.
Trackman II *Hollis Research*	£99.95	2.4	0.5Mb	c/m	32		●		●		●	Easy-to-use yet powerful UK sequencer. Informative manual, optional MidiPort expander and foot controller available.
Vivace Module 1 *Desert Software*	£234	1.00	1Mb	m	32		●	●				Music/notation-based sequencer. Real and step-time recording. Dynamics and articulation added on stave after recording.
MIDI Studio Junior *Ladbroke Computing*	£29.99	2.5E	0.5Mb	c/m	20	●			●		●	Phrase-based sequencer, many features, good value for money.
MIDI Studio Master *Ladbroke Computing*	£99.99	1.08	1Mb	c/m	100	●			●	●		Totally rewritten version of Midi Studio Junior. Easy-to-use, phrase-based multi-featured sequencer. Real time scrolling arrange window.
Digigram Track 24 *GFA*	£75	1	0.5Mb	m	24			●				One monophonic melody track and one chord track with automatic chord recognition. Limited on-stave editing plus Sys Ex load and dump.
Digigram Studio 24 *GFA*	£150	3	0.5Mb	m	24			●				Souped-up Track 24 with interesting auto-harmonisation of melody track, printing options, Midi file support. Upgrade path to Big Band Plus.
Concerto *Microdeal*	£39.95	N/A	0.5Mb	c/m	24	●	●	●	●			March release. Budget sequencer with score editing (but no printout). Includes ghosting, delay, note search and replace, pause, staccato and slur
Sequencer One *Gajits*	£89.99	1.06	0.5Mb	c/m	32		●		●	●		Budget-priced, easy-to-use, Gem-based UK sequencer with some sophisticated edit functions.
Sequencer One Plus *Gajits*	£129.95	1.0	0.5Mb	c/m	32		●		●	●		Souped-up version of Sequencer One. Includes improved graphic editing, Juke Box screen, tempo maps, Sys Ex support, sample playback facility.
Tentrax *Roland*	£99	1	0.5Mb	m	10			●				Designed by Steinberg specifically for Roland's MT-32 and CM modules. Looks like a ten track mixer. Superb hardware/software combination.
Geerdes StarTrack *Newtronic*	£149	1.0	1Mb+	m	Unlim	●			●			Due first quarter 1992. Modular sequencer/sound manager system with optional (O) add-ons including synth editors. Supports 256 Midi Ins.
Geerdes 1stTrack *Newtronic*	£69	2.2	0.5Mb	m	24	●			●		●	Budget sequencer but with many features. Supports Midi files and Sys Ex data.

Scorewriters

Product	Price	Supplier	Version	RAM	Mode	Comment
Dr.T Copyist Apprentice	£99	Zone	1.7	1Mb	c/m	Lots of symbols, import (but not export) Midi files, five page scores only. Excellent printout but old-fashioned interface and not totally wysiwyg.
Dr. T Copyist DTP	£249	Zone	1.7	1Mb	c/m	100-page scores, font editor, export score as Midi file and TIFF file, PostScript drivers. Same interface as Apprentice.
Steinberg Masterscore	£325	Evenlode	1.1	1Mb	m	Designed to complement Steinberg sequencers but not M.ROS compatible. v2.0 due early '92.
Hybrid Arts EZ Score Plus	£116.30	Atlantic Audio	1.1	0.5Mb	c/m	Three staves, integrates with Hybrid Arts sequencers, supports Midi file format 0, also plays via monitor.
Passport Encore	£364.25	MCMXCIX	1.3.5	1Mb+	m	Requires hard disk. PostScript output via Ultrascript interpreter. Many features, excellent printout.
Digigram Proscore	£200	GFA	2	1Mb	m	27 polyphonic tracks, four drum tracks, chord track with auto-chord recognition, step-time and real time recording. Drivers for 9- and 24-pin and laser printers.
Music DTP V2.1	£305.50	Titan Designs	2.1	1Mb	m	High quality notation/printout. Midi compatible, auto-note alignment/grouping after file import. Real/step-time input/playback via Midi. Handles Img/Gem files. PostScript driver £30.55.
Music DTP V1.03	£255.50	Titan Designs	1.03	1Mb	m	Early version of Music DTP V2.1. No Midi support or auto-note alignment etc.
Vivace Module 3	£90	Desert Software	N/A	1Mb	m	Due early '92. Score printout module for Vivace Module 1.
Score Edit	£40	The Digital Muse	N/A	0.5Mb	c/m	Loads as a module in to Prodigy to add score editing/printing. Has Epson printer driver but more on the way.

Associated hardware

Product	Price	Supplier	Comment
Steinberg MIDEX	£360	Evenlode	Plugs into the cartridge port. Provides two extra Midi Ins, four additional Outs and space for four dongles to be plugged in simultaneously.
Steinberg MIDEX+	£495	Evenlode	As MIDEX but with full SMPTE timecode read/write facilities.
Steinberg SMP-24	£995	Evenlode	v1.65. SMPTE processor.
Steinberg Mimix	£575	Evenlode	v1.23. Computer-controlled mix automation package software. Can be retrofitted to any console. Additional hardware extra.
Steinberg DMP-7 DTM	£325	Evenlode	v1.1. Desktop Mixing software bundled with Yamaha's DMP-7 but also available on its own.
Steinberg Avalon DA	£325	Evenlode	Digital-to-analogue converter designed for use with Avalon editor. Allows auditioning of sounds as they are edited.
C-Lab Unitor II	£390	Sound Technology	Plugs into Cartridge port. Provides two extra Midi Ins and Midi Outs for Notator/Creator. Full SMPTE/EBU synchronisation facilities.
C-Lab Export£132	£132	Sound Technology	Plugs into Modem port and provides three extra Midi Outs for use with Notator and Creator.
C-Lab Combiner	£187	Sound Technology	Plugs into Cartridge port. Allows four dongles to be inserted at the same time.
C-Lab Human Touch	£170.50	Sound Technology	Three Audio Ins plus built-in Microphone. With Unitor, converts incoming audio signals into tempo information.
C-Lab Steady Eye	£456.50	Sound Technology	With Unitor provides VITC (Vertical Integral Timecode) support for use with video.
Dr.T's Phantom	£189	Zone	For KCS. Plugs into Modem port. Provides extra Midi Out and full SMPTE read/write facilities, song pointer FSK and pulse sync.
Hybrid Arts SMPTEMate+	£282	Atlantic Audio	V3.06. Generates true SMPTE timecode plus FSK, TTL, DIN and supports DF and NDF. Included with SMPTETrack Gold.
Hybrid Arts MidiPlexer	£293.75	Atlantic Audio	V1.5. For SMPTETrack and EditTrack. Provides two merged Midi Ins plus four Outs. Front display shows Midi activity.
MidiPort	£25	Hollis Research	Plugs into Modem port. An additional Midi Out socket, giving another 16 Midi channels to Trackman sequencer.
Trackman Footpedal	£25	Hollis Research	Plugs into joystick port to control several functions in Trackman such as Punch In/Out. User programmable.
K..AT	£69	Q-Logic	Plugs into second joystick port. Keyboard remote for controlling sequencers (and other software). Configured with a desk accessory.
Musitronics SCP	£279	AMG	Sample card programmer. Due first quarter 1992. PCM card programmer for Roland D70, U series and R8. Support for Yamaha and Korg instruments under development. Cards extra, price depending on type.

Education

Product	Price	Supplier	Version	RAM	Mode	Comment
C-Lab Aura	£115	Sound Technology	1.0	1Mb	m	Midi education and analysing program. Highly graphic icons used to generate Midi messages and react to incoming Midi data. With Notator Alpha and Midia forms Educational package.
C-Lab Midia	£74	Sound Technology	1.1	1Mb	m	Extremely comprehensive aural and rhythm training program with many user-definable options. With Notator Alpha and Aura forms Educational package.
MidiGrid	£299	CDP	1	1Mb	m	Alternate composition and performance system. Note patterns are stored in boxes in a grid and played by moving the mouse over the grid. Can be adapted for users with special needs.
Frohlich Guitar Tabulator	£99	Zone	1	0.5Mb	c/m	Displays 3,000 guitar chords. Playback through ST monitor/Midi, can record chord sequences, print them and save them as Midi file.
Frohlich Keyboard Tabulator	£99	Zone	1	0.5Mb	c/m	Displays 3,000 keyboard chords. Playback through ST monitor/Midi, can record chord sequences, print them and save them as Midi file.
ADG Jazz Tuition Beginners	£17	Zone	N/A	0.5Mb	c/m	Tuition package consisting of music book, audio cassette and Midi files.
ADG Jazz Tuition Advanced	£17	Zone	N/A	0.5Mb	c/m	Tuition package consisting of music book, audio cassette and Midi files.

Synthesiser editors/librarians

Product	Price	Supplier	Version	RAM	Mode	Comment
Synthworks Yamaha DX/TX	£175	Evenlode	3.02/3.01	1Mb	m/c	For DX7, TX7, TX216, TX816, TX802 and DX7IID/FD. Highly graphic editor with powerful librarian facilities. M.ROS compatible.
Synthworks Yamaha SY77	£175	Evenlode	1.2	1Mb	m	For SY77 and TG77. Highly graphic editor, powerful librarian facilities and DX/SY conversion routines. M.ROS compatible.
Synthworks Korg M1	£175	Evenlode	2.11/1.55	1Mb	m/c	For M1, M1R, M1REX, M3R, T1, T2 and T3. Highly graphic editor/librarian. M.ROS compatible.
Synthworks Roland D50	£175	Evenlode	1.54/1.52	1Mb	m/c	Highly graphic editor for D50 synth and D550 module. Powerful librarian facilities. M.ROS compatible.
S.works Rol D110/10/20/MT32	£130	Evenlode	1.54	1Mb	m	Highly graphic editor with librarian facilities. Includes D50 sound conversion routine. M.ROS compatible.
Synthworks Roland D110	£130	Evenlode	1.51	1Mb	c	For D110, D20, D10, D5 and MT32. M.ROS compatible.
Synthworks E-mu Proteus	£175	Evenlode	1.2/1.11	1Mb	m/c	For Proteus 1, 2, XR, 2XR, Protologic and Classic Chip models. Highly graphic editor for Proteus expanders. Also librarian facilities. M.ROS compatible.
Synthworks Kawai K1	£130	Evenlode	1.51/1.51	1Mb	m/c	Highly graphic editor for K1, K1m and K1r instruments. Includes powerful librarian facilities. M.ROS compatible.
Synthworks Korg Wavestation	£175	Evenlode	1.0	1Mb	m	M.ROS compatible. Highly graphic editor for Wavestation and Wavestation rack synthesisers. Also powerful librarian facilities. Needs 3.04 OS software. M.ROS compatible.
C-Lab X-alyser	£198	Sound Technology	2.0	1Mb	m	Powerful editor for Yamaha's DX series with innovative DX-to-sample transformer.
C-Lab Explorer 32£1	26.50	Sound Technology	2.02	1Mb	c/m	Powerful and comprehensive editor for Roland's MT32, MT100, E10, E20, D5, D10, D110, D50 and D550 instruments. Powerful librarian functions with Find facility.
C-Lab Explorer M1	£126.50	Sound Technology	1.1	1Mb	m	For Korg's M1 range. Powerful editing and librarian facilities.
Dr.T CZ Rider	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Casio CZ range. MPE (Multi Program Environment) compatible.
Dr.T VZ Rider	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Casio VZ range. MPE (Multi Program Environment) compatible.
Dr.T D110/10/20	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Roland's D-series synths. MPE (Multi Program Environment) compatible.
Dr.T MT32	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Roland's MT32. MPE (Multi Program Environment) compatible.
Dr.T D50	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Roland's D50 and D550 instruments. MPE (Multi Program Environment) compatible.
Dr.T DX Heaven	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Yamaha's six-operator FM synths. MPE (Multi Program Environment) compatible.

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- 16 tracks, 99 patterns.
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...one of the most popular programs on the dynamic French music software market – now available in England! Because of its flexibility, the program appeals to an extraordinarily wide range of users. The program is the brainchild of Jean-Claude Dubois, renowned for his professional MIDI programming.

...unique, because it allows you to build up a complex song from your own recorded tracks and a wide variety of preset but programmable features, including 74 music styles, 6 predefined instruments and a large library of models.

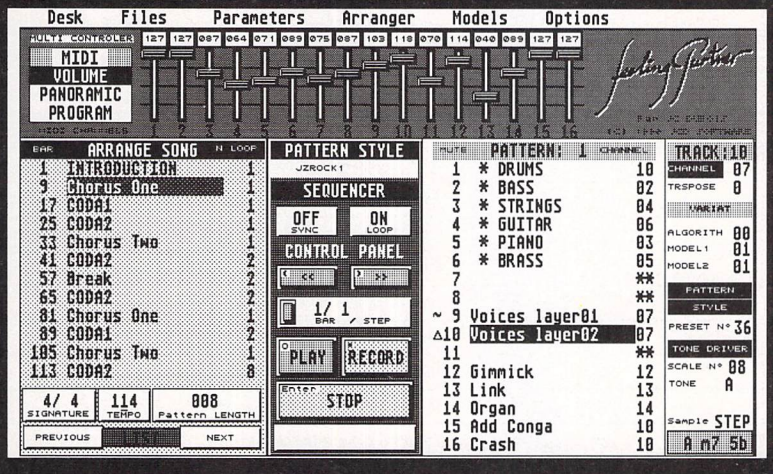
...exceptionally flexible. The software allows you to rearrange (re-orchestrate) your music in realtime – you can add to or edit your musical compositions while they are playing, by calling up ideas from the library or taking advantage of the program's ability to recognise and generate harmonies instantaneously.

...so easy to use that it is an ideal tool for sketching out and saving ideas, or enhancing experimental recordings.

...exceptionally fast and user-friendly.

Buying by mail order direct from the distributor entitles you to a professional level of support. For more information about *Feeling Partner* version 1.5, contact MPI (UK) in London.

Minimum RAM required: 1 megabyte



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- Library of music 'styles' (pa styles), two-bar sequer (models), methods for combi two-bar sequences (algorithms).
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- 2 x 16 preset, modifiable algorith
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- Instruments can be combined f and you can add your own reco instruments on remaining tr (total of 16 tracks).
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- Easy random modification patterns and/or tracks.

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Synthesiser editors/librarians cont.

Product	Price	Supplier	Version	RAM	Mode	Comment
Dr.T ESQ1/SQ80	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Ensoniq instruments. MPE (Multi Program Environment) compatible.
Dr.T 4 Op Deluxe	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Yamaha's four-operator FM synths. MPE (Multi Program Environment) compatible.
Dr.T K1	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Kawai K1, K1m and K1r. MPE (Multi Program Environment) compatible.
Dr.T K5	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Kawai K5. MPE (Multi Program Environment) compatible.
Dr.T M1	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Korg M1 and M1R. MPE (Multi Program Environment) compatible.
Dr.T DS8	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Korg DS8. MPE (Multi Program Environment) compatible.
Dr.T Matrix 1000	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for Oberheim Matrix 1000/6/6R. MPE (Multi Program Environment) compatible.
Dr.T Proteus	£89	Zone	N/A	0.5Mb	c/m	Editor/librarian for E-mu Proteus. MPE (Multi Program Environment) compatible.
Hybrid Arts DX Android	£40	Atlantic Audio	1.0	0.5Mb	c/m	Editor/librarian for Yamaha DX range. Numeric and graphic editors, patch generation, pathloader and file conversion function.
Hybrid Arts CZ Android	£40	Atlantic Audio	1.0	0.5Mb	c/m	Editor/librarian for Casio's CZ range. Includes numeric and graphic editors with AI patch generation function.
EMC Yamaha SY55/TG55	£55	AMG	1	1Mb	m	Highly graphic editor/manager, well specified for the price. Additional sounds supplied.
EMC Roland D10/20/110	£55	AMG	1	1Mb	m	Highly graphic editor/manager, well specified for the price. Additional sounds supplied.
EMC Roland U20/220	£55	AMG	1	1Mb	m	Highly graphic editor/manager, well specified for the price. Additional sounds supplied.
EMC Roland Sound Canvas	£TBA	SMG	1	1Mb	m	Due first quarter 1992. Editor/manager.
EMC Kawai K4	£55	AMG	1	1Mb	m	Highly graphic editor/manager, well specified for the price. Additional sounds supplied.
EMC M-mu Proteus	£75	AMG	1	1Mb	m	Highly graphic editor/manager, well specified for the price. Additional sounds supplied.
EMC Lexicon LXP-5/1	£55	AMG	1	1Mb	m	Highly graphic editor/manager for the Lexicon LXP-5/1 multi FX units. Well specified for the price.
EMC Roland JX1	£55	AMG	1	1Mb	m	Highly graphic editor/manager, well specified for the price. Additional sounds supplied.
EMC Roland D70	£89	AMG	1	1Mb	m	Highly graphic editor/manager, well specified for the price. Additional sounds supplied.
EMC Yamaha SY22	£TBA	AMG	1	1Mb	m	Due first quarter 1992. Editor/manager.
EMC Korg M1/M1R/M3R	£55	AMG	1	1Mb	m	Highly graphic manager and Combi editor, well specified for the price. Additional sounds supplied.
EMC Roland D50/550	£30	AMG	1	1Mb	m	Highly graphic manager, well specified for the price. Additional sounds supplied.
EMC Kawai K1	£25	AMG	1	0.5Mb	m	Highly graphic manager, well specified for the price. Additional sounds supplied.
EMC Ensoniq VFX	£75	AMG	1	1Mb	m	Highly graphic manager and preset editor, well specified for the price. Additional sounds supplied.
EMC Oberheim OB-8	£90	AMG	1	1Mb	m	Highly graphic manager, well specified for the price. Additional sounds supplied.
EMC Lexicon PCM70	£75	AMG	1	1Mb	m	Highly graphic manager, well specified for the price. Additional sounds supplied.
Geerdes Kawai K4 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer.
Geerdes Yamaha SY77 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Twelve editors for all sections of SY77. Sophisticated database functions and microtune feature. Integrated 24-track sequencer.
Geerdes Roland U20/220 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays, integrated 24-track sequencer. Sophisticated database functions. Easy timbre and patch manage ment. Good parts display.
Geerdes Roland D70 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer. Good Database.
Geerdes Korg M3/R SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer. Horizontal page scrolling.
Geerdes Prophet VS SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer. Supports sample dump standard. Wave edit feature.
Geerdes Wavestation SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian for Korg Wavestation. Graphic displays plus integrated 24-track sequencer. Includes wave editor and extensive database functions.
Geerdes Microwave SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian for the Waldorf Microwave. Graphic displays plus integrated 24-track sequencer.
Geerdes Roland U110 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer.
Geerdes Roland D Series SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian for Roland's D5/10/20/110 and MT32. Graphic displays plus integrated 24-track sequencer.
Geerdes Roland D50 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer.
Geerdes Xpert 6 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian for all Yamaha six operator FM synths such as the DX7 etc. Graphic displays plus integrated 24-track sequencer.
Geerdes Xpert 4 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian for Yamaha four operator FM synths including the YS series, B200, DS55 and V50. Database and Microtune editor.
Geerdes Korg M1/R SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer.
Geerdes Roland MKS80 SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer.
Geerdes Kawai K1/II/M SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer.
Geerdes Casio VZ SWS	£149	Newtronic	1	1Mb	m	SoftWorkStation editor and librarian. Graphic displays plus integrated 24-track sequencer.
Geerdes MT32 Ed/Man	£99	Newtronic	1	1Mb	m	Editor and manager for Roland's MT-32.
Geerdes Korg M1/R Manager	£49	Newtronic	1	1Mb	m	Manager program in the Supermanager series. Includes 1,400 sounds.
Geerdes FB01 Ed/Man	£99	Newtronic	1	1Mb	m	Editor/manager for Yamaha's FB01 expander.
Geerdes Kawai R50 Ed/Man	£99	Newtronic	1	1Mb	m	Editor/manager or Kawai's R50 drum machine.
Geerdes Lexicon LXP-1	£89	Newtronic	1	1Mb	m	Editor/manager for the Lexicon FX unit.
Geerdes Matrix 6/R/1000	£99	Newtronic	1	1Mb	m	Editor/manager for the Oberheim Matrix range.
Geerdes Ensoniq SQ80/ESQ1	£129	Newtronic	1	1Mb	m	Editor/manager. Includes a graphic note editor for the Ensoniq's built-in sequencer.
Newtronic S10 Samp/Man	£49	Newtronic	1	1Mb	m	Sample Manager for Roland's S10/220/MKS100. Samples available in this format.
Newtronic SY22 Librarian	£49	Newtronic	1	1Mb	m	Librarian/Multi editor for Yamaha's SY22. Includes free sounds.
Newtronic Prophet VS	£49	Newtronic	1	1Mb	m	Supermanger/Wave editor. Includes 1,000 sounds.
Newtronic Kawai K4	£89	Newtronic	1	1Mb	m	Soundmaster editor/librarian. Includes intelligent voice randomise function.
Newtronic Microwave Ed	£129	Newtronic	1	1Mb	m	Graphic, windows based editor, supports large-screen monitors.

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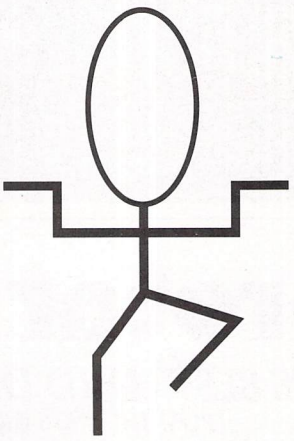

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Hisoft Basic	£59.95
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Synthesiser editors/librarians

Product	Price	Supplier	Version	RAM	Mode	Comment
Newtronic Ensoniq VFX	£49	Newtronic	1	1Mb	m	Supermanger. Includes free sounds.
Newtronic MS6 Bank Loader	£15	Newtronic	1	1Mb	m	Bank loader for the Cheetah MS6.
Newtronic Canvas Editor	£N/A	Newtronic	1	1Mb	m	Due first Quarter 1992. Editor for the Roland Sound Canvas.
Protone	£29.95	Syntec	1.0	0.5Mb	m	Editor for Roland D5/10/20/110 instruments. Large graphics and randomise function.
CMpanion	£99.99	Gajits	1.04	0.5Mb	c/m	Editor for Roland's MT32 and CM32L, CM32P and CM64 modules. Endorsed by Roland. Runs as program or desk accessory, with 64 sounds supplied.
4D Companion	£99.99	Gajits	1.07	0.5Mb	c/m	Graphic editor/librarian for Roland's D5, D10, D20 and D110 instruments.
Roland MSK70	£79.95	Quinsoft	1	0.5Mb	c/m	The only full editor/librarian for this synth. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto file lister and loader).
Casio VZ	£49.95	Quinsoft	1.02	0.5Mb	c/m	Editor/librarian for Casio's VZ instruments. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto file lister and loader).
Kawai K4	£49.95	Quinsoft	1.1	0.5Mb	c/m	Editor/librarian with editors for the K4's Multis, drums, FX and tones. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto file lister and loader).
Roland Juno 1/2	£34.95	Quinsoft	1	0.5Mb	c/m	Single page graphic editor for Alpha Juno 1 and 2 synths. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto file lister and loader).
Quadraverb Toolkit	£34.95	Quinsoft	1	0.5Mb	c/m	Graphic librarian with editing for Alesis Quadraverb FX unit. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto-file lister and loader).
Korg M1 Toolkit	£34.95	Quinsoft	1	0.5Mb	c/m	Graphic librarian with editing functions for programs and Combis. Holds five banks in memory. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto file lister and loader).
Yamaha FB01	£34.95	Quinsoft	1.6	0.5Mb	c/m	Librarian with free sounds. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto-file lister and loader).
Advanced 4-Op	£34.95	Quinsoft	1.6	0.5Mb	c/m	Librarian for Yamaha's four operator synths, 512 sounds. Includes Incredible Bulk (a generic bulk utility) and Auto Bulk (auto-file lister and loader).
Akai XE8 Organiser	£39	Four Minute Warning	1.2	1Mb	m	Graphic desk accessory editor/librarian for Akai's XE8 drum module.
Mixdown LA	£39	Four Minute Warning	1.2	1Mb	m	Desk accessory patch editor/mixing desk for Roland's D series.
DX 7 librarian	£39	Four Minute Warning	1.0	1Mb	m	Due February 1992. Librarian for all Yamaha six operator synths. Will import Steinberg, C-Lab and Dr.T editor files.
Mississippi Unison 220	£65	Four Minute Warning	2.0	1Mb	m	Desk accessory editor/librarian for Roland U20 and U220 instruments.
Mississippi Unison 110	£39	Four Minute Warning	1.3	1Mb	m	Desk accessory editor/librarian for Roland U110.
Mississippi Turbo GS	£29	Four Minute Warning	1.0	1Mb	m	Desk accessory editor/librarian for Roland's GS6 digital guitar FX unit.
Kurzweil K-Edit	£169	Acrobat Music	1	1Mb	m	Editor for Kurzweil synths and expanders.
Sqyrrel	Free	Yamaha-Kemble	1	0.5Mb	m	Bankloader and manager for Yamaha's QY-10 "Walkstation". Commissioned by and available from Yamaha (while stocks last) and from PD libraries.
ST-Effi	Free	Yamaha-Kemble	1	0.5Mb	m	Manager for Yamaha's FX900 FX unit. Commissioned by and available from Yamaha (while stocks last) and from PD libraries.

Generic editors/librarians

Product	Price	Supplier	Version	RAM	Mode	Comment
C-Lab Polyframe	£341	Sound Technology	1.1	1Mb	m	Powerful, highly graphic. Uses a virtual window. Comes with SY77 module. New, hence other modules still under development.
Dr.T X-Or	£219	Zone	1.1	1Mb	c/m	Many powerful features. Over 100 modules available for most popular synths (more being written) although not user-programmable.
Hybrid Arts Genedit 2	£293.75	Atlantic Audio	2.0	1Mb	c/m	Works as editor, librarian and filer with most instruments and FX units. Many existing modules, also user-programmable. Contains internal sequencer track.
Hybrid Arts Genpatch	£82.25	Atlantic Audio	1.2	0.5Mb	c/m	Librarian for System Exclusive data compatible with most instruments. Many prewritten routines and user-programmable. Contains Midi monitor.
Chameleon	£99	Keynote	1.1	0.5Mb	c/m	Powerful librarian with over 400 instrument "profiles", user-configurable. Search for sounds by user-assigned criteria. Runs as program/desk accessory. Version two due first quarter 1992.
Chameleon Universal Ed/Lib	£285	Keynote	1	0.5Mb	m	Due first quarter 1992. High quality graphic editor for most popular instruments. Very fast. New profiles will be free.
MidiMan	£49.95	Hollis Research	1.4	0.5Mb	c/m	Desk accessory. Universal remote patch editor controller. Profiles for over 50 instruments/functions. Extra interface features with Trackman.
StarTrack	£N/A	Newtronic	N/A	1Mb+	m	Due first quarter 1992. Modular system. See entry under Sequencers.
Zadok Uni-Man	£199	AMG	2.2	1Mb	m	Around 40 "devic adaptors", user-programmable. Highly graphic, design your own controls, supports sample dumps.

Sample editors/processors

Product	Price	Supplier	Version	RAM	Mode	Comment
Steinberg Avalon	£325	Evenlode	2.0	1Mb	m	Powerful, highly graphic generic stereo editor with drivers for all popular samplers including several SCSI formats. Includes resampling, re-enveloping, filtering and looping. D/A hardware available.
Digidesign Turbosynth	£306.90	Sound Technology	2.0	1Mb	m	Creative modular sound processing/creation program. Manipulate existing samples, generate new ones from scratch in the manner of analogue sound creation. Supports most popular samplers.
Digidesign Softsynth	£273.90	Sound Technology	2.1	0.5Mb	m	Emulates a 32-oscillator, additive and FM synth in software. Supports most popular samplers.
D.Dsgn Unvsal Snd Designer	£328.90	Sound Technology	1.5	0.5Mb	m	Waveform editing and digital signal processing software for manipulating samples. Supports most popular samplers.
Hybrid Arts Genwave	£152.75	Atlantic Audio	1.1	1Mb	c/m	Generic stereo sample editor for 12- and16- bit samplers.
Virtual Wave	£99.95	Resotek	1.2	0.5Mb	m	Highly graphic. Creates samples through additive synthesis and waveform interpolation in real time. Samples 1Mb+ can be generated on a 520. Supports most popular samplers and synths. Sample playback facility.
Slam	£89	Intrinsic Technology	1.1	0.5Mb	c/m	Sample librarian and manager. Catalogue samples, categorise them and perform a search.
Mississippi BLISS	£29	Four Minute Warning	1.1	1Mb	m	Bulk LIbrary Sample Sender. Transfers samples in bulk from one sampler to another. Different versions for different samplers.
Mississippi Filemaster FD	£175	Four Minute Warning	1.0	1Mb	m	Generic sample editor/waveform drawing program for Akai and Roland samplers and others which support the MMA sample dump standard.
Mississippi Filemaster QD	£65	Four Minute Warning	3.1	1Mb	m	Generic sample editor for samplers with Quick Disks. More efficient storage using the ST.
Mississippi Wave Mechanic	£35	Four Minute Warning	1.0	1Mb	m	Due early 1992. Software synthesis program, already present in Filemaster FD, which can import files into Filemaster QD.

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HCS STE memory upgrade kits come complete with full fitting instructions on how to plug into your STE. Should your STE have a rare type of module, we stock the alternative so it can be easily swapped. 2 and 4Mb kits come complete with multitasking software, memory checker and utilities disk!

Upgrade from 520 to 1040	£19.00
To 2 Megabytes	£60.00
To 4 Megabytes	£115.00

STF(M) and Mega ST upgrade kits

Xtraram Deluxe allows the novice to upgrade the ST with ease. They come complete with comprehensive instructions. All versions can carry up to 4Mb and have been carefully designed to even fit less common ST's, without soldering! (Eg C100109 and soldered in MMU). The solder in kit is for those with more electronics experience. This offers a low cost solution complete with sockets, instructions, etc.

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Replacement Power supply	£39.95
Double sided disk drive kit	£42.00

Emulators and Accelerators

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AT SPEED C16	£215.00
AT SPEED 8	£140.00
PC SPEED	£90.00
Fitting for above	£30.00

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MEGATALK BOARD	£250.00

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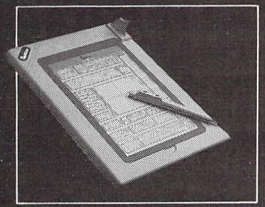

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Digital audio systems

Product	Price	Supplier	Version	RAM	Mode	Comment
Digidesign Sound Tools	£2,255+	Sound Technology	1.4	4Mb	m	Software and hardware direct to disk recording system. Requires a Mega 4 ST. Many options for adding to basic system.
Hybrid Arts Digital Master	£3,290	Atlantic Audio	3.0	1Mb+	m	Stereo direct to disk recording. SMPTE, chase lock, timestretch/compression, cue sheet, playlist, digital and analogue I/O. Recording time up to 14 hours.
Hyb. Arts Digital Master Ex	£4,112.50	Atlantic Audio	3.0	1Mb+	m	Four track version of Digital Master with 32 internal tracks allowing virtual onscreen mixing, editing and digital filtering.
ADAS	£839+	Plasmec	1.4	0.5Mb	m	Low cost stereo recording at 44.1 and 48 kHz. Hardware controls ADAS allowing the ST to run a sequencer simultaneously.
SPDIF Card	£359	Plasmec	N/A	N/A	N/A	Optional digital interface for ADAS. Allows use as DAT editing system and allows hard disk files to be saved and loaded from DAT.

Composition/arranging/improvisation programs

Product	Price	Supplier	Version	RAM	Mode	Comment
Dr.T Music Mouse	59	Zone	1	0.5Mb	c/m	Move the mouse around the screen to generate four-part music. Includes computer-assisted harmonisation.
Dr.T M	£119	Zone	1.1	1Mb	c/m	First commercial composition program. Combines pitches and duration cycles to produce note sequences. Lots of graphic controls and controllable in real time.
Dr.T Fingers	£59	Zone	N/A	0.5Mb	c/m	Random music generator. Runs in MPE.
PG Music Band-in-a-Box	£45	Zone	1	0.5Mb	c/m	Generates three-part accompaniments – bass, drums and chords – from a chord sheet. Comes with 24 accompaniment styles. v5 due early 1992.
PG Music Band-in-a-Box Pro	£69	Zone	1	0.5Mb	c/m	Generates three-part accompaniments – bass, drums and chords – from a chord sheet. Comes with 75 accompaniment styles. v5 due early 1992.
Frohlich Freestyle Pro	£179	Zone	2	0.5Mb	c/m	Sophisticated five-part accompaniment generator with user-definable patterns and real time control. Recognises 59 chord types.
Frohlich Freestyle Jnr	£99	Zone	1	0.5Mb	c/m	Budget version of Freestyle Pro which generates three accompaniment parts.
Hybrid Arts Ludwig	£152.75	Atlantic Audio	1.2	?	c/m	Algorithmic composer. Creates music lines based on numeric settings. Has some "musical" note manipulation functions.
Fractal Music file	£65	Datamusic	2.3	0.5Mb	c/m	Generates up to 16 tracks using fractal maths. Includes powerful music processing facilities such as inversion, retrograde, rotation, time stretch, etc. Midi compatible.
Fractal Music Composer	£65	Fractal Music	1.3	0.5Mb	c/m	Generates four-track music from fractal images on screen. Very easy to use and tonality maps ensure "harmonic" output.
Improviser	£95	Creative Sounds	1.0	0.5Mb	c/m	Takes a four-track input and creates a fifth track which you can interact with in real time. Highly graphic, easy to use, innovative.
Steinberg Tango	£211.50	Evenlode	1.0	1Mb	m	Records music entered from a keyboard, analyses and modifies it in real time producing six-part "improvised" accompaniment.
Digigram Big Band	£160	GFA	2	1Mb	m	Generates melodies, chords, bass lines, drum patterns, counterpoints and solos in a number of styles. Similar layout to Studio 24. Band Upgrade path to BigPlus.
Digigram Big Band Plus	£260	GFA	2	1Mb	m	Effectively Studio 24 plus Big Band. Will soon be replacing Big Band completely.
Feeling Partner	£175	Music Pro Imports UK	1.56	1Mb	c/m	Due early 1992. Combines a 16-track sequencer with an arranger and real-time harmony feature. Midi file compatible, 74 styles (definable) and library of sequences.
Zadok Arranger ST	£149	AMG	N/A	1Mb	m	Due first/second quarter 1992. Real time professional, flexible improvisation/auto-accompaniment program.

Utilities/ Miscellaneous

Product	Price	Supplier	Version	RAM	Mode	Comment
MidiDrummer 2	£40	Bit By Bit	2.06	1Mb	c/m	Comprehensive drum pattern editor/creator. Includes auto-pattern generator, humanise function and drum maps. Save patterns in Midi file format.
Audio Integer Patchbase 2	£49.95	Newtronic	2.0	0.5Mb	m	Lets you categorise sounds by name and select them using program change numbers.
Trax	£99.95	Quinsoft	1.5	0.5Mb	c/m	A full-featured recording studio manager. Includes Tracksheet, Cue Sheet, Mixdown page, address utility, invoicing/accounting program and disk index archiver.
Dr.T T-Basic	£129	Zone	1.0	0.5Mb	c/m	A version of Basic which includes music and Midi commands. Runs in MPE and interfaces well with Dr.T programs.
Dr.T Hitman	£149	Zone	N/A	1Mb	c/m	SMPTE hitlist. Film scoring package adds SMPTE event editing to the MPE.
Hybrid Arts HybriSwitch	£58.75	Atlantic Audio	4.88	0.5Mb	c/m	Desk accessory which lets you hold up to 16 programs in memory and switch between them.
Steinberg Utility Disk 1	£24.95	Evenlode	1.0	N/A	N/A	Seven utilities for Steinberg software including Arpeggiator, Fostex Link, Chorder, Mapper, Tempo Calculator, Big Ben counter and Spooler.
Vivace Module 2	£20	Desert Software	N/A	N/A	m	Due early '92. Midi file converter for Vivace Module 1.
EMC The Mapper	£45	AMG	N/A	1/2 Mb	m	Converts drum maps from one machine to another. Comes with several maps for popular instruments.

CONTACTS

Acrobat Music.....071-267 9229
AMG.....0730 88383
Atlantic Audio.....071-272 8944
Bit By Bit.....0522 533461
CDP.....0904 623696
Datamusic.....081-446 9699
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SERIOUSLY HEAVY METAL...
ISSUE SIX ▪ MARCH 1992

GAMER

...THE UNSTOPPABLE GAMES MACHINE...

ROBOCOP 3

GAMER

INNER VISION

And what a cracker we've got this month...

WWF 4
Why haven't any of these guys won an Oscar? We need to be told!

DAYLIGHT ROBBERY 6
Electronic Zoo rob you blind at a price you can afford

ROBOCOP III 8
Stomp stomp stomp clunk whirr Ker-blam. Your move creep. Etc etc

BARBARIAN II 10
The all-new Barbie, with plastic horse, jeep and ski wardrobe

KNIGHTMARE 15
More clueless schoolkids blunder around a computer-generated dungeon

MERCENARY III 16
Strike a deal, make alliances, then stab 'em in the back. That's the life!

OH NO! MORE LEMMINGS 18
Another 100 levels of controlled sadism

ON WORD 2
What's going down on the ST? Don't ask us, we make it all up

TALKING SHOP 3
The HMV-sponsored ST chart and some random ramblings from Biffa

THE SOURCE 13
War games – destructively delightful or brain-numbingly boring? Gamer takes a look...

ENTERTAINMENTS XTRA 19
What's showing on the small screen? Only Gamer has the answer

CHEAT MODE 21
Everyone's favourite tea-boy rips open Magic Pockets, with a lot of help from the Bitmaps

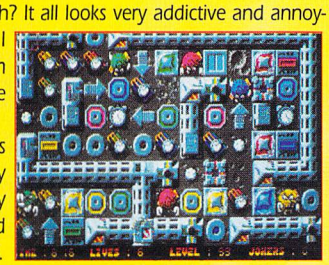
REVIEWS

REGULARS

Donovan's brainy

On the cards from Palace Software is Brainies. It's an arcadey/puzzle game by the looks of things and features a piddling 100 levels.

The Brainies, it transpires, are cute, fluffy balls of cute, fluffy stuff. Things are not what they might seem though, as they tend to turn slightly violent at the slightest provocation. All you have to do is lure them onto special tranquilising pads. Simple eh? It all looks very addictive and annoyingly sweet, and I just know I'm going to hate them.



The Brainies should already have invaded by the time you read this, priced £25.99.

Another stupid competition

And there's just enough room for another of our infamous, and completely pointless, Gamer competitions. We pick a game from our choc-a-block games cupboard and give it away to one of our much-loved readers. So which game shall we give away? Hang about...I'll have a look at what we can spare...

A-ha! OK, who wants to get themselves a copy of Oh No, More Lemmings for nowt? I thought as much. A fair few of you. Well, it just so happens that we've got a spare copy of the standalone version of Psygnosis' long awaited Lems data disk. Just check out the rave review in this very ish.

All you have to do to get this lovely prize is design your own Lemmings level. It doesn't have to be a work of art – all we ask is that it's original, clever and fiendishly difficult. Feel free to invent as many traps and tricks as you want. It doesn't even need to be possible. We don't care if no-one could ever complete it, as extra points will be awarded for cruelty, sadism and inventive nastiness.

Slap your design on a sheet of A4 paper and send it to the usual Gamer address. All the normal rules apply and the closing date will be sometime near the end of March.

ON word

What's going to be in your disk drive soon? Read on...

The Mysterious Mirrorsoft Affair

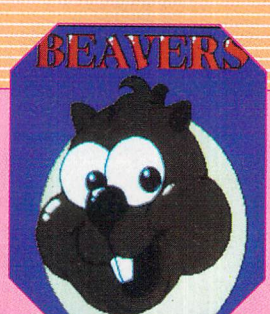
It's been all change at Mirrorsoft recently. Following Bob Maxwell's impromptu deep sea dive last year, there have been rumbles throughout the entire Mirror network.

This eventually hit Mirrorsoft and they went into administrative receivership to save them from the creditors. The label and all of it's products have now been bought up by Acclaim, best known for the console version of The Simpsons.

Mirrorsoft and it's subsidiary labels, Mirror Image, Imageworks and Cinemaware, will now continue but it's not clear which future titles will come out on which labels.

Mirrorsoft made a name for themselves back in the days of 8-bit machines and slipped easily into the 16-bit market with such hits as It Came from the Desert, Teenage Mutant Hero Turtles, Predator 2 and the recent puzzle game Devious Designs.

Grandslam, Thank you ma'am



Grandslam currently have three titles lurking up their sleeves ready for release this year.

Two of them are sporty games. Liverpool is, surprise surprise, a footy game and apparently will feature a new viewpoint for a soccer game. Intriguing, eh? Nick Faldo's Golf on the other hand is a game about, well go on and guess. It includes a training section based on Faldo's "highly successful" training videos, which we all ran out and bought, didn't we?

Oh, and there's a modem link so you can play against people in Denmark, or wherever takes your fancy. Both Liverpool and Nick Faldo should be out before the summer at £24.99.

But most imminent from Grandslam is, ahem, Beavers. Starring Jethro Beaver, this cartoony arcade adventure takes you through four giant worlds to save Mrs Beaver from the foxes. Thrilling stuff, or what? It's written by the same peeps who gave you R Type 2, Forgotten Worlds and Crack Down so it should be worth a look. It will be out any minute now and costs £24.99.

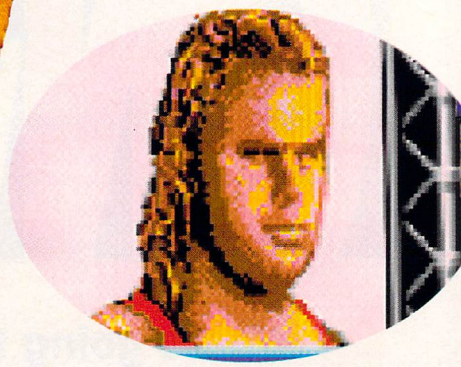
talking shop

This month	Last month			
1	13	WWF – Wrestlemania	Ocean	£25.99
2	4	New Zealand Story	Hit Squad	£7.99
3	10	Lotus Turbo Challenge 2	Gremlin	£25.99
4	8	The Simpsons	Ocean	£25.99
5	3	Bubble Bobble	Hit Squad	£7.99
6	7	Microprose Golf	Microprose	£34.99
7	5	Lombard RAC Rally	HitSquad	£7.99
8	16	Chase HQ	HitSquad	£7.99
9	9	Jimmy White's Whirlwind Snooker	Virgin	£29.99
10	NE	James Pond 2 – Robocod	Millenium	£25.99
11	14	Dragon Ninja	HitSquad	£7.99
12	NE	Knightmare	Mindscape	£30.99
13	12	Fantasy World Dizzy	Code Masters	£7.99
14	NE	Robocop	HitSquad	£7.99
15	2	Mega-Lo-Mania	Mirrorsoft	£25.99
16	NE	Dizzy Collection	Code Masters	£24.99
17	NE	Double Dragon 2	Tronix	£9.99
18	NE	Stunt Car Racer	Kixx	£9.99
19	20	Terminator 2	Ocean	£25.99
20	NE	Soccer Stars Compilation	Empire	£25.99

Seven new entries this month, eight climbers, six games drop and there's one non–mover. As I predicted last month WWF – Wrestlemania is the Christmas number one – sometimes I feel I've got the psychic ability of a rather psychic person. In the full-price-against-budget-games war, full price are slighty ahead with 11 games compared to the budgets' nine. Last month's number one, Shadow of the Beast, has totally disappeared from the top twenty. Mega–Lo–Mania has also suffered a big drop, falling 13 places to number 15.

New entries this month include the excellent Gamer Gold-rated Robocod by Millenium and Mindscape's Dungeon Master lookalike, Knightmare. My tip for the top is still WWF which will hold its own at the number one spot for as long as Bryan Adams did. Robocod will swim up to the number two spot. That's it for now, tune in next month, same time, same channel. See-ya, readers.

WWF – Whimsical Wombat Fanatics...



WRESTLEMANIA

OCEAN ▪ £25.99 ▪ 512k ▪ Joystick ▪ Out now

Now I can remember Saturday mornings when wrestling was on TV from some dingy town hall. Ah yes, it brings back many happy memories. Featuring great wrestlers like Big Daddy, Giant Haystacks and Fit Finlay, it has long since passed away from our screens.

Now it's back, it's bad, it's sweaty, it's most amusing and more importantly it's American. Yes, those entertainment fanatics from across the Atlantic have come up with the World Wrestling Federation – WWF for short. It's huge in the States and is speedily becoming as popular as the Turtles or the Simpsons here in good old Blighty. The only ways you can watch WWF is to own Sky television (where it's shown twice a week) or to buy one of the many WWF videos.

The WWF is made up of many wrestlers, all with their own special moves and gimmicks. For instance, The Undertaker disposes of his victims with his Tombstone move and then puts his hapless opponents into body bags. The Hitman takes care of the other wrestlers by applying his Sharpshooter hold, which basically means twisting the opponents' legs until they break off.

The Ultimate Warrior – what a nice man, shame about the make-up

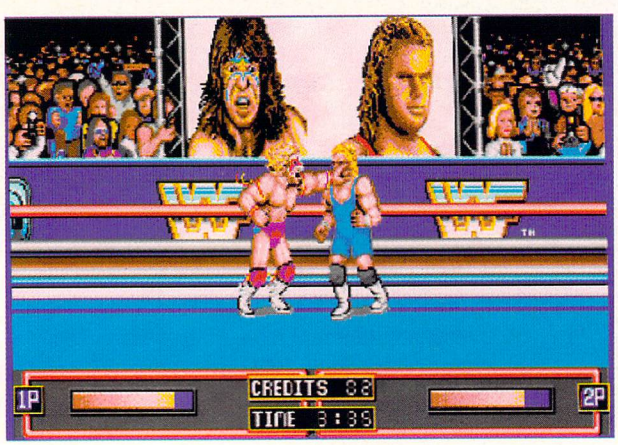
The star of the World Wrestling Federation, however, is Hulk Hogan, the original all-American hero. The guy has blonde hair, huge muscles, rips his shirt off a lot, and has won the WWF championship three times, so getting the wondrous WWF belt.

It's one-quarter wrestling and three-quarters bad acting, thus making it entertainment rather than sport. Anyone who watches the WWF regularly would probably love to jump into the square circle and go a few rounds with the Hulkster or the Million Dollar Man, and now thanks to Ocean your dreams or nightmares can come true... well almost.

Before you start the game you have to choose your wrestler. I'll take the form of a WWF announcer for this part. The first wrestler from the United Kingdom, weighing in at 276 pounds, Theee Britishhh Bulll Dogggg!!! (I can't keep this up for much longer). Theeee, oh sod it, the other two are the Ultimate Warrior and Hulk Hogan.

So you've chosen your muscle bound wrestler – now for your opponents. You face the wrestlers in the following order – Mr Perfect (who's less than perfect), The Warlord, Million Dollar Man, The Mountie (He always gets his man, ho ho) and finally the baddest of them all, Sergeant Slaughter.

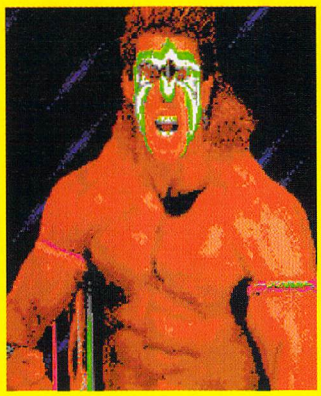
One thing you'll notice about the WWF is that everyone is so flippin' loud – the wrestlers shout their mouths off at all and sundry. As if by magic, the game also contains a lot of yelling and

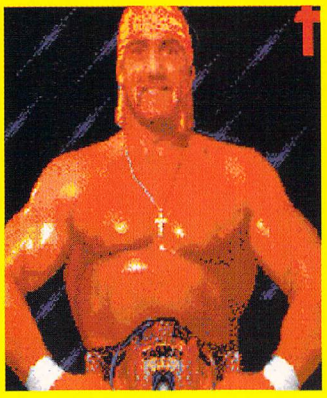


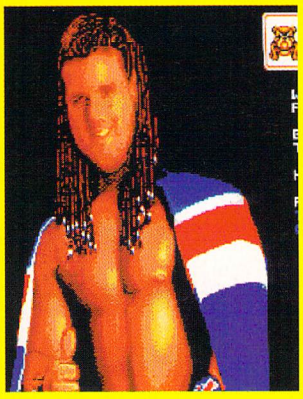
Ooh look mam, I'm on telly!

Mr Perfect covers his eyes from Warrior's ghastly purple trunks

Oh look, it's the Chippendales!





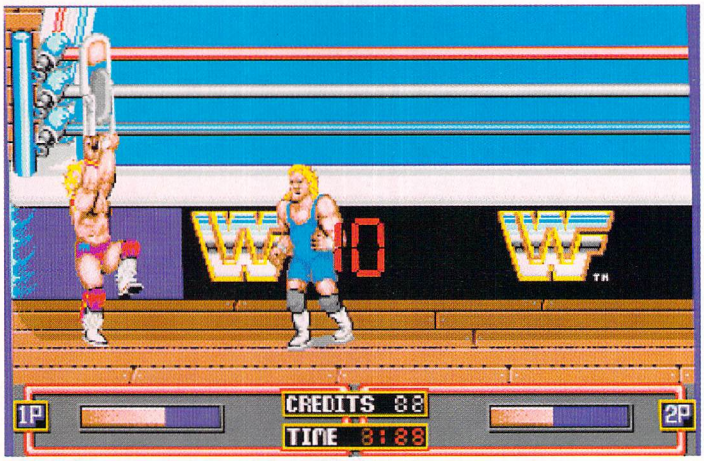


screaming. Before the start of each bout, your opponent will have the chance to say what he thinks of you and you, of course, can scream something back at him. This doesn't improve the gameplay, but it gets you in the right mood for a good scrap.

So you've chosen your wrestler, you've yelled at your opponent, now for the actual bout! Each wrestler has a strength indicator at the bottom of the screen. This strength-ometer determines how quickly you can recover from being knocked on to the canvas, or how quickly you can throw off someone who's pinning him down. Your strength is depleted when you are hit or kicked, or when you are thrown to the floor.

Each wrestler can perform several moves. These are mainly punching or kicking manoeuvres, but each individual has his own special move. To execute yours you must first be in a grapple with your opponent. Then you waggle the joystick left and right to build up your grapple strength, which is represented as a growing bar at the side of the screen. The first wrestler to make their bar reach maximum height wins the grapple. The winner then executes his special move on the other wrestler.

In true WWF style, the action doesn't just take place in the ring – you can battle outside it as well. It's here that you get the perfect opportunity to do some real damage to your opponent by banging him across the head with a steel chair, which just happens to be lying nearby.



Warrior goes mad and decides to chuck a chair around, what a larf!

Each bout lasts a maximum of five minutes. During this time the match can be won by pinning the opposing wrestler to the canvas for a count of three seconds. If there isn't an outright winner by the end of the five minutes, then the match is declared a draw and your challenge for the Wrestlemania belt is over.

If any competitor is forced out of the ring, a 20 second clock is started. The clock is reset once both wrestlers are back in the ring but, should any competitor remain out of the ring long enough for the clock to reach 20, the match is declared void, and again your challenge for the Wrestlemania belt is over. This voiding or drawing of the match can be very annoying, especially when you have got to the final wrestler and he decides to stay out of the ring.

WWF is yet another licence game from Ocean, and. the word that would sum it up perfectly is the "average".

The gameplay is really dodgy – the way that you have to waggle the joystick to get one over on your opponent is very frustrating and most of the time you get stuck in a loop of waggling the joystick, losing, getting off the canvas and immediately going into another grapple.

After doing this for a minute or so you are so knackered that you don't feel like playing the game. On the other hand, the graphics are really quite good – the wrestlers look like their real-life counterparts and little touches like the video screen and the way the ropes "boing" after someone bounces off them really improve the look of the game.

As for the sound, need I say more than "the ST sound chip"? This time it's really bad. Punches and kicks sound like someone shaking a Pot Noodle before you add the water and spicy curry sauce. A few sampled grunts and groans wouldn't have gone a miss, either.

Oh well. If you're a true WWF fan then you'll probably buy this game along with your Hulk Hogan fluffy slippers and Mr Perfect duvet and pillowcase, but the rest of us would be better off buying a decent beat-'em-up or saving the money for a WWF video.

If Ocean had maybe spent a little more time on the gameplay, they would have had a classic on their hands. As it stands though, the message is: "Don't believe the hype."

Jonathan

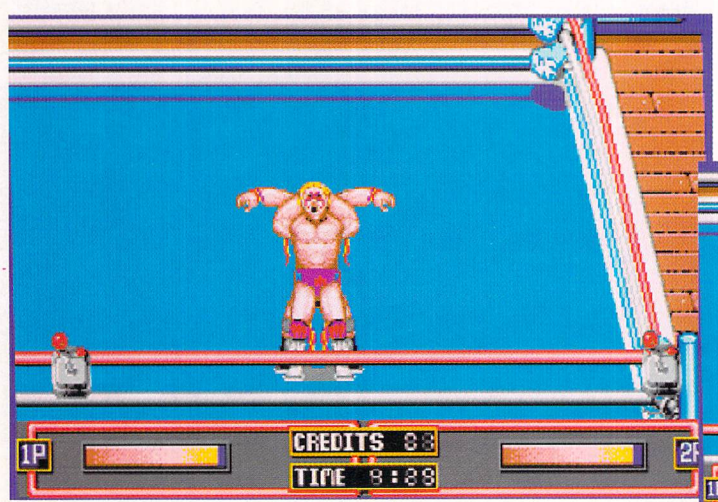
VISION
Good graphics which are a strong point.

AUDIO
Awful sound FX plus an equally disgusting soundtrack.

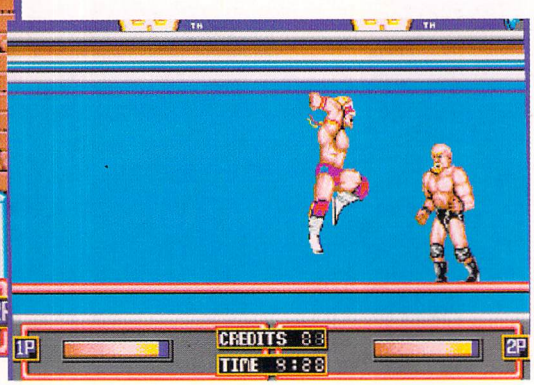
PLAYABILITY
A bit more work was needed here, me thinks.

ADDICTION
Will only appeal in the long run to WWF fans.

75%



Ooer missus, naughty goings on in the squared circle



I was as bald as a coot before I found Hair-o-Grow. Here try it, Warlord

Will you look at these prices, it's ...

DAYLIGHT ROBBERY

ELECTRONIC ZOO ▪ £19.99 ▪ 512k ▪ Joystick ▪ Out now

My knowledge of robberies isn't very extensive, being the good, clean chappie that I am. The only robbery that springs to mind is the great train robbery and that crappy Buster film starring pop star wrinkly Phil Collins.

Wait a minute, I know more than this. What about Hudson Hawk starring bald funster Bruce Willis as a jewel thief, or The Italian Job starring Michael "Not many people know that" Caine and Benny Hill? All I can remember about The Italian Job is that it featured three daring little minis and that Benny Hill spent three-quarters of the film with his head stuck in some woman's cleavage.

Enough of this foolish babbling, why oh why am I going on about robberies? Well it just so happens that the 'Zoo have a brand new puzzle game out called Daylight Robbery.

I don't think weird is exactly the word to describe it, but maybe it is, along with infuriating, and ermm... yes, I'll settle on infuriating and weird.

This might be a puzzle game, but it could easily be a platform game with a puzzle game inside it, or maybe a puzzle game with a platform game inside it. I told you it was weird! The objective is a titchy bit unusual, too. You're part of an animal gang who go around stealing gems from various places. The only thing that's against you is the clock. Simple? Not on your nelly! Not only is the game a race against time, but all the gems are colour-coded and must be collected in the right order.

What is fascinating about Daylight Robbery is that it can actually be a three-player game! You can choose which animal tea-leaf you want to be, between Morris Mole, Kitty Cat and Dennis Dog (But where's Tommy Turtle and Frederick the Fantastic Flying Fruit-bat?). What the game doesn't have is a sense of gravity! I told you, I bloomin' well told you it was weird, but did you listen? Noooo. Yes, as I was saying, there's no sense of gravity and with a simple press of the Fire button your dog/cat/mole will do a quite astounding triple back-flip and hurtle towards the top of the screen or to the bottom of a platform, depending on where your dog/cat/mole is standing.

Also trundling around most of the levels are some nasty little meanies. These tiny terrors include Mummies, Tick–Tocks, Ding–Dongs and Driller Killers (yikes, run for them thar hills).

If you come into contact with any of these mischievous meanies, several different fates may befall you, including losing lives and time. On the other hand, there are little drillers who will actually help you to collect the gems, which are particularly useful for getting into small areas where you can't reach – rather like a Vileda supermop. That's the idea of the game, but what is it actually like? The graphics aren't wonderful, but they serve their purpose. On the sound front there is a jolly intro' tune and average sound effects. It's generally quite nice – although it hasn't got the depth of Lemmings, it still has those levels that'll have you tearing out your hair.

Daylight Robbery isn't going to set the world of software alight, but it's good little game that you might want to come back to after you've finished blasting aliens and beating the crap out of end-of-level baddies.

Jonathan

Oh what a feeling, when I'm dancing on the ceiling...

Somehow I have to make a final breakthrough now

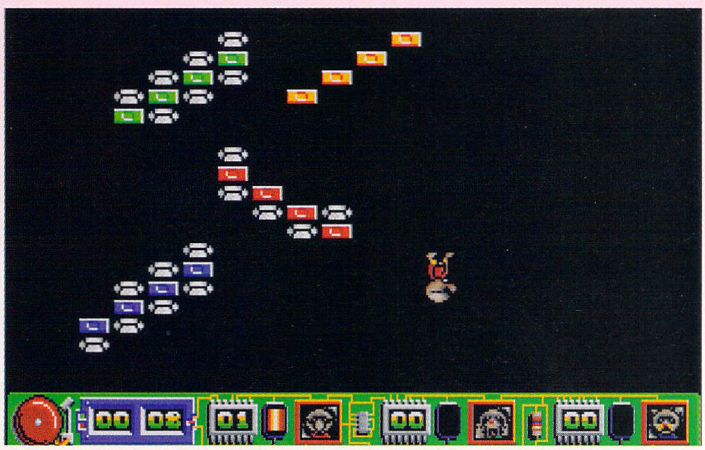
VISION
GGG
Average graphics, but they don't affect the gameplay.

AUDIO
GGG
Jolly little intro' tune with suitable sound FX.

PLAYABILITY
GGG
A nice little game, the very simple gameplay making it easy to play.

ADDICTION
GGG
One of those games you might come wandering back to.j1

65%



Aaaaarrrrgggghhhh!!!!

Ian Botham's CRICKET

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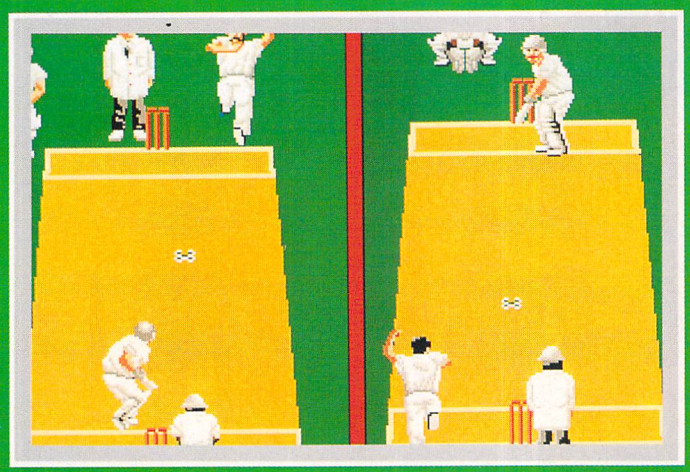
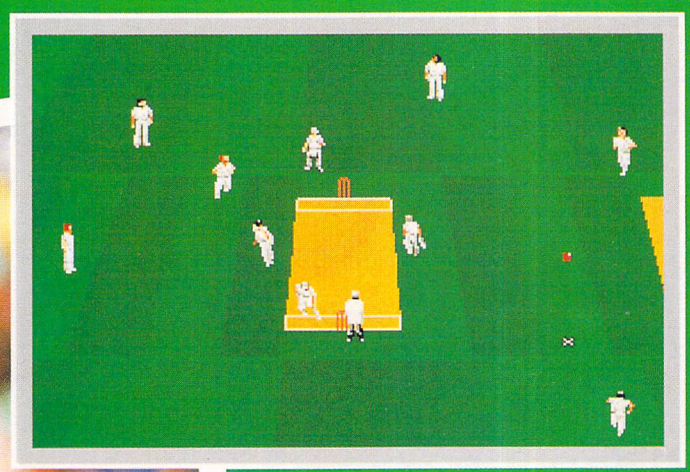
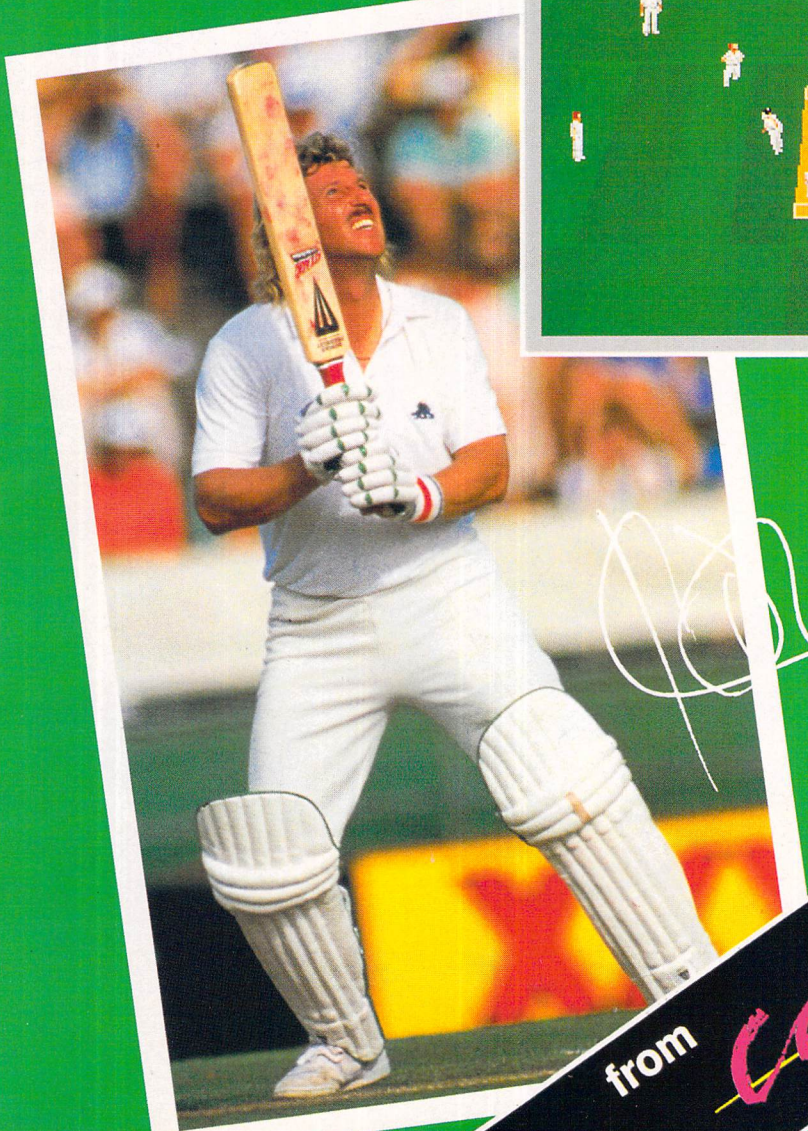
No two matches ever the same!







CRICKET

from Celebrity SOFTWARE

Celebrity Software International Ltd
Lonsdale House, Woodland Park
Colwyn Bay, LL29 7HA
Tel: 0492 531830
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He's back to protect the innocent, uphold the law, serve the public. He's part-man, part-machine and part-toaster! Yes, metal-head is here again and this time he's sort of a square shape. Confused? Well let me explain...

Ocean have departed from the normal platform japery that you found in Robocops 1 and 2 and gone for that vector-ish look (apparently the "in thing" for this year). What is very strange is that this is a film conversion of a film that isn't even out yet!

The game was created and developed by Digital Image Design, which explains the vectors, because those lovely people are also responsible for Ocean's only flight sim and vectors-a-plenty release, F-29 Retaliator.

As to the plot – are you sitting comfortably? Well let me begin. It has been six months since the announcement of the Delta City project. OCP are now in a desperate situation as they stand to lose billions of dollars if work does not commence within the week.

The citizens of Old Detroit have been reluctant to move from their homes, so OCP has hired a special army group called The Rehabs. They are urban rehabilitation officers, who are routing people from their homes. Robocop is drawn into a battle against the authorities as the construction of Delta City moves ever closer. Yes, I know it sounds worse than a plot from Emmerdale Farm, but it wasn't my idea!

In Robocop 3 you get a choice of two games – the movie adventure or the arcade game. If you choose the movie adventure you have to complete the whole game from start to finish. On the other hand, if you choose the arcade game you can select which part you wish to conquer. The latter option is ideal for practising parts you're having trouble with in the whole.

I suppose you're all wondering what these parts of the game actually are? Well I'm coming to that bit, so calm yourselves down. Once you've inserted your security key into the joystick port and the game has loaded up, you are presented with "Mediabreak News" starring Casey Wong (a sort of cross between Jackie Chan and Nicholas Witchell) and Jess Perkins (ditto Sam Fox and Carol Barnes). Mediabreak News shows you the night's headlines, each being a different section of the game. Select a headline by stabbing at a function key and away you go.

The section at the top of the list is a shooty bit, so a quick press of F1 and I'm instantly transported to OCP Towers and a world of vector violence.

Here we have a teeny-weeny crisis. The tower is in the hands of a terrorist faction who are holding the executives hostage for a billion dollar ransom. Of course, nobody plans on paying this humungous fee, so our friendly neighbourhood Robocop must penetrate the tower and destroy all the terrorists.

I have constructed a poem to describe this section perfectly. Ahem –

Lordy me,
Oh what fun killing can be!
When you have a body made out of metal,
You can do really good impressions of a kettle.
Verily when Robo... (Cut! Gamer is a reputable magazine and must not contain any poetry – Ed)

To be serious for a second, Robocop 3 is really violent and thus one of the bestest games ever. It's certainly one to give Mary Whitehouse a very serious heart attack.

This section is sort of like a virtual reality Operation Wolf. There is a moody and depressing soundtrack thumping along while you wander round the building. Combine the soundtrack with the stonking machine gun sounds and you can almost feel like you're actually there.

It's a bit like the Die Hard movies where John McClaine wanders around blowing peoples brains out in order to get home for Christmas. Most enjoyable.

When you've had enough of wasting terrorists and hostages alike, you can try another section. Hmm, let's have a look and see. Fighty bit? Naaah. Driving bit? Noooo. What's left? Ah-ha! The flying bit. Hoorah! Let's take to the skies. Those magnificent men in their flying titanium shells!

A flying Robocop, how can it be? Well because technology is moving so fast these

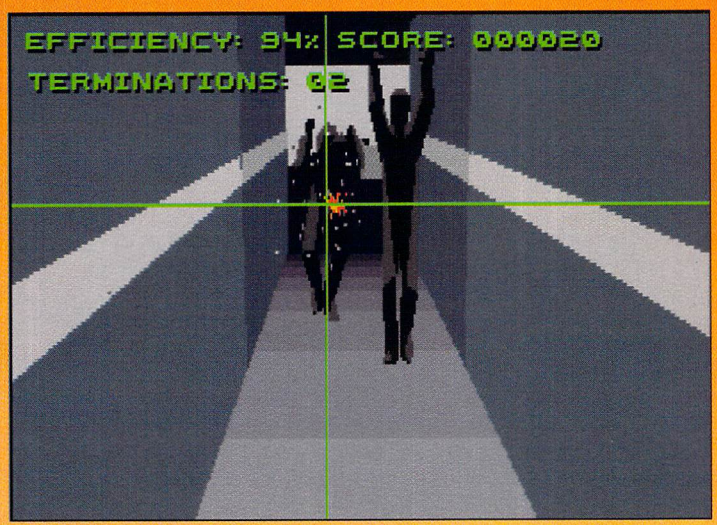
Metal Mickey strikes back for a third time..

ROBOCOP 3™

OCEAN ▪ £25.99 ▪ 512k ▪ Joystick/mouse ▪ Out now

You are cleared for take off... over and out

It's a shootout at the OK Corral!



Boom... you're dead!

days, Robocop now owns a Gyropack. Certain shades of F-29 Retaliator come out while playing this section, which isn't that surprising.

Robocop's mission is to blow up as many tanks, helicopter gunships and ED-209s as possible without dying. Hooray – more death and destruction, I love this game.

The flying section is quite difficult because in order to hit the land-based ED-209s and tanks you have to be at quite a low altitude, and if you go too low you tend to end up smashing yourself up. Having said that, the atmosphere that the game creates while you are flying low in and around the buildings is magnificent. Next up on Robo's list of missions is the driving section where he drives around smashing up his car and – more importantly – everybody else's. This section is also very atmospheric with yet another moody soundtrack playing in the background.

In the movie adventure you have to meet up with Officer Lewis (that woman from the first two movies – Kind and all-knowing Ed) who is in a spot of bother, but in the arcade action part of the game you have to roam around in your Robomobile looking for perps and crooks to arrest. To help you in both these quests is a map – built in to your car – to guide you around the city.

Your last and most important mission is to fight a deadly ninja robot which was built by Kanemetsu Industries, who are keen to impress its superior combat facilities on the world. The ninja robot is called Otomo and is clad in some delightful black vectors, complete with a thrusting ninja sword. He's a sort of black and vectory Bruce Lee.

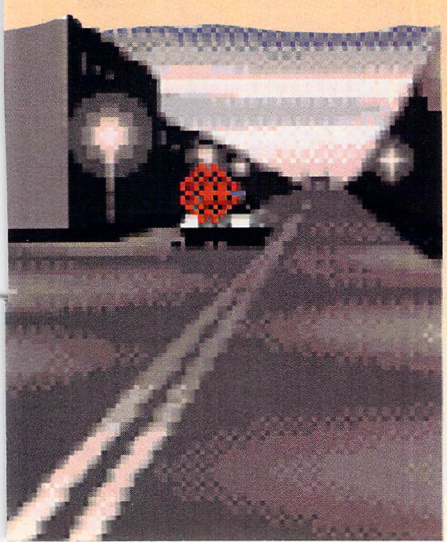
This is the hardest mission and it'll take you a while before you inflict any damage on Otomo – my advice is to persevere.

Robocop 3 is a massive game with lots to do and see. For violence and atmosphere it gets ten out of ten. Even though almost everything is in vector graphics, it is easy to see what things are, due to the high quality of the images. The static graphic screens are also beautifully drawn and the artist should get a huge pat on the back (Moo! – Ed).

The excellent gameplay is a very big plus point. The sound is incredible, with suitable booms and bangs, as well as eerie and spooky music which adds lots of atmosphere to the game.

Overall, this is much better than its predecessors, and the vectors work a treat. Violence, atmosphere, great graphics, brilliant sound – what more could a games-player ask for? As Bill and Ted would say, "Excellent!". As Dan and I would say, "Bloody brilliant!".

Jonathan



VISION
GGGG
Beautiful graphics and good, moody colours.

AUDIO
GGGG
Atmospheric soundtrack with good sound FX.

PLAYABILITY
GGGGG
This is undoubtably the best thing in Robocop 3. Excellent.

ADDICTION
GGGG
It'll keep you going for days, months, years, decades...

90%

Robocop shuns claims that he's now in a desk job...

The politics of toy dolls discussed in...

BARBARIAN 2

PSYGNOSIS ▪ £25.99 ▪ 512k ▪ Joystick ▪ Out now

Barbie. I hate her. I mean, did you know that if she was a real woman she wouldn't be able to balance properly? Her ludicrously large bumps and bulges mean that she's completely top heavy. Stupid or what? All those poor little girls growing up thinking that they're deformed if they don't have 80 inch boobs. And she goes skiing, and owns a pony, and a Land Rover, as well as her infamous luxury bubble palace with glitter gown and spangly bracelet.

Let's face it kids, Barbie is a fascist. She just doesn't care two jots for us poor, normal people. She sits there and smirks at you with a smug plastic smile painted on her bleached head. I really hate her. As a result, I always felt a bit sorry for Sindy. For one thing, she never had a boyfriend. Barbie (spit) had that bloke out of Bros, Ken, but Sindy was always alone.

Oh, hang about. I tell a lie. she did have a boyfriend. But he was bobbins and no–one bought him. No, I'm afraid the closest poor old Sindy ever got to true love was when little brother snuck into little sister's room and, ahem, "experimented" with his Action Man.

And as if to rub salt in the wound, someone saw fit to curse Sindy with the stupidest rubbery ankles in toy town. They bent all over the place. I spent many a happy hour laughing as my sister tried to get her Sindy to stand up in high heels. Just when she thought she'd got the poor lass balanced – BOING! – the rubber ankles went all skewiff and down went Sinders. Hardy har har har.

Ooh dear. You want to get a good hot meal down you. You'll waste away...

A loincloth-testing moment from the forest stage

Luckily, this is not the case for another sort of Barbie, our old pal Hegor (talk about tenuous links, eh?). After giving his wicked uncle, Necron, a right good "doing over" in the original Barbarian game, he's now required to do it all again, 'cos Unc's back and this time he's a demon from the netherworld. Or something like that.

Either way, Hegor decides that it's a perfectly good reason to stomp around various landscapes and wave his chopper in a dangerous and possibly offensive way. And so he does. He's that kind of impulsive guy.

The beefy quest takes our bulging and rippling hero through a not–so–peaceful forest, the aptly named Caves of No Hope, the rather helpful village of Thelston, the castle, the dungeon and finally Necron's final showdown-type lair. Each of the levels involves Hegor leaping and running around picking up gold and weapons and using them to further his quest. There are many locked doors and although keys can be found, they're usually well guarded. Obviously, being of abnormal muscular maturity, Hegor likes nothing better than a punch up. At first he'll have nowt but his fists to fight with, but you can pick up and use swords, crossbows and even grappling hooks to deal with the multitude of baddies that face him.

The baddies range from the fairly normal, such as soldiers, thieves and villagers, to the exceedingly spooky, like the werewolves, mutants, dinosaurs and gryphons. All can be dispatched with some nifty swordplay, or even an arrow through the heart. Once you've "marked their cards" they'll leave behind some goodies for you to nick. Bags of gold are the most common, although if you're lucky you can get a magic potion to give your sword extra wallop.

So, a six level platform/beat–'em–up affair is the order of the day, and quite a nice effort it is too. The graphics are smooth and colourful, with enough humour to keep it from being yet another lame-brain loincloth escapade, and the gameplay is along the lines of such ancient Speccy games as Sabre Wulf and Robin O' the Wood.

It's here, in this 8-bit game style, that the game's only real downfall lies. For a lot of the time you tend to feel like you're going around in circles. Even the relatively small forest section is marred by unneccesarily bizarre geography. You can sometimes arrive at the same screen by going either way at a junction. Once you know your way about then you can make short work of it, but the same problem crops up throughout the game and causes a lot of frustrated trudging through numerous screens that you swear you've seen before.

Of course, this means that when you do progress it's all the more rewarding. Each level has its own quirks and tactics so it's not a case of ploughing through yet more of the same. There's a Save Game feature too, so you needn't try and remember what routes to take.

All in all, an above average game. It's pleasant to look at, and although the sound is dross, it's well presented. The gameplay harks back to the olden days when all computer games were sprawling epics and you could still buy a semi-detached house for two and sixpence, which might be a plus or a minus depending on your taste. Me, I liked it, but I can't see myself playing it every waking hour. I prefer Sindy and Action Man...

Daniel

Barbie legs it in fright from a spooky jelly sort of thing

VISION
GGGG
Plenty of Barbarian clichés, and another nice intro.

AUDIO
GG
Oh dear. Bleeps, whistles and crunches.

PLAYABILITY
GGG
Dated game design, but rewarding given time.

ADDICTION
GGG
Perhaps too frustrating for long term appeal.

75%

A320

A·I·R·B·U·S

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Computer conflict

the source

Wargames are often dismissed as painfully slow simulations with an enormous amount of boring detail. Nothing could be further from the truth, especially when an ST is involved...

Just saying the word "wargame" can be a big turn-off for many people, conjuring up images of huge board games with thousands of counters and thick rule books. To others, wargames represent the "intellectual" side of games playing. They may not be visually as stunning as the latest coin-op conversion but to a growing population of ST enthusiasts, wargames are where it's at.

Wargames use counters on a map or model soldiers on a sculpted terrain in order to reproduce the warfare of a given historical epoch. Few wargamers actually try to reproduce battles so that the end result is the same – it is the "what if?" element that appeals most.

What if Blucher's Prussians had not arrived to support Wellington at Waterloo? What if Hitler's Panzers had been released to attack the Allied soldiers storming ashore on D-Day? We'll never know – but it is fun finding out.

The earliest commercially produced games contained maps with superimposed square or hexagonal grids and several hundred cardboard counters representing the units involved. Such games are still popular today and the latest generation of board games, typified by Avalon Hill's Squad Leader series, makes it possible to recreate any platoon, company or battalion-sized action of World War 2 with incredibly detailed rules.

CCS's Frontline is based heavily on the Squad Leader system and is worth a look for those who have tried Squad Leader. Players can take either side in a battle and control squads and their all-important leaders. The game follows the system quite accurately and is extremely playable and easy to get in to.

Some of the flavour of the original is lost, however, by the computer making too many calculations and decisions without the player seeing. This is one of the most common criticisms of computer wargaming – to many wargamers, the fun is in calculating the number of casualties inflicted per volley of musket fire or the morale of a unit that has just been charged by cavalry. On a larger scale, Blitzkrieg and Afrika Korps are two World War 2 simulations from Impressions which also keep to the traditional method of playing wargames.

Frontline – a small scale wargame simulating the tactics of squads and their individual leaders in WW2

The units, representing divisions, are shown on the map as if they were counters and the schematic plan is bold and simple. Gameplay is excellent, some of the best I have seen on any computer, and a novice wargamer can be up and battling within minutes.

The player controls either the Axis or Allied sides and orders are given to individual armies rather than to each constituent division-sized unit. Objectives and flank can be dictated to each army and the army can then be told to attack, defend or use its initiative.

The games are fully mouse controlled and quite fast to play, in contrast to many other historical simulations which can involve several minutes of inactivity as the computer churns through the complex calculations involved.

Another board-game style simulation is the popular Universal Military Simulator 2 from MicroProse. This takes an even wider scale, being concerned with warfare from the highest level, including politics and global strategy, down to smaller units battling it out on the ground. There is nothing quite like UMS 2 for depth of play and long-lasting appeal.

The other style of wargame is the miniature game. Here the emphasis is on visual realism and a pleasing overall effect, using scenery and painted terrain boards. The sight of a table covered in finely detailed and colourful model soldiers can be an enthralling sight, adding to the appeal of the hobby. Several computer simulations have used this visual approach to good effect.

There are two popular systems on the market – the first, from Impressions, is almost a simulation of a miniature wargame. The units are represented by animated soldiers which respond to orders by walking or charging and the battle is fought in real time.

The high standard of graphics and the playability of the games themselves has proved a winner for the UK company, whose first game, Rorke's Drift was a best seller. They followed it up with Cohort (set in the days of the Roman empire), Charge of the Light Brigade and Fort Apache. The latter is an interesting variation of the others as there are at the most 45 men to command – a true small scale, skirmish-type wargame.

On a grander scale, the second system is Dr Peter Turcan's Battlescape series of wargames which started with Borodino and now covers Waterloo, Austerlitz, Gettysburg and the Armada. These games have probably done ➤

The German Panzers are about to break through the Ardennes – I ought to have known they'd try it again!

the source

Where to get them

You're unlikely to see the full range of what's available by popping down to your local games shop. Computer games stores tend to stock the fast-selling titles such as the latest arcade hit or adventure. Computer wargames, however, sell much more slowly and in lower numbers. The shelf life of a wargame is often higher, but that doesn't impress a high street games supplier who relies on speed of turnover to make a living.

The UK's largest supplier of wargames is Impressions, with a string of excellent games to their credit, including Afrika Korps, Blitzkrieg/May1940, Rorke's Drift, Charge of the Light Brigade, Cohort and the very latest, Fort Apache. Contact Impressions on 071-351 2133.

Atari themselves now market and support the newer titles in the Battlescape range, including Armada, Borodino and Gettysburg. There are rumours of new additions on the way. Atari UK can be contacted on 0753 533344. Other games in the series, Austerlitz and Waterloo, are also available from PSS (071-928 1454).

Cases Computer Simulations are another UK company responsible for a number of ST wargames including Ancient Battles as well as World War 2 games such as Frontline, Overlord and Vulcan. CCS can be contacted on 081-558 5274.

MicroProse (0666 504326) have some wargames titles in their current catalogue, including Universal Military Simulator II and the simulation, M1 Tank Platoon. Strategic Simulations Inc, better known as SSI, is now part of games giant US Gold and its titles, Red Lightning, Colonial Conquest and the Wargame Construction Set are available from US Gold on 021-625 3366.

At the opposite end of the scale to US Gold, a small specialist company, Strategy Software of 32 Albert Street, Seaham, Co Durham, provide a World War 2 global simulation – Europe at War – and Fields of Fire, a First World War variant which uses the same game system.

The list would not be complete without mention of Simulations Canada, the largest individual supplier of wargames for the ST. The company has 15 or more titles, mainly 20th century scenarios such as Rommel at El Alamein, Stalingrad Campaign, Golan Front and Kriegsmarine. Unfortunately the games have to be imported into the UK and are only available through specialist suppliers.

If you're after one of these games or can't find one of the others mentioned try Computer Adventure World in Birkenhead (051-666 1132) or Strategic Plus Software in London (081-977 8088). Both have extensive catalogues devoted to computer wargames and simulations for other machines as well as the ST.

more for ST wargaming than any others – the 3D battlefields stretching to the horizon, scattered with brightly coloured cavalry, artillery and infantry units, are well known to all ST users, particularly as Borodino was bundled with some STs a year or so ago.

The attraction of this system is the sense of isolation as the army commander sends out orders not even knowing if they will reach the intended recipient or be acted on if they do. The delay between order and action can be very frustrating – a prime opportunity to thrust a heavy cavalry brigade through a breach can rarely be seized as the chain of command is laborious to say the least. On the other hand, that is what it must have been like – and there can be no better accolade for a historical simulation.

The future of computer wargaming looks bright – new and exciting titles are on the horizon as I write – but it is the development of the wargame into a new genre of simulation that I look forward to most. Best sellers such as MicroProse's M1 Tank Platoon are certainly exciting action games but beneath the surface is a complex simulation of small unit armoured tactics – a tactical level wargame which doesn't put the player in a God-like position above the battlefield, rather right where the action is.

A panoramic view of a battle – as seen by an army commander. These battlescape games have an atmosphere all of their own

UMS2 is one of the most complex wargaming systems available on the ST – although it comes with three standard scenarios, more are expected soon

If games such as these can be expanded to cover wider battlefields and more units, while maintaining the quality of graphics and the superb arcade element, then the myth that wargaming is a boring hobby must surely be banished forever. Finally, whether you are a wargames enthusiast or whether you would just like to know more about the games that are available and new ones as they are released, there is a dedicated fanzine for ST wargamers. Hidden Movement is a quarterly publication produced by Peter Raeburn, and the Winter issue runs to 26 sides of A4 paper. It contains news and reviews specific to wargames and is available by subscription only. Anyone interested should write to Hidden Movement, 360 Windmill Road, Ealing, London W5 4UR.

The origins of wargaming

Wargaming's roots go back years to the earliest days of warfare. Battle plans would be drawn out on crude maps with markers representing the various units being deployed. In the 18th century, even more complicated versions were devised, with gridded maps and counters representing troop types and formations and detailed rules for movement, firing and hand-to-hand combat. These "games" became increasingly popular with the military for training junior officers.

Since then they have played a vital role in military planning and tactics – Hitler's invasion of Europe was extensively playtested using specially devised wargames pitting the Nazi forces against every conceivable Allied defence.

In the 60s, wargaming became more widely popular. US companies such as Avalon Hill and SPI introduced board wargames covering many periods of warfare from ancient to modern, many of which have become minor classics. At the same time the popularity of plastic models such as those sold by Airfix led to the introduction of wargame rules for miniature soldiers, one of the most colourful aspects of the wargaming hobby.

With the advent of powerful computers such as the ST, the way was open for computer versions in which the computer could actually play the game as well as record the detailed information and statistics. For the first time, wargamers could play against an opponent wherever and whenever they wanted!

Take a side step to your left, Colin...

KNIGHTMARE

Mindscape ▪ £30.99 ▪ 512k ▪ Mouse ▪ Out now

Now when this game came into our office, half of me was thinking "At last a game to give Dungeon Master a good kicking" and the other half was thinking "Wait a minute, isn't Knightmare that crap kids' programme on ITV?"

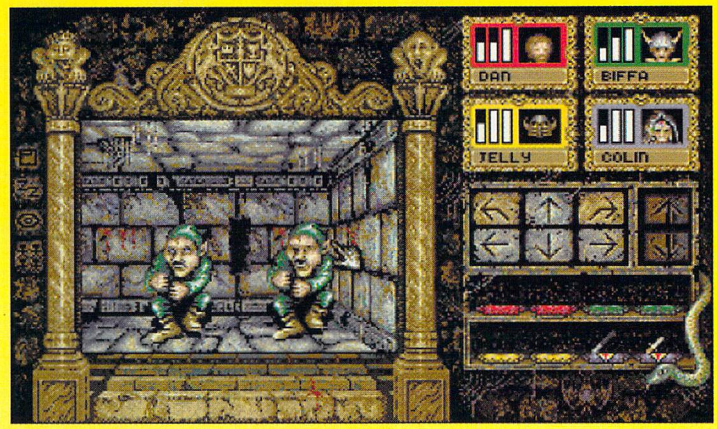
Knightmare is that terrible show where they get four kids and blindfold one of them by sticking a massive helmet on top of his/her head (this normally happens to the smallest who is always called Colin or Jeremy).

The other three kids get the chance to kill Colin by telling him to walk around a computer-generated world into traps and clutches of giants, witches, trolls etc, etc. The three kids aren't supposed to kill him, but most of them couldn't find their way out of Woolworths, never mind a dungeon plagued with goblins and giants.

Yes, the normal team line-up on Knightmare includes Colin, our intrepid blind adventurer; David, the only kid who has any adventuring experience, and playing The Hobbit on his Spectrum doesn't really count anyway; Susan, whose idea of a good time is listening to Jason Donovan records and who hasn't a clue which planet she is on, let alone succeeding at Knightmare, and Gary, who'd rather go and watch Crystal Palace instead of playing the game. He finds programmes like This Is Your Life interesting and full of humorous anecdotes.

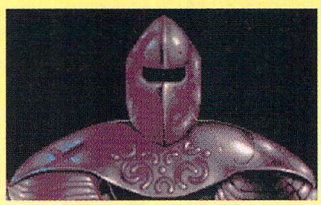
To make up the rest of the team there are the presenters and errr, welll, uumghrtt, hmmmf, sorry, I'm trying to stop myself laughing. Hold on a minute... Right, I'm OK now. The main man is called Treguard who looks uncannily like a slim Brian Blessed.

Treguard's little helper – who's not one bit of help at all – has the really depressing name of Pickle. Yes, Pickle really is in a bit of a pickle. He looks like Robin Hood but with wispy blonde hair, pointy ears and painted on freckles. But to the game! You have to define your four team members by typing in their names and deciding their professions (Adventurer, Gladiator, Samurai, Wizard, Priest or Genie) and breeds (Man, Woman, Goblin, Ogre, Ghoul, Elf, Troll or Insectole).



Will you just look at the size of those ears!

After you have filled in all the gubbins about your team, it's time to start playing. Knightmare can be controlled with the mouse on its own, or a combination of mouse and keyboard. I found that it was a lot faster and easier to move your character around using the keyboard.



My first impression of Knightmare was that it doesn't half look like Captive. Well, fact fans, it just so happens that Tony Crowther, who did the excellent Captive, also – shock, horror – did Knightmare.

You start the game in the forest outside the dungeons. This terrible place hides killer bunny rabbits, mischievous elves and a big beastie which is undescribable. The control method for fighting these awful creatures isn't quite the easiest in the world. You have to click your right mouse button on one of the hand icons and this will drop a scroll down from which you can choose whether to punch or kick. You then click with the right button again to activate the desired effect.

In the middle of a battle this is a bit confusing, but you will get used to it. Once you are inside the dungeon things really get going and to be honest it is as good as Dungeon Master. Treguard and Pickle give you friendly advice along the way, but tend to just state the obvious. But good weapons in Knightmare are few and far between.

For instance, I was wandering around the dungeon looking for a decent aggressive implement when lo and behold I spotted what looked like a sword. Imagine my dismay when I picked it up and Pickle kindly informed me that it was actually a penknife!

The game has four quests, so it will keep you going for ages. I haven't managed to complete the first quest yet – it's been a long time since I've played Dungeon Master.

Overall Knightmare is a really good game. It has astounding graphics which lend it a great atmosphere. The sound is adequate, with suitable swishes, grunts and thumps. The level of difficulty is set quite hard, so beginners watch out – you will be frustrated (I was).

If you loved games like Captive, Dungeon Master and their ilk, then no doubt you'll have already got your coat on to rush down the shops. Forget title "Knightmare" – think of the game more as a Dungeon Master for the 90s.

Jonathan

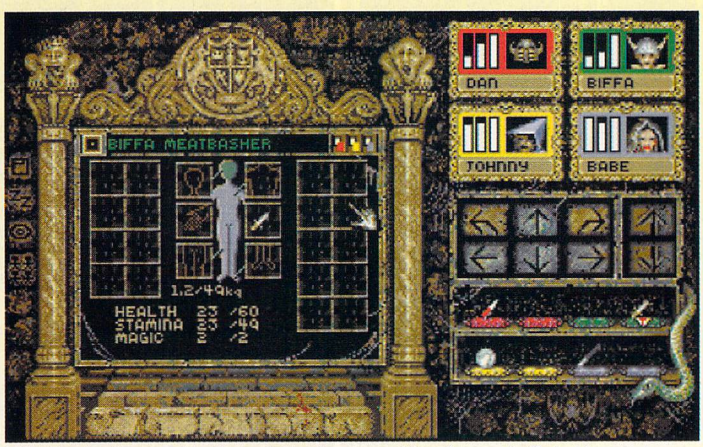
VISION
GGGG
Wonderfully detailed graphics that give the game atmosphere.

AUDIO
GG
Adequate sound effects with a great rendition of the Knightmare theme music.

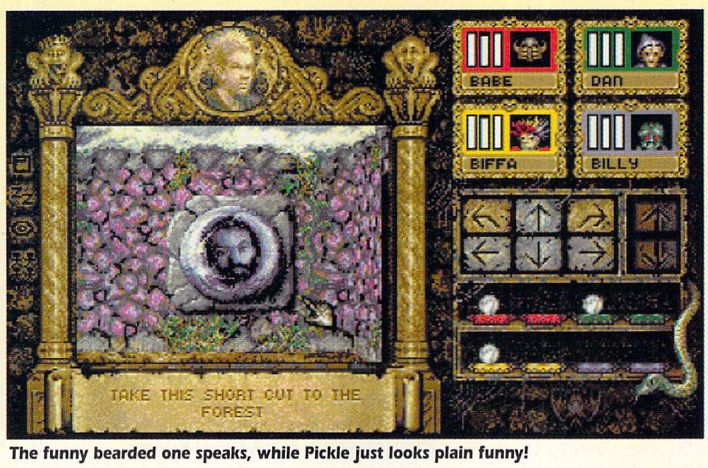
PLAYABILITY
GGG
The game uses a simple but effective control method making it easy to play.

ADDICTION
GGGG
Not a game for the beginner, but for those Dungeon Master fanatics it will give you sleepless nights.

88%



Biffa Meatbasher wanders through the dungeon with only a penknife to his name!



The funny bearded one speaks, while Pickle just looks plain funny!

Anything for a fast buck...

MERCENARY III

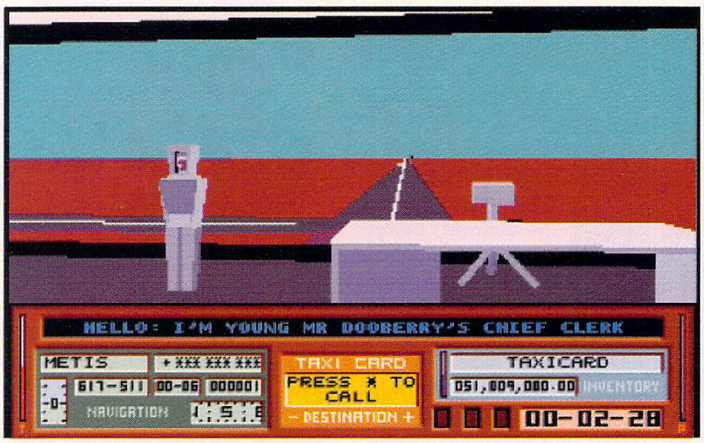
NOVAGEN ▪ £29.99 ▪ 512k ▪ Joystick ▪ Out now

You know what I think of the people who live in the Gamma system? I'll tell you. They're a bunch of ungrateful camel spankers. Every last one of them. Thankless lizard baiters. Lowdown cheating giraffe wobblers, whatever one of those is.

And do you know why? Because after saving the entire system from oblivion in Mercenary II, they rewarded our hapless merc by bunging him in a timewarp prison. Makes your blood boil, doesn't it? Scumbags.

So, when they finally let you out again, guess what they ask you to do? Help them out, that's what. The nerve of it all. It seems that a sinister Mr P C Bil has risen to power and is on the verge of being elected Supreme Big Cheese of the entire cosmiverse (and Denmark). If this happens he'll use his new found political muscle to get away with all sorts of underhand shenanigans. So, fellow mercenarers, all you have to do is to scupper his plans one way or another.

There are several ways to throw a spanner in the works, as there always are in these vast exploring-type games. The game rather handily comes with a hint pack that contains much advice on the ways to win. The most obvious solution is to become a presidential candidate yourself and get elected instead of Bil. This involves signing on as a candidate, organising your campaign and then waiting for the people to choose. However, life in the public eye means that you must keep your nose clean and follow the election rules or you'll be disqualified.



It's not all work, work, work y'know...

It's a pity that Bil doesn't have the same sense of fair play, really. He'll constantly try to ruin your reputation, and even try to tempt you into a life of rock and roll gambling on his casino planet, Bacchus. The fiend.

This is the easiest route to success, and others involve much more subtle planning and strategy. How about sabotaging his mining operations, bankrupting his casino, locking him in a specially-built prison or taking on his fleet of combat craft and shooting your way to victory?

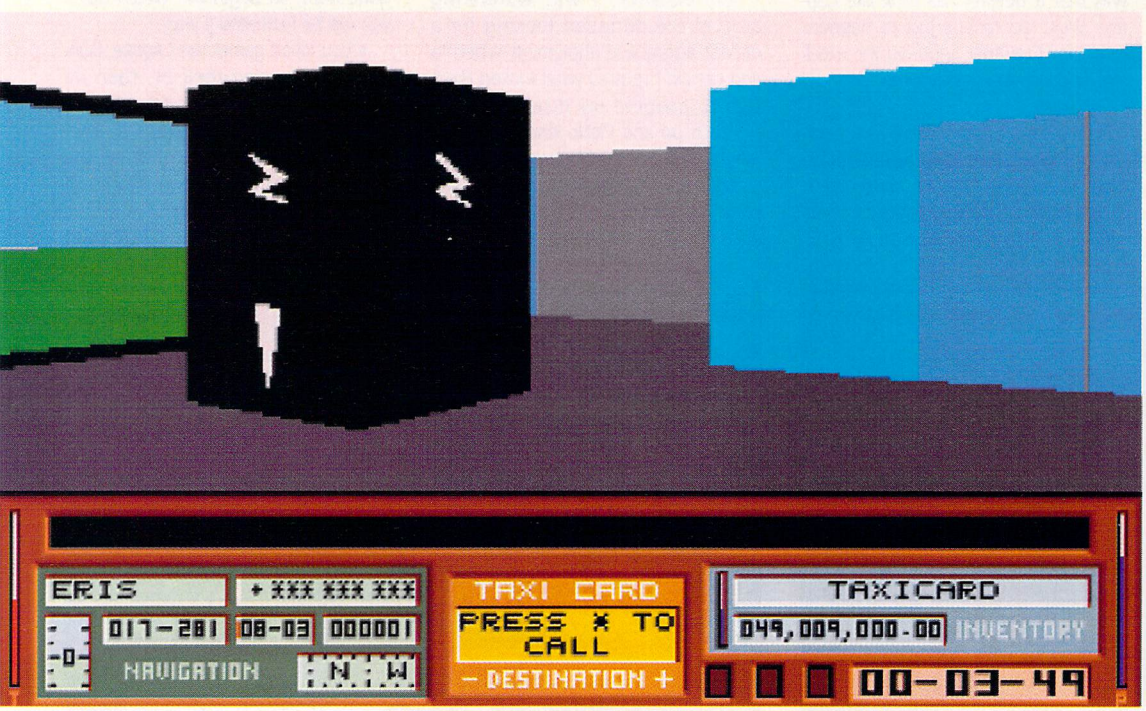
There's also a secret solution that only the cleverest players will discover, and it's this one that will shower you with the fruitiest dividends. And I've no idea what it is.

As in Damocles (Mercenary II, fact fans), you have complete freedom of movement around the Gamma system and all its planets, moons and outside lavvies. The big switcharoo here is that while you were twiddling your thumbs in the clink, they installed a mighty handy public transport system on most of the planets.

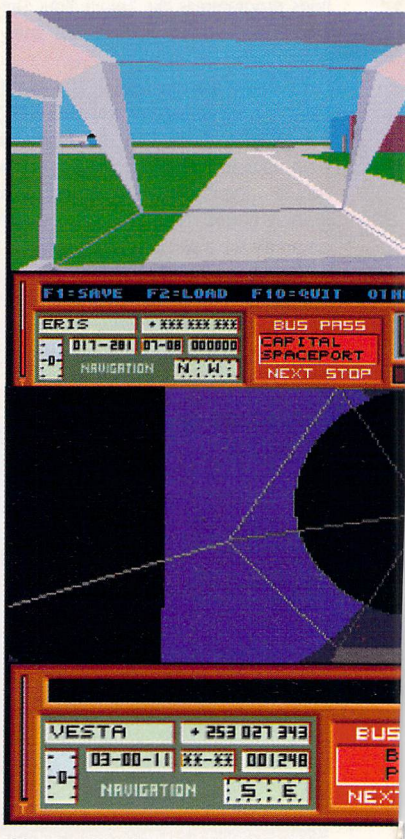
These incorporate taxis, hire cars, buses, InterCity shuttle flights and planet-to-planet space cruises. Oh, and as in Damocles, there's a transporter system that zaps you from one planet to the next in the blink of an eye. All you have to do is find it...

All of this means that finding key locations is a lot easier, as the public transport doesn't bother stopping at useless empty buildings. Well, most of the time anyway. It also means that going from one planet or island to the next is a doddle, whereas in Damocles it was an absolute bugger. So straight from the word go, it's easy to pick up the clues and get on with the task at hand.

And there's another advantage to



You have entered a dimension, not just of sight and sound, but of mind...



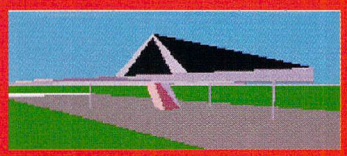
It's so much easier when someone is doing the flying for you...

Back seat driving

Why bother driving yourself around when there's always some muggins ready to do it for you? That's what I always say. So to allow you maximum convenience and comfort during your mission, here's how to get about the Gamma system without spending a fortune...

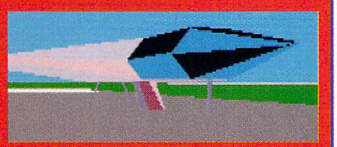
Taxis are always there when you need them and they'll take you wherever you ask them to go. Unfortunately, they cost a bomb and the robot drivers on Gaea are always going bonkers.

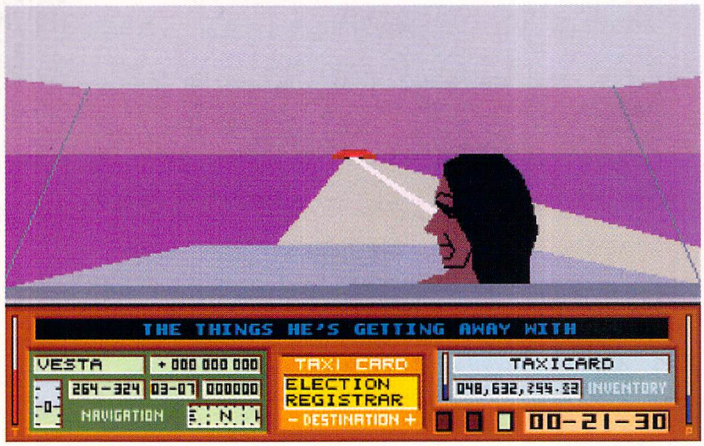
For the Mercenary on a budget, the bus is ideal. It costs nothing, but often takes you all over the place before reaching your destination. If you can get the hang of the schedule, the buses are probably the best form of transport.



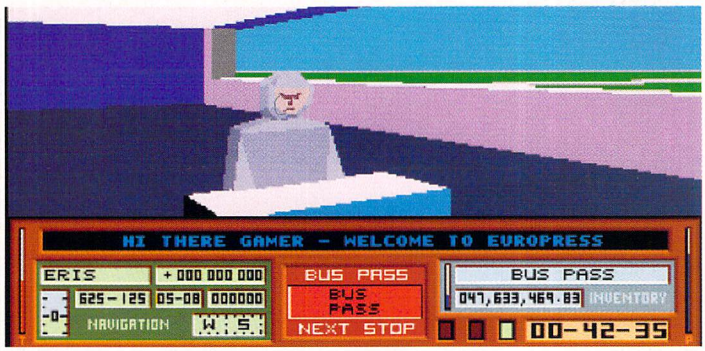
To get from one city to another, you've got to catch one of these InterCity shuttles. You can't miss them, as they'll wait for you to return before setting off again. Fairly expensive and the pilot on the Gaea flight is a maniac.

Interplanetary travel is achieved via these deep space cruisers. They cost an absolute fortune, but you can glean some handy hints from the pilots if you're lucky. There is a cheaper and quicker way to planet hop, if you can find it...





Shut up and keep your eyes on the road, you psycho! Taxi drivers, eh?



"I've come to see that gorgeous and sexy Games Editor..."

this new twist. It means that there are other characters to meet. Taxi drivers, pilots, receptionists, and, er, taxmen. Unfortunately, you can't talk to them, only listen to their words of wisdom. Obviously, some of these characters will unwittingly impart vital info, so keep your ears open and don't go and make a cuppa during a taxi ride. You might miss that all-important hint. If you're an independent sort, you can splash out the cash for your own vehicle (or nick one) and explore the world beyond the transport route.

Indeed, this is the only way to progress at some stages so don't rely on public transport all the time, because just like our beloved BR, it will usually zoom straight past the place you wanted to go.

And so, with a whole galaxy to explore and nowt but a few vague ideas of what to do, you must once again battle to save the people of Gamma from their undying indifference. Talk about being taken for granted...

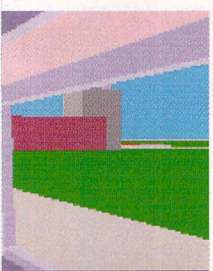
The presentation of Mercenary 3 really makes the most of the ST. Despite the almost infinite number of viewpoints and locations, the whole thing scrolls smoother than a greased-up armadillo. Admittedly, things sometimes look a little empty, but most of the time you'll be marvelling at the way the buildings tower above you and the various vehicles zip along the roads going about their own business. The atmosphere generated by these new features really makes all the difference.

The number of locations has gone up as well, as the bus and shuttle timetables demonstrate. There's even a strange building called Europress Publications in there somewhere! A lot of thought has gone into creating a convincing and interesting world for you to nose around in. Inevitably, there are plenty of giant buildings with nothing in them, but if you're on the right track you shouldn't come across too many.

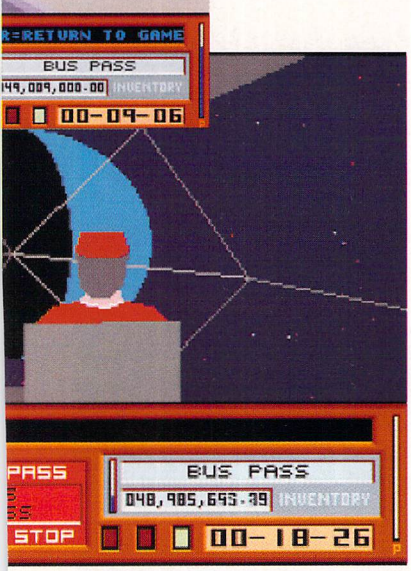
As usual, the sound is fairly basic, but fret not, for the Amiga version also sports average sonics. It's probably something to do with the sheer size of it all. You get the hum of the engines as the vehicles hover up and down, some hissing doors, and a loud thunk when you walk into things, but that's yer lot I'm afraid. It does its job, and I'd rather have a brilliant game with crap sound than the other way round. I'm sure you'll agree.

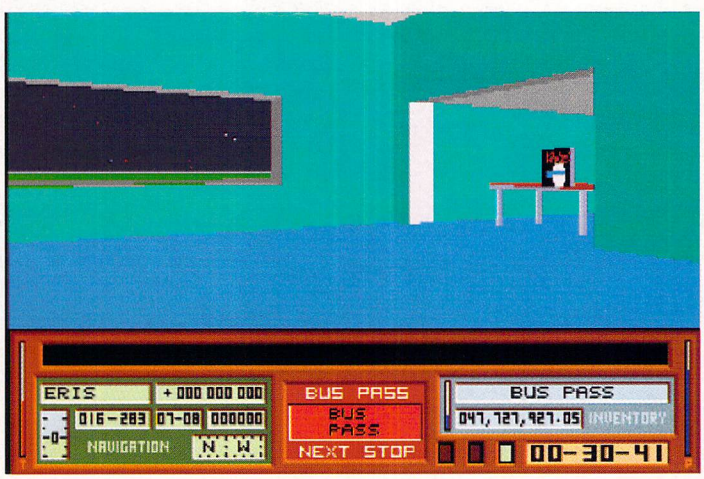
As far as gameplay goes though, it's a winner – perhaps a bit too slow moving for hard-bitten arcade fans, but for those who like to ponder over problems rather than leaping in feet first all guns blazing, it's the closest you're going to get to virtual reality on your ST. And it's a damn sight more interesting as well. A large, overflowing bathtub of wonderfulness.

Daniel



The bus of the future. No lager louts. No grumbling pensioners. No screaming kids. Boring innit?





The departure lounge at Elmdon airport. I could be here for a while...

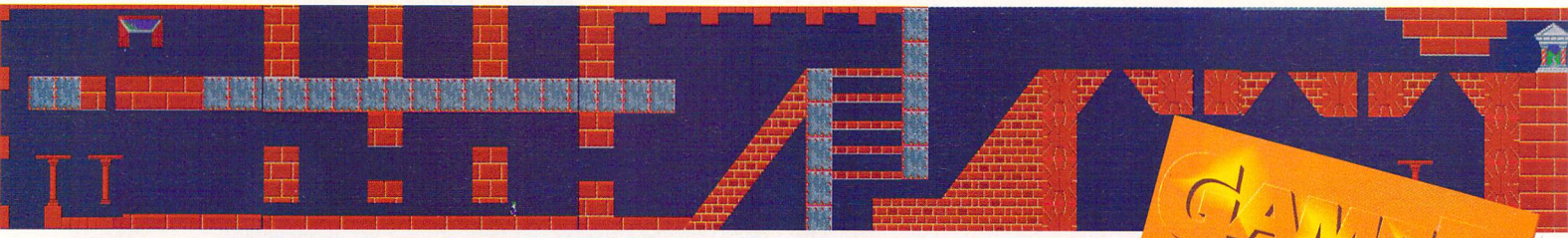
VISION
GGGG
Bland at times, but there's so much to see.

AUDIO
GGG
Average, but worth the sacrifice.

PLAYABILITY
GGGGG
Instantly appealing, with plenty to do.

ADDICTION
GGGGG
To much to explore to ever be boring.

93%



Is it a bird? Is it a plane? NO! It's....Superlemming! (See if you can spot him, kids)

GAMER GOLD

It can only be one thing...Oh no!

MORE LEMMINGS

PSYGNOSIS ▪ £24.99 Standalone/£19.99 Data disk ▪ 512k ▪ Mouse ▪ Out now

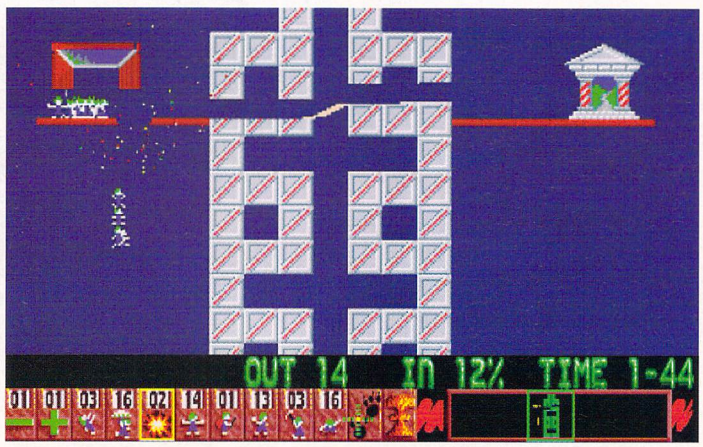
Never has a game been so aptly titled. Barely had the world settled down and stopped wibbling over the software phenomenon that was Lemmings, than Psygnosis release a further 100 levels. New traps, new layouts, new strategies. And again, the world puts on a blue jumpsuit and goes "Wibble".

Well, to get this out of the way, this is not Lemmings 2. Not in any way, shape or form. No no Nanette. It's merely another 100 levels for the original. There's no new lemming skills, no new sprites or anything like that. It's only to keep you knee-deep in Lems until the proper Lemmings 2 and the Lemmings Construction Kit are ready. They just won't let it lie, will they?

Now I'm sorry about this next bit, but there's always the faint chance that there's someone out there who doesn't know what all this Lemmings palaver is about. So I'm going to have to explain it all again, aren't I?

OK, you have to make sure that a certain number of Lemmings make it from one end of the level to the other without falling foul of traps, pits and their own crass stupidity. You see, Lemmings have slightly less intelligence than a small pile of mung beans. They're utter twonks.

You, the gorgeous gamesplayer, can help them overcome this natural intellectual bypass by endowing individual Lems with special powers. These powers allow them to dig, climb, build bridges, block, float and explode. You will, however, only have a set number of powers that you can bestow per level. For instance, the way forward might seem obvious if you had some bridge builders, but the chances are you won't and you'll have to think your way around the problem. I know all of this is almost written in computer folklore, but some people seem to have spent the last few years hiding behind the sofa when it comes to games.



Well, I almost made it...

So, these new levels. What are they like? Well, they're good. Fairly obvious that, but they really are good. It's a bit like finding out that they've just made a whole new series of The A Team. More of the same, but just what you were waiting for anyway.

We were a bit stuck to begin with, as we were having trouble getting past the Tame levels (it's not "Fun" any more, it's "Tame"), but then out of the blue came a letter from Robert Phelps in Stroud. Good ol' Bob had sent us all 100 level codes. Staggering, or what? The flamin' thing hadn't been on sale five minutes and he'd done the lot! A right smarty boots and no mistake! So, thanks to Robert we were able to have a good look at any level we wanted. And they're all cracking.

The Tame levels are, as you can guess, fairly tame. Yes, I had trouble with them but then I never was any good at the original. These levels can be breezed through by yer average Lemmings supremo, and so they're best for people who've bought the standalone version and don't know what they're doing yet.

After that, things get harder and some of the levels are destined to go down in history as complete bar stewards of our time. The Superlemming level, for instance, looks really easy but the timing needed is phenomenal. Scary stuff. And the others pose similar seemingly impossible tasks that kept us from the pub for many lunchtimes. Well, almost. There's not much else to say, really. If you're a Lemmings fan then this is just the thing to keep you awake until God knows when, and if you've never played Lemmings then you've got two options.

Either buy the original and this as a data disk, or just buy these 100 levels as a standalone version. My only reservation is that the price is perhaps a bit much for a data disk, but I guess Lemmings addicts will go to any expense for more of those green-haired japesters. A worthwhile addition.

Daniel

VISION
GGG
Endearing sprites with detailed backgrounds.

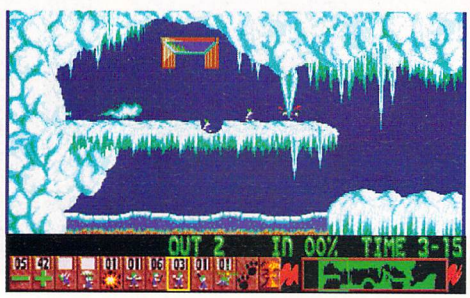
AUDIO
GG
Fairly dire, I'm afraid. Average tunes and not much else.

PLAYABILITY
GGGGG
Still as playable as ever, if a tad expensive.

ADDICTION
GGGGG
The winning formula does it again.

94%

He he he. See ya Lemmings. Byeee



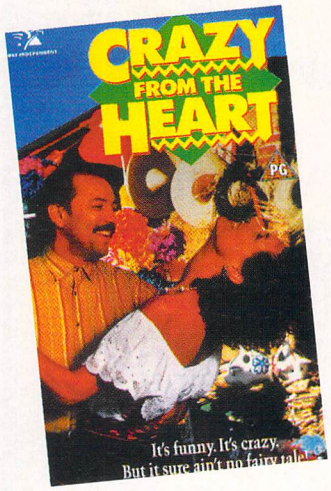
Uurgh! A poor little Lem gets squished in the snow

New videos

Your essential guide to entertainment with Gamer's very own critic – Antony Purvis

ENTERTAINMENT XTRA

SELL-THRU' ● SATELLITE ● CINEMA



Crazy from the Heart

First Independent
Rental from February 12

Christine Lahti plays a bored teacher who becomes the hot topic of gossip when she falls for the school's Mexican janitor, played by Ruben Blades. After returning from a wild weekend in Mexico – married to boot – their lives suddenly become public knowledge with allegedly hysterical consequences. Hysterical it was not, nor even particularly funny. Anyway, it's a quite reasonable light romance video with the odd laugh along the way. Released in time for Valentine's day, too. Sweet.

Let Him Have It

First Independent
Rental from February 26

In 1952 two boys on a warehouse roof were cornered by police. They were Chris Craig and Derek Bentley. Bentley had already been arrested, but Craig had not and pulled out a gun. A policeman ordered him to surrender the weapon, and Bentley shouted the fatally ambiguous words: "Let him have it!" to Craig, who fired.

Craig and Bentley were both tried for murder and found guilty. Craig was 16, and too young to be hanged. Bentley was not, and despite the jury's recommendation of mercy, partly on account of his mental age of just 11, was hanged shortly afterwards. There is little doubt that the Craig/Bentley case is one of the most controversial j1 in British legal history. The lobbying for a posthumous pardon for Bentley, sent to the gallows for a crime he allegedly did not commit, continues to this day. This is their story. If you only rent one film this month, rent this one – it is a must-see. The truth will shock you.

Paul Reynolds (left) and Derek Bentley stand trial for the murder of PC Miles in Let Him Have It

Other video releases in brief

Thelma and Louise is another "women who change their lives and having tasted life, liberty and happiness never look back" movie. Lovely. It stars Geena Davis and Susan Sarandon, is rated 15, lasts 124 minutes and should be in your local rental shop at this very moment.

Fans of classic television will enjoy this month's new ITC Home Video releases – The Adventures of Robin Hood, Sapphire and Steel, Space 1999, Danger Man, and, my personal favourite, Randall and Hopkirk (Deceased). From £10.99 to £16.99, they're available from February 10.

Ed Harris, Sean Penn, Gary Oldman and Robin Wright star in State of Grace, released on February 12, a tough underworld action thriller – copious amounts of death and violence.

Intimate Stranger hits your rental stores on February 19. This latest release sees pop star Debbie Harry taking on the role of a telephone sex-line host. One for the top shelf, methinks.

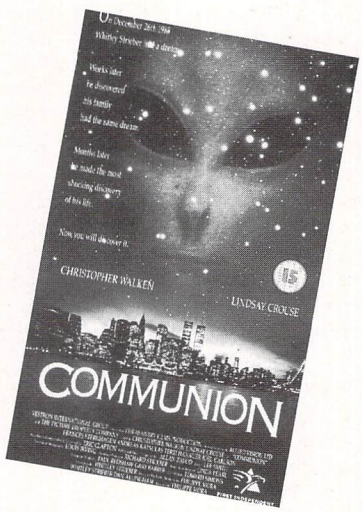
Communion

First Independent
To buy at £10.99

Christopher Walken plays Whitley Strieber, a novelist whose recurring dreams of aliens prove to be real! That's real in the here-and-now sense, apparently it really, honestly, did happen to a real live novelist who was really called Whitley Strieber.

And I don't believe a minute of it. Sorry! Maybe Whitley had eaten some out-of-date pork sausages or something. Communion is far-fetched, somewhat pretentious and dangerously low on entertainment. Even as sci-fi it doesn't rate in my book.

Oh, and it is also on Sky Movies this month. So no need to risk £10.99, eh?



Sky's silver screen selection

Back to the Future 3, the film with the longest trailer in cinema history (Back to the Future 2 – oh, how unkind of me) blazes onto the screens of Movie Channel viewers on the 1st, 16th and 25th.

Communion, that film reviewed elsewhere on this page, can be seen on Sky Movies on the 21st and 29th, along with Days of Thunder – Top Gun with racing cars. Catch it on the 15th or 23rd.

Dick Tracy, starring Warren Beatty, Madonna and Al Pacino, hits The Movie Channel on the 22nd. Only eight colours are used to keep the comic book look, so ex-Spectrum owners will feel at home. Also don't miss Die Hard 2, with Bruce Willis – Sky Movies on the 8th, 17th and 25th. Write it in your diary.

Cry Baby starring Johnny Depp contains what the synopsis refers to as a "square chick". Of square chicks I saw none, but I did see the svelte form of Ricki Lake, which I consider worth my Movie Channel subscription alone. Guaranteed to have me glued to Sky Movies on both the 9th and 19th. Total Recall is repeated on the 6th, 14th and 25th, and the comedy Twister screens on February 9th, sadly unconnected with the fun home game involving sticking your bodily parts in all manner of odd positions (Ideal for whiling away long car journeys, I might add).

Wings of the Apache, starring Nicholas Cage, is another film like Top Gun, but with helicopters. Unmissable, and on Sky Movies on the 22nd. Yet more screenings for Fire – Trapped on the 37th Floor, on the 1st, 13th and 24th – Lord, when will it end?

Back to the December issue and the films Loose Cannons and Loverboy, newly released on retail at the time. This month they're on The Movie Channel, so check them out if comedy is your thing. Rutger Hauer stars in Salute of the Jugger on the 1st, 14th and 24th on Sky Movies Plus, while over on the Movie Channel is a Star Trek 25th Anniversary special.

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03

Biffa's cheat mode

Biffa and Sean Griffiths of the Bitmap Brothers bring you the official guide to the hardest sections of Magic Pockets

MAGIC POCKETS

GENERAL PLAYING HINTS

Magic Pockets is relatively complex. We describe the simplicities here and leave the sophisticated stuff for you to work out yourselves. Suffice it to say everything you do has a knock-on effect on the gameplay!

The first law relates to the "kill count" concept. Each nasty that is "killed" increases the kill count (a "kill" is when a nasty explodes into sparks). This counter is used to affect the bonuses that are awarded for bursting a trapped nasty. The next bonus is indicated "behind" the lives hand and the power up hand.

The second law concerns the "bursting" of a trapped nasty. The bonus sweets that are rewarded for doing this can be determined by the player. The rule is that the harder a trap is hit, the more bonus sweets will be delivered. For instance, falling from a great height will burst a trap into three or four sweets as opposed to one or two.

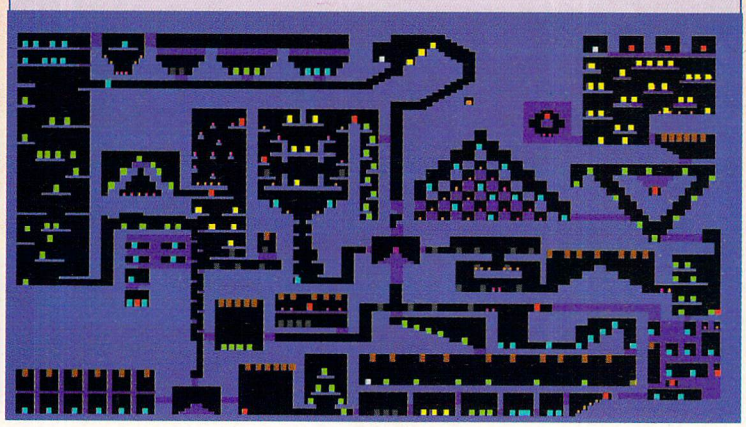
The third law defines the "gold stars" effect. These are the player's way of gaining mega-power ups. A gold star will turn into a "mega-power up" when touched. The gold star's contents are directly affected by the number of silver stars previously collected. Gold stars and silver stars are both mini-power ups.

The fourth law concerns the mini-power up bonuses. A mini-power up can be created at every 5,000 points. To do this simply trap a nasty, and burst the trap – the player scores 5,000 points and he is then credited with a "power up". The "power up" is collected the next time a nasty is trapped and burst. Thus, if a bonus of 10,000 points is awarded, this will credit the player with two power ups, which will be collected as the next two nasties are burst.

THE CAVES (Section 2)

Where do we start with section 2? It's huge! Over 100 screens went into designing this section. Every type of power up and bonus can be found here if you're prepared to explore. Choose your direction and set off.

Follow the arrow if you wish to find the bike and exit quickly (watch out for the Super Rockman, he's after your bike too) – ignore the arrow and explore the cavern at your peril. There are also loads of secret rooms – try and find the sweet machine room, jelly baby room, and the extra credit room.



HAKPAK

Hak pak now leaves your whites whiter than ever, reduces plaque build-up and offers competitive interest rates

HAKPAK

GAMER PLATFORM

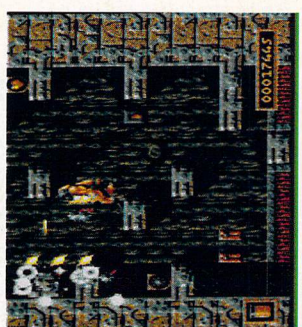
Hudson Hawk

Ocean

To activate the cheat all you have to do is type in SANITY-CLAUSEISCOMINGTOTOWN (No spaces) on the title screen to get infinite everything.

Gods

Renegade



Whaaat? A cheat for a Bitmap Brothers game? No way! Yes way, all you have to do is type in SORCERY once you've selected the password option. You will be awarded with infinite energy.

Leander

Psygnosis

For those of you who are having loads of trouble trying to finish this platform and are stuck on level two. Simply enter LVFT in the appropriate place and you will be transported to level three.

Biffa's cheat mode

Part two

MAGIC POCKETS

THE JUNGLE (Section 2)

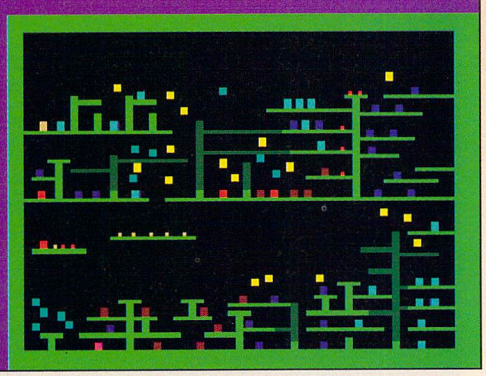
Kill the two nasties above you and trap all the gnats. Spin and burst – you should have a pile of lollipops to pick up. Next, move right, but watch out for the "roaming" chimps – they hang to branches. There are two bees at the top of the next tree – they are easy to kill but will home in on you. Don't run away, as this will make things worse! Stand there and blast them.

Drop down now, and you will find a bud at the bottom. Water it with a raindrop from your cloud and it will grow, spreading branches across empty space. Get the idea? Now move right and water the next one – this will take you up to the top ledges. The next section contains snakes, fast ones, slow ones, and tough ones.

Now move left, pick up the cocktails, and throw sweets to the venus fly-traps – they're all "eaters". Trap them to get bonus power ups. Jump off the branch, and try to take out as many nasties as you can when you fall. Open the tack-bag at the bottom, leave it there, move right and climb up the tree's branches, picking up the bonuses as you go. Jump off the ledge again, pick up the bag, take a quick look at the TV and water the two plants (this will give you higher platforms to stand on).

Climb the plants and spread some tacks. Drop through the gap, and drop through it again to pick up the bonus sweets. There are more bonuses, but be careful you don't drop back down to the start.

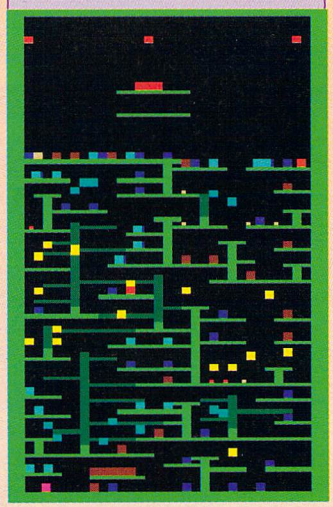
Spin back up to the top – don't miss the bonus on the left – then spin up to the top again, watching out for the hostile fly-traps, and exit. The secret room in this section is full of stuff, and repeated transports will take you back here again and again.



THE JUNGLE (Section 3)

Blast all the chimps, and pick off the fly-traps. Then trap a snake, and burst it for "coins". This section is quite big, so pick your route carefully. Watch out for venus fly-traps with gnats in their mouths – they're worth double points. The "buds" here will grow into big plants. Try a secret room for coffee and tea (and bubble gum!).

Try and work your way to the right, as this is where the glove is. There are hidden ledges at the very top, but how do you get them?



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sexy male model - daniel "boing" whitehead
chief zoologist - eddie "bruce" mckendrick
catering technician - biffa "fop" maddock
mouse baiter - phil "ooh!" morse
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why not go out and startle a pigeon?

climax

st gamer is stitched into atari st user. Any attempt to remove it will invalidate your warranty.

PUZZLE & QUIZ

Oh No! More Lemmings

Psygnosis

Here are all the level codes for the CRAZY and WILD levels of Oh No! More Lemmings.

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3.NCALWTFHBM	3.MPUEMCCLCM
4.CKLTTGNIBF	4.PUDMCKLMCD
5.CCHSUFLJBH	5.UEMCCHWNCO
6.IHSUFLCKBO	6.LJCOTWOCO
7.LRUGLCCLBN	7.OCCLVUEPCH
8.RUGLCKLMBG	8.CKLWUEOQCR
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Andrew Wrights visits a 30-year-old reprographics company about to break into the desktop publishing market with Calamus

A new start for Calamus

Halco Ltd, a Reading-based supplier of reprographics and pre-press equipment, are set to move into the booming desktop publishing market – with high quality, cost-effective systems based on DMC's Calamus and top Atari computers, the Mega STE and TT. The company have just secured the sole UK distribution rights for DMC's entire range of products, including Calamus.

Halco, a subsidiary of the Radwinter Group, have set up a new sales operation targeted at their existing customer base – thousands of smaller commercial printers and design agencies throughout the UK.

Low cost

These companies and even individuals are increasingly demanding low-cost DTP systems with the same capabilities as the much more expensive Apple Mac systems which currently dominate the top end of the market.

Halco's DTP manager, Carlo Grossi, believes the time is now right for Atari-based DTP systems to really take off: "The combination of a powerful graphics computer such as the new Mega STE and the TT, together with the unique, well-proven Calamus software, means we can market a top quality system at the right price.

"There are also a lot of new products due for release over the next few months that will turn the market around – new professional image processing and multimedia software, for example, as well as a number of extra art and design modules for Calamus SL."

Halco have a solid reputation in the reprographics industry based on over 30 years' experience in the design and manufacture of repro cameras, printing plate processors and visualisers.

Many graphics designers cut their teeth on the company's products at college – the Copilyn trade name on the cameras is particularly well known throughout the industry.

Repro cameras are relatively unsophisticated pieces of equipment for producing bromides and films used in the preparation of artwork and printing plates.

Far removed

They work in the same way as a normal camera but are far more accurate. The camera is the first stage in the plate-making process used in offset lithographic printing. So aren't these expensive but low technology products far removed from the sophistication of modern DTP?

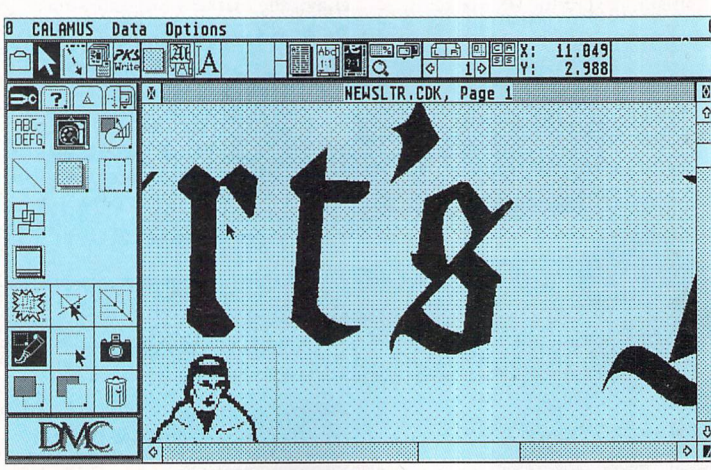
Tim Scott, Halco's general manager, doesn't think so: "We have got a strong team behind us to take care of the marketing as well as the technical support. One of our strongest assets is our knowledge of the marketplace – we've been dealing with printers and designers for years and we know what they want and what they need.

> *'Calamus can do what no other software in the world can'*

"One of the main criticisms levelled at Calamus in the past has been the way it's been targeted. It has been stuck in the ST marketplace for a long time, sold only to existing ST (and TT) users. While we fully intend to support and upgrade existing users where possible, we also want to take Calamus and the ST where it will make a lot more people sit up and take notice – into the real world of professional printing and publishing."

In answer to the 64,000 dollar question – whether there is room for Atari DTP systems alongside the Apple Mac-based systems in widespread use – Carlo Grossi pointed to the astonishing success of the company's stand at the London Printing Equipment Show last November.

"It was the first major printing



One of Calamus' options is to represent the printer output accurately onscreen by calculating the exact magnification required. Here the display is set to 419 per cent for a laser printer – each dot on the screen will be a dot on the printed page

ow we had attended," he recalled. Ve demonstrated the Mega STE and based systems on the stand, both nning Calamus software. The ponse was phenomenal. We aver- ed one enquiry every 13 minutes or and over a three-day period we re rushed off our feet. The unique pabilities of Calamus SL went down rticularly well. Many hardened pro- sionals, used to Apple Macs, were solutely stunned at the colour han- ng and the degree of control over t and graphics.

No doubt

"If there was any doubt in our nds about the decision to go for aris, the show dispelled them on e first day. We have already booked ain this year, with twice as much or space!" he added.

As if to drive the point home even ther, one customer confirmed an ler for a complete system worth re than £20,000, including an agesetter, while I was there.

Calamus will not be the only prod- offered from the Halco catalogue. e customers' needs are obviously amount and if the preferred solu- n is another ST or TT based pack- , it will also be available from lco.

Halco started up in the 60s and ckly made a name for themselves the reprographics equipment mar- . They're part of a wide-ranging up of companies with interests in h areas as automatic testing equip- nt for PCBs, metrology and gaug- , and packaging. All the companies he group are strong on innovation ew products are in the pipeline m all of Halco's sister outfits.

What prompted a company that spent 30 years developing one duct line to look at such radically v technology? In the present eco- mic climate, with recession at the efront of everyone's minds, the ditional Halco products are in line in the UK. Exports are doing l, particularly to Russia and tern Europe, but the UK market is saturated by cheap, second-hand equipment as printers go out of business or reduce the scale of their operations.

According to Tim Scott, there will always be a need for the repro cameras and visualisers in the printing industry.

Flexible

Many people used to think that DTP meant "Death To Printers" but in reality DTP is simply a faster, more flexible way of producing master artwork for the lithographic printing process. The larger printing companies have already introduced DTP technology but smaller firms have resisted the change until very recently. Having seen the way the industry is going, these firms are now starting to look to DTP as the best way forward. Price is critical in this end of the market – Macs are seen as far too expensive despite recent price drops. The TT, for example, offers much higher price performance than comparable Mac systems but the icing on the TT's cake is the software. Calamus SL can do what no other software in the world can.

Carlo Grosso: "The time is now right for Atari-based DTP systems to really take off."

Authorised

Its colour handling and ability to represent on the screen exactly what will appear on the page is beyond comparison, even in packages many times its price.

Halco, now an authorised Atari dealer, are offering two basic packages – System One and System Two. System One is based on a Mega STE 4, the latest in the ST range. Although it still has a 68000 processor, the clock speed has been increased to 16 MHz. It will come with a mono monitor and 48Mb hard disk drive.

System Two is based on the TT, the 68030-powered super ST and 8Mb of RAM. Display will be on a 21in Eizo Flexscan 6500 hi-res monitor, capable of displaying a full A4 page in fine detail at almost twice its actual size. Storage will again be on a 48Mb hard disk drive.

Output options will include Atari's laser printer, or DMC's imagesetter (a high resolution printer capable of producing output on photographic quality bromide paper or film).

With the backing of a large diverse organisation behind it, Halco seem to have their sights set firmly on the future. They are already looking for bigger premises to support the projected growth of the DTP side of the business. When Calamus SL makes its long-awaited appearance, the ST will be finding its way into a much wider market.

Halco can be contacted on 0734 441525.

What the world is waiting for!

When it is finally released, and it has certainly been a long time in the offing, Calamus SL is guaranteed to set the DTP world alight. Taking the advances made by the existing version, 1.09n, several stages further, Calamus SL will support full colour separations, an integrated wordprocessor/text editor, spell checker, hyphenation dictionary and much improved control over text. This will include compression of typefaces in thousandth of a per cent increments and skewing and slanting text.

Although the unique Calamus interface has been retained, with the idiosyncratic icons and complicated dialogue boxes, much effort has been put into making it easier to use. It is now a modular system which means that whichever modules the user requires can be loaded into the program's slots, limited only by the available memory.

Modules include document conversion, to allow old Calamus documents to be accessed by the new version, plus facilities that used to be integrated in version 1.09n – text, raster and line frame editors, text style and layout editors, page module and the text editor.

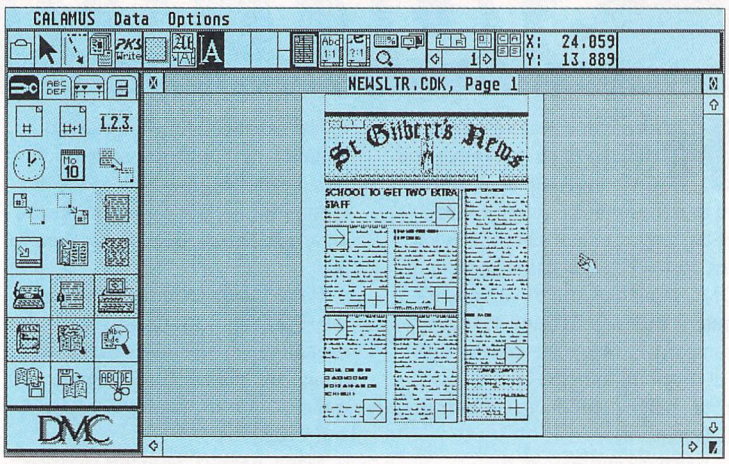
The industry-standard page description language is PostScript, used first on the Mac and now by other computers, including the PC and ST (Pagestream 2, in particular).

Traditional PostScript-compatible DTP programs use raster fonts for the screen and vector fonts to address the laser printers and imagesetters. These vector fonts are stored in the printer, however, and slight discrepancies can arise between those stored in the computer and used to generate the screen display, and those used to produce hard copy. The use of third-party type managers has done little to narrow the gap.

Calamus, however, uses its own unique page description language which sets it apart from its competitors. Rather than have the output device process the PostScript data (known as raster image processing or "ripping"), Calamus carries out the process of generating fonts itself. This ensures that what you see is really what you get (wysiwyg) as the same outlines are used to generate both sets of fonts. Add Calamus' ability to display the page at over 3,000 per cent of its real size and its true power becomes clear.

Aside from PostScript compatibility, plans for Calamus include another release, Calamus S, which will have all the advantages of the new version apart from the colour module but which can be upgraded at a later stage. Other packages will probably be made available as standalone programs or Calamus modules (XTMs). They include Outline Art 2, an upgraded vector drawing package, Type Art, a fully featured typeface design kit, and a multimedia module which will allow moving pictures to be displayed within Calamus itself. For the Midi/music market, another module is being developed that will allow score writing from the keyboard using Calamus.

In fact, Calamus is becoming so powerful that Halco intend to drop the DTP tag and use EPM (Electronic Page Makeup) to cover the whole range of Calamus' capabilities.



The new version of Calamus SL is likely to look and feel similar to version 1.09n but with a more modular design

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Beginners

The driving force

Disk drive commands, understanding Options... and, er, where toast comes from. Andrew Baker reaches the final Desktop menu

Greetings and welcome to another fun-filled, thrill-soaked ST Beginners' Guide. Hang on to your wits, put your brain on hold and come flying in to my temporarily deranged world to learn about disk drives with identity crises, saving Desktops from destruction and much more!

This month we're back onto the GEM Desktops' last menu – Options. This little fellow allows you to change the various settings of the Desktop to your particular preferences. Also kept under Options are a couple of features that really should be somewhere else, but no-one could decide exactly where – lost souls of the Desktop (cue violins).

Unlike other drop down menus on the Desktop, the features under Options are not needed for daily operation. They are, as their name suggests, optional.

The first choice – Install Disk Drive – covers the number of disk drives you have. The ST can only have two real (or physical) disk drives, these being called drive A and drive B. But you can attach or create other types of drive, such as hard drives, as explained last month.

When connecting a hard drive or another disk drive to the ST you obviously need a way of communicating with it. You could try screaming at it, waving flags or threatening it but unless it's a very, very advanced model I doubt if you'll get through.

Perhaps the easiest way would be to give it an icon on the Desktop and work with it just like a normal disk drive. This is where Install Disk Drive comes in.

When you attach a new drive the ST will automatically know about it (just to keep the techies out there happy, some hard drives do require a small utility to be used first but don't worry about that for now). All you need do is to tell GEM to create a new icon for it on the Desktop, give it a title and its identification letter (A, B, etc).

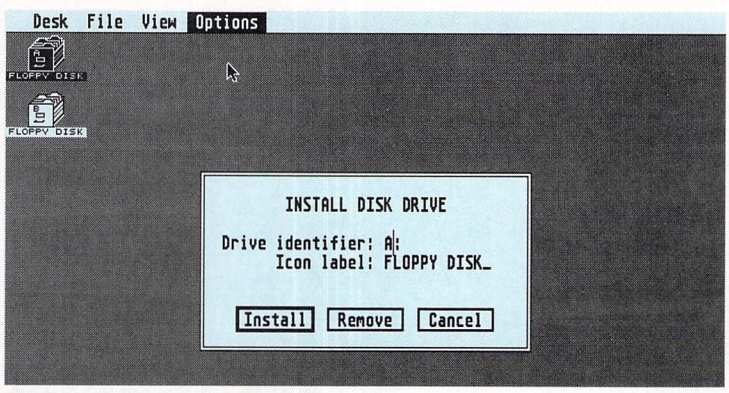

Figure I: The Install Disk Drive dialogue box

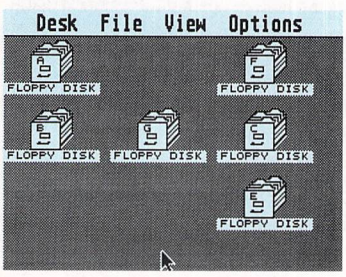

Figure II: Drive icons added

The identification letter (Drive ID:) tells the Desktop which type of disk drive it is. GEM automatically takes care of which peripheral to use for which Desktop icon by the identification letter.

As you can only have two floppy disks attached, the letters A and B indicate a floppy disk. Letters above B refer to hard disks or similar mass storage peripherals. Giving a drive a letter C, for instance, tells GEM that it's a hard drive and to look at the attached hard disks instead of the floppy disks.

Hopefully this will be fairly obvious up to now, but there are a couple of points that need clarifying. Firstly, there are two floppy disk drive icons on the Desktop but I only had one physical drive. What's going on? This is simple once you understand it but difficult to explain – I'll try my hardest.

On all computers you need to copy disks, copy files from one disk to another or move files around. To keep costs down and allow the ST to be sold so cheaply, Atari only supply one disk drive, but how do you transfer a file from one disk to another if you only have one drive?

The ST does it by simulating two disk drives. If you double click on the icon for drive A it will immediately look at drive A, the internal unit. But when you click on the icon for drive B, your machine cheats and asks you to insert a disk into drive B (which doesn't exist – it is, in fact, drive A with a identity crisis). By putting the disk which you *would* have put in drive B into drive A, you can fake having two disk drives and thus save money.

But what about copying files across disks? The ST does this by temporarily holding the file or in the case of a large file, bits of it, in memory whilst you swap the disks around. Once swapped, the file is copied from memory back to the disk.

Using this technique, Atari have managed to give you the convenience of two disk drives for the cost of one. A similar concept applies to those users lucky and rich enough to own a hard drive – come the revolution, brothers, and you'll be first against the wall!.

Even though you only have one hard drive, the ST can simulate multiple hard drives by "partitioning" the hard drive into smaller, imaginary units which different drive letters then refer to.

In essence, disk C applies to the first half of the drive, whilst disk D refers to the other half. This procedure can be exaggerated, which the hard drive split up into smaller sections with letters up to P!

To use Install Disk Drive, click on one of the existing drive icons and then on Install Disk Drive. You can change the Drive ID: setting to any letter up to P, and the Disk Drive Label can be any name you choose. This label is a human-only reference – it means nothing to the ST.

Once the new ID and label are entered, you can click on either Install or Cancel. The Install button will clear the dialogue box and place a new icon on the Desktop. Figure II shows a GEM Desktop with just a few new disk drive icons added. Cancel aborts the operation.

Once you've created a new drive icon, you may like to remove it. Again, Install Disk Drive is used, although this time it is not so aptly named. Click on the disk icon you wish to remove and select the menu title. This time, don't enter any new drive IDs or labels, instead click on the Remove button.

The dialogue box will disappear

Beginners

d the drive's icon will now have
ne from the Desktop. The next
nu option I'll use the mouse to
ect is Install Application. This,
in, is under Options.
Let me illustrate this by allegorical
mple. Have you ever wondered
w, when you're eating toast, you
ow it comes from the toaster? No?
ll that's because it's obvious to
u and me, but we were taught.
In the same way, the ST doesn't
ow that certain types of file are
ated by certain programs. Yet, like
mall child, it can be taught that,
instance, files with the extension
VP" belong to a wordprocessor –
t like we're taught that toast
nes from a toaster.
This is where Install Application
nes in. By clicking on an applica-
n or program and selecting Install
plication, you can teach the ST to
k certain types of file with certain
grams. In future, every time you
uble click on a file with a certain
ension, the program linked with it
l be loaded and the file you
cked on loaded into it.

Oversight

You should be aware, however,
t due to a "technical oversight" –
, a screw up – by Atari, the pro-
m linked to a file must be in the
ne folder and on the same disk as
data file loaded.
Looking at Figure III, you will
tice three lines, two buttons, three
buttons and three further but-
s. The first line is the name of the
plication you clicked on. Typically
s will be a wordprocessor, graphics
ckage etc. Below this is the
cument Type:. This is the exten-
n of the documents you want to
k with the above shown applica-
n.
You don't need to change the first
e, only the second. You should
e in the extension of the docu-
nts you wish to associate with the
plication, examples being DOC,
, PI3 and so on.
Below this are three buttons. I'll
l with the exact meaning and use
hese in a later issue, but for now,
ve them set to Normal. The next
ee determine the type of the
plication. "GEM" means that it's a
rmal GEM program and requires
further information – most appli-
ions will be of this sort. "TOS"
d "TOS – takes parameters" are a
le more complex.

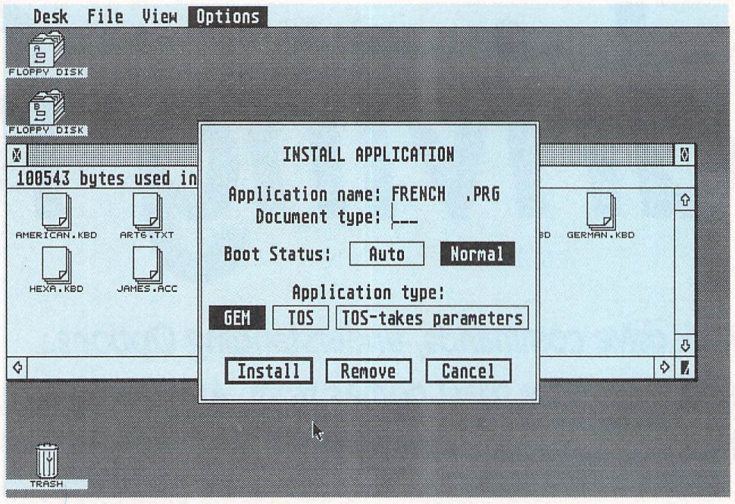

Figure III: Install Application

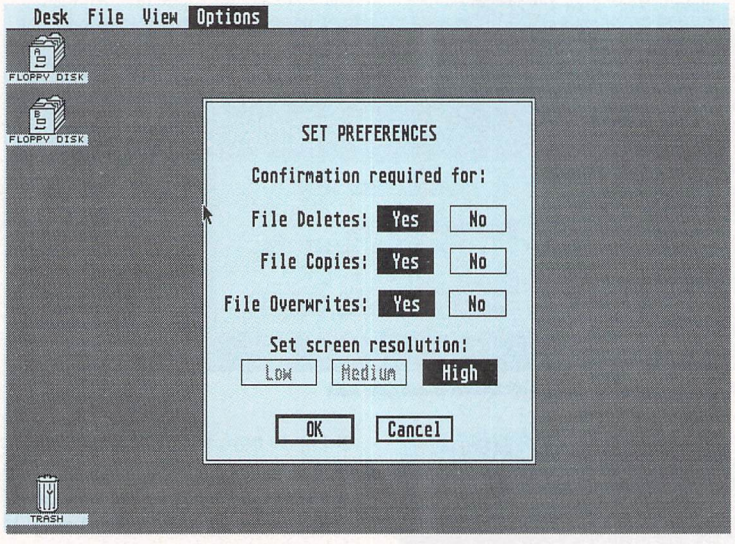

Figure IV: Do you want to be warned about deleting?

The later two are similar. They mean that the program does not use GEM's windows, menus or icons. Instead it is a text-only program. Programs of this type have an extension of ".TOS" or ".TTP" as opposed to ".PRG". If your program has ".TOS" you need just click on its button.

If it says "TOS – takes parameters", this means that the program needs certain information from you before it will run. Again, all you need do is click on its button.

However, in future, when you double click on this program, you will be prompted with a dialogue box.

This dialogue box allows you to enter the information the program requires first before using it.

Applications of this sort typically include development tools for writing programs and small utilities. In the unlikely event of you coming across one, refer to the manual for further advice on what to enter at this point.

Once you have given the Document Type and the application type (GEM, TOS etc) select OK. Now in future when ever you click on a document with the extension you entered, GEM will load the application first and then load that document in to it! Try it out.

The next option is Set Preferences. Clicking on this brings up the dialogue box in Figure IV. With this you can tell the Desktop to warn you if you're about to delete, overwrite or copy files, determine the current resolution and possibly set another.

Confirm Deletes is fairly obvious. What it means is that if the YES button is highlighted (reversed) then when ever you delete a file, GEM will ask you to confirm that you wish to do so. I highly recommend that you keep this on. Although it may seem stupid to delete a file you want to keep, it is very easy to do (particularly when you become familiar with GEM and stop thinking about what you're doing!).

Confirm Copies is also obvious, but more open to personal preference. Whenever you copy a file it will ask you to confirm the action. Personally I select No for this, but it's your choice.

File Overwrites will warn you whenever you are about to copy over a file that all ready exists.

The screen resolution is used to report and also set the working resolution. On my system, I have a hi-res monitor and can't use low or medium, so these buttons are disabled. If I were working in colour they'd be enabled and I could change resolutions between them. As a caution, when changing the resolution the ST will reset and start up again.

If you've experimented with Install Disk Drive and Install Application, or changed the Deletes and Copies preferences and wish to keep your settings, use the Save Desktop option as explained below before changing resolution.

Destroyed

Neatly following on, Save Desktop will save the layout of icons, preferences settings etc to your disk. If you don't do this, your new wonderful Desktop with zillions of new drive icons will be destroyed as the power drains from your ST.

Save Desktop saves the new settings, which are loaded the next time you power up. In a future issue we'll look at this option in more detail but for now it's that simple. You can save several different settings but you will need a disk for each one.

The very last option is Print Screen. Briefly, if you have a printer attached to the ST, this will print out a copy of the current screen display. This option is also available by pressing the keys Alternate and Help at the same time.

If you do not have a printer or there is something wrong with it, the ST will pause for about 30 seconds before returning, so it's not advisable to try this unless you do have one connected. Next time I'll be playing with a mouse, climbing through a constantly changing window and tinkering with some accessories.

Vivace

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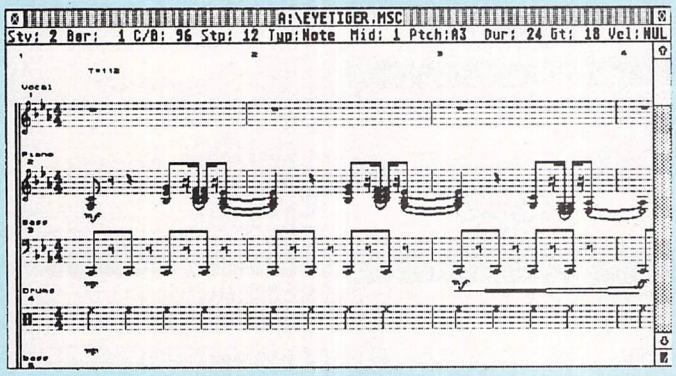

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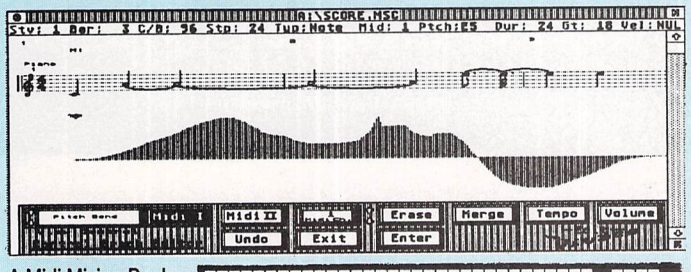

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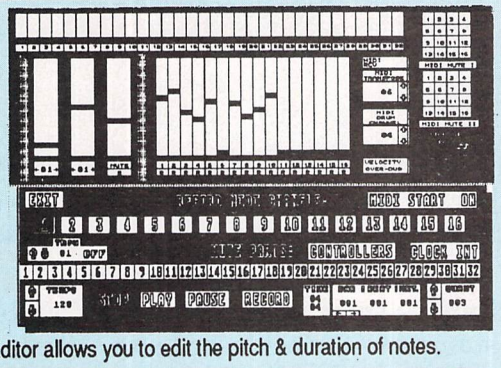

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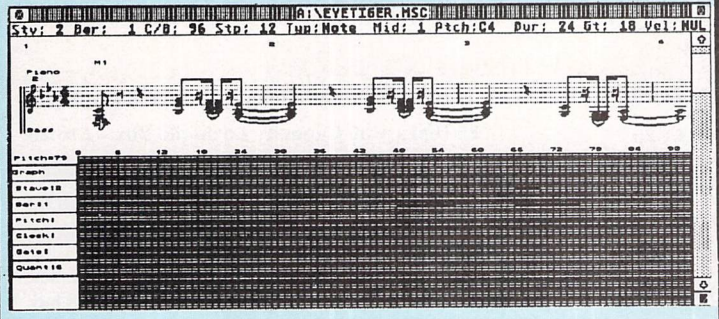

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SKILLS. All players have a balance of 5 skills (no "skill levels") which you must discover by experimenting with your team. Even more important will be your judgement about the effect of the particular team balance or skill combination on the outcome of a match, and subsequently a season of football. Suitable training can develop/enhance skills or sustain the stamina of ageing/injured players

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LEARNING Assembler Part 1

Programming the 68000

The Motorola 68000 is the processor at the heart of the ST. Marc Young's new series will show that even the novice can harness its power quite easily

Different programming languages have different strengths and weaknesses, but whatever the application, programming in assembler will get the best out of your machine.

Learning assembler will also help you to understand the ST better, and will help even when writing programs in other languages such as Basic or C. In this series I will be introducing assembler programming at a level where, hopefully, even the novice can follow.

The 68000 processor, like most other CPUs, functions quite simply. A number of bytes are read from memory, these are interpreted as a machine code instruction and the processor performs some action depending on the exact value of the bytes read.

Good old days

In the good old days, one byte would be used to represent each instruction to the processor. For example, the number "1" may have been used to tell the processor to add the following two bytes together. As processors grew in complexity, two or even more bytes were required to store all of the available instructions.

It would not be very user friendly of the computer to expect a programmer to type in a series of numbers to create a program, so the processor developers invented mnemonics for each available instruction.

The 68000 mnemonics include MOVE and ADD, which are obviously more simple for mere humans to understand than 12412 and 53500 which are the decimal numbers required by the ST's processor.

An assembler program can thus be written. This program reads the program source and converts the mnemonics it contains into the bytes, words and longwords which the processor can understand. The output from the assembler is often referred to as the "object code".

Whatever assembler you are using, the sequence of events required for writing and running your own programs should, then, be as follows:

1. Using a text editor or wordprocessor, create a file containing the mnemonics which describe the program.
2. Instruct the assembler to assemble the program. This will normally create an object file, though different assemblers may require an additional LINK step to be performed before the executable program is created.
3. Run the program.

For those with itchy fingers, we'll cover our first program straight away.

This is a simple effort which simply prints the letter A on the screen, then waits for a keypress before ending. The source code for this is on this month's CoverDisk as the file PROG0001.S in the folder ASSEMBLE.

At this stage, it is not necessary to understand anything about how the program works. Simply ensure that you can create an executable program from it using your assembler. To prevent the risk of damaging the CoverDisk, it is preferable to copy the files from the CoverDisk to a work disk before starting.

For those using HiSoft's Devpac, these are the steps to take:

1. Double click on GENST2.PRG (for Devpac 2) or GENST.PRG (for Devpac 1).
2. Load the source code (PROG0001.S) by pressing Alternate/L or selecting Load from the menu.
3. Assemble the program by pressing Alternate/A or selecting Assemble from the menu. For Devpac 2 users, select the option to assemble to disk, and type in a filename (PROG0001.PRG). For Devpac 1, simply type in the filename PROG0001.PRG when requested.
4. Check the messages for any errors. With programs loaded from the CoverDisk there should be none, as they have been tested using both Devpac 1 and Devpac 2.
5. Exit Devpac, find the PROG0001.PRG file on your work disk, and double click on it. If all went well, the letter A should appear in the top left of your screen. Press any key to return to the desktop.

If you are not using Devpac, simply follow the instructions for your particular assembler.

```
Desk  File  Search  Options  Program
E:\STUSER\ASSEM001\PROG0001.S
Line:    3 Col:    1 Mem:99164
*  This program should be assembled to disk as PROG0001.PRG or  *
*  PROG0001.TOS. It can then be executed by double-clicking on  *
*  the program file created.                                    *
****************************************************************

start:
* Firstly print the letter A on the screen..
        MOVE.W  #65,-(SP)       ;65 is ASCII for 'A'
        MOVE.W  #2,-(SP)        ;2 is CONOUT
        TRAP    #1              ;Call GEMDOS
        ADDQ.L  #4,SP           ;Adjust the Stack
* ,,then wait for a keypress,,
        MOVE.W  #1,-(SP)        ;1 is CONIN
        TRAP    #1              ;Call GEMDOS
        ADDQ.L  #2,SP           ;Adjust the Stack
* ,, and finally exit back to the desktop
        CLR.W   -(SP)           ;0 is TERM
        TRAP    #1              ;Call GEMDOS

****************************************************************
```

Using the Devpac 2 integrated editor/assembler with this month's tutorial program

Here's your homework!

Although we haven't covered much programming this month, you can use the time while you eagerly await the next issue to familiarise yourself with your assembler program, and to experiment with the example.

As I have said, you are not expected to understand how the program works, but try changing #65 to #66. Changing other parts of the program may cause it to crash, but will not damage your ST, so go ahead and play!

If you are confident, you could try making the program write your name across the top of the screen by duplicating the four lines from MOVE.W #65,-(SP) several times, and changing the value representing the letters to suit your name.

Techno talk

Bit – The smallest addressable piec of memory. From Binary digIT, a b can have a value of 0 or 1.

Byte – A consecutive group of eigh bits. Directly accessible by the pro cessor as a number, eight bits can used to represent a number from 0 to 255.

CPU – Central Processing Unit. Usually used to refer to the main processor of a computer – in the c of the ST, the Motorola 68000.

Link – To save reassembling portions of code every time a small se tion changes, a Link step may be used to combine pre-assembled pr grams with the part under develop ment. This is often used when writing different parts of a progra in different languages and will no be covered by this series.

Longword – Two consecutive words, four bytes, or 32 bits of me ory. Directly accessible by the pro cessor, a Long Word may be writt or read in one operation.

Machine code – A sequence of va ues held in the computer's memo which can be interpreted by the p cessor as a series of instructions.

Memory – Divided into ROM and RAM memory, the storage within the machine which is accessible directly by the processor.

Object code – The output from a assembler program which is exe cutable by the processor.

ROM – Read Only Memory. This memory contains values which ca not be changed.

RAM – Random Access Memory. Confusingly named, but essential memory which can be both read and written by the processor.

Source code – A program describe using a list of assembler mnemon

Word – Two consecutive bytes. Directly accessible by the process in one operation a word can be u to represent a number from 0 to 65,535.

Public Sector

Andrew Wright picks some of the latest budget-priced programs guaranteed not to make a hole in your wallet

Camel capers

Minter's Revenge of the Mutant mels is the follow-up to the enor- usly successful Llamatron, released hareware last year.

Revenge has been converted from original CBM64 classic but it uses ST's vastly improved graphics and nd capabilities to the full, unlike ny other conversions which show ir 8-bit origins all too clearly.

The game was first released in 1984 the weird humour and superb neplay make it just as much fun v as it was when it first appeared.

The gameplay is relatively simple, as in all truly classic games. You play part of the mutant camel, not sur- ingly perhaps, and the object of game is to progress through 42 izontally scrolling levels while ding off various weird creatures. These baddies range from killer uds to "Manic Minters", not to ntion the rather unpleasant enham Common women and fly- sheep. To help you in your quest, have some extremely colourful lethal weaponry and a friendly t-like creature which the on-disk umentation tells me is an "ancipi- . I'll just call it a goat because I 't know what an ancipital is.

You can play in one of three modes lo, CPU-assisted or two-player. In default CPU-assisted mode, the t is controlled by the computer. t runs around and fires at the ene- s quite independently although it ossible to get it to sit on your back, which case it acts as an intelligent turret with the added benefit of ecting your hump from the nas-

n solo mode it takes a rest and in -player mode, one player gets to trol the goat and the other the el, provided you have two joy- ks of course.

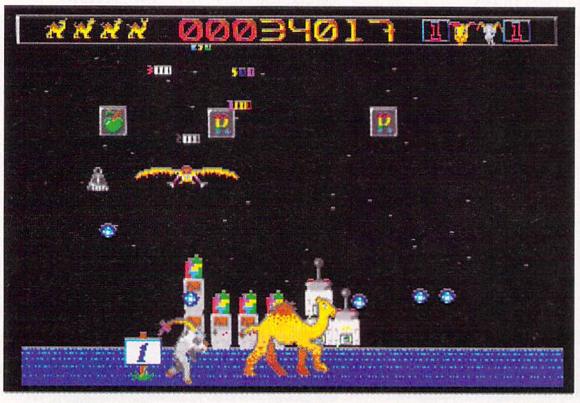
You start the joystick-controlled e with your shields at full strength they gradually decline as you take . The energy levels are displayed onscreen and can be boosted by collecting the appropriate icons as they fall from the top of the screen.

Naturally, to make things a little harder, there are icons which do you no good at all. In keeping with the game's unique sense of humour they include cigarettes (which make you move rather erratically – I wonder what brand Jeff Minter smokes?) and "confuzers", which are particularly awkward as the joystick controls get reversed for a short time!

Revenge is a shareware program which means that you are obliged to register and pay a £5 fee if you like it. The basic 512k version is available from most public domain libraries and comes with a 30k text file on disk.

There are five other versions of Revenge available and when you register you can get the version of your choice plus a free Llamatron poster. The 1Mb version has added sound samples and runs much more smoothly. The STE versions take full advantage of the more capable graphics hardware and incorporates extra colours and effects. Make no mistake, though, the basic freely-distributed 512k version puts many commercial packages to shame. The speed and quality of the sprites and the overall effect of the stunning graphics gives this game a look and feel all of its own. In many ways it's much better than Llamatron – it isn't quite as frantic and there is more time to plan strategies for each wave of dastardly creatures trying to do you in.

Overall it's a hugely enjoyable masterpiece that deserves all the registration support it can get. Roll on the next Jeff Minter classic!



In two-player mode the camel and the goat can fight side by side – without slowing down the speed of the game

Crossword design

The grandly-named Bradness Crossword Designer and Solver v1.1 has just been released as shareware. It supports crosswords up to 15 squares across by 15 squares down and allows the user to design new ones from scratch or input complete or partly solved crosswords and solve them using the powerful dictionary search features.

The program comes with a 36,000 word dictionary of common words and a secondary 31,000 word dictionary of less commonly used ones. It also features a basic anagram-solving program which takes all the combinations of a set of letters and leaves the user to pick the correct answer from the screen – a bit basic but very effective for short words. There is also a folder of completed and partly completed examples, along with all the clues.

Although the dictionaries supplied are impressive, the power of a crossword solver is only as good as the

Where to get it...

Caledonia PDL, 250 Oldtown Road, Hilton, Inverness IV2 4PT
Elmsoft, PO Box 17, Loughton IG10 2EE
loppyshop, 45 Provost Graham Av, Hazlehead, Aberdeen AB1 8HB
Gemini Shareware, 10 Warwick Avenue, Slough SL2 1DX
oodman International, 16 Conrad Close, Meir Hay Estate, Stoke ST3 1SW
LAPD, 80, Lee Lane, Langley, Heanor DE7 7HN
IT Software, Greensward House, The Broadway, Totland, Isle of Wight PO39 0BX
New Age PDL, 30, Anderson Estate, Lower Road, Hockley SS5 5NG
Page 6, PO Box 54, Stafford ST16 1DR
Public Dominator, PO Box 801, Bishop's Stortford CM23 3TZ
Softville, Unit 5, Elettra Avenue, Stratfield Pk, Waterlooville PO7 7XN
ST Club, 2 Broadway, Nottingham NG1 1PS
SW Software Library, PO Box 562, Wimbourne BH21 2YD
Sphinx Software, Erw Fynydd, Carmel, Llanelli, Wales SA14 7SG
Trust PD, 18, The Park, Southowram, Halifax HX3 9QY
Freaks, 29 Leap Valley Crescent, Downend, Bristol BS16 6TQ
B-SOFT, 2 Oliver Drive, Calcot, Reading RG3 5XN

number of words it can store and call on when needed. With this in mind, you can add new words and store them in a user dictionary without affecting the program's own dictionaries.

In actual fact the dictionaries are stored as Ascii text files with one word per line. This should allow you to teach it new words, adding dictionary files from one or more of the public domain spell checking programs or even from a commercial package. You would then need to sort the list using a suitable database or a text editor such as Tempus 2 which can sort lines of text, line by line.

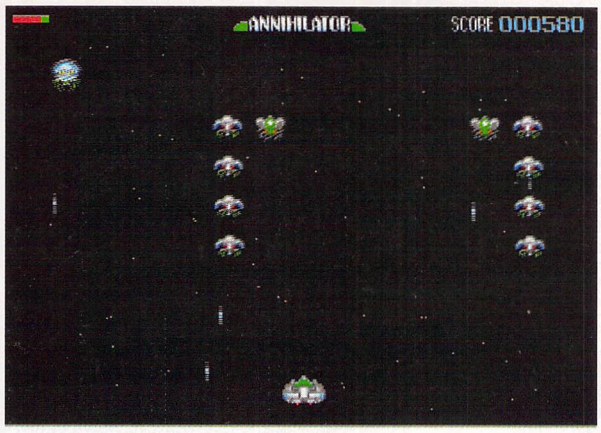
There are three options on loading the program. Firstly, an existing crossword can be loaded from disk, the clues examined and then either the words or clues can be changed or replaced as necessary. The second option is to create a new crossword by defining the size and filling in the black squares in a suitable manner.

The program automatically ensures that the crossword is symmetrical by filling in the opposite corners. This a quick and easy task which allows existing crosswords from newspapers or books to be entered and stored for future use.

It can then be asked to search for suitable words to fit a given clue – regardless of how many letters have already been filled in. At this task it is reasonably effective – when asked to supply a word to fit in with T_E_ _, for example, it responded with a choice of 18 different words.

With more letters filled in and longer word lengths, it is less able to help. The program is further limited in that it will only select a maximum of 2,000 words for you to choose from which rather restricts its effectiveness.

Crossword Designer requires 1Mb of memory but runs in high or medium resolution. It is shareware so the usual rules apply – if you like it, pay the very modest £5 registration fee and get better, faster loading dictionaries and more enhancements in the future. It is available from Goodmans on Disk GD1461.



I remember discoverin g this arcade classic in a pub where it was embedded in a little glass table – oh, the perils of a mis-spent youth!

Annihilator

One of the latest offerings from Budgie is a superb implementation of my old favourite, known under several different names including Galaxians.

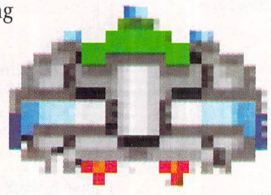
Having just released its 165th title, Budgie are going from strength to strength and will continue to do so if the quality of this excellent shoot-'em-up are anything to go by.

The new game is called Annihilator and has a nice professional feel to it. The sound effects are very good, with pleasant missile noises and neat explosions. They never seem to intrude on the game and can be listened to for long periods without suffering ear damage – one of my pet hates afflicting many arcade games.

The graphics are very good – full use is made of the ST's colour capabilities and the animated alien sprites are very nicely done, especially in later waves when some of them peel out of formation and attack your spaceship.

The aim of the game is purely and simply annihilation of the "insectoid" swarm coming at you from above. Each creature requires several shots to hit home before it can be killed. There are ten formations to get through with additional nasties after levels five and ten.

To make it even more interesting, there are a few bonus pills to help you along. Grey pills confer invincibility, green ones give rapid fire capability, blue ones give three-way shooting and the gold pill replenishes your shields.



A nice touch is the accuracy report, after it's all over, which tells you the percentage of your shots which hit their target.

Annihilator was written by Robert Leong and the disk is available from Budgie Licenceware or any good PD library such as the ST Club or Goodmans priced at £2.95. It runs in low resolution only and requires a joystick.

Arthur and his merry men

Arthur of the Britons is a refreshingly novel game which appears to be a cross between Populous and Mega Lo Mania, but later reveals itself to be several different games all rolled into one. It was written in STOS Basic by Ralph Effemey and is now being distributed as shareware through Goodman Enterprises on Disk GD1485.

The game starts with a 3D map of the region, including a village, a castle, a mine, a hunting lodge and various terrain features. Moving your army is simple – just use the mouse to guide Arthur and his men to wherever you want to go. Move to the hunting symbol and you are presented with a view of wooded countryside across which the target ducks fly quite rapidly.

The idea is to knock them off, of course, using arrows aimed and fired using your mouse. If this is against your instincts, consider it as good historical simulation – I mean they weren't vegetarians in those days were they?

It is also possible to move off the edges of the initial map where other pleasures await. Here you come across my favourite "feature" of the overall game – the archery tournament. You have to calculate the power of your shot (the range varies after each shot), allow for the wind and use the mouse to aim and fire at your target.

It really is a brilliant little archery simulation which leaves you going back again and again just for the fun of shooting off arrows.

Visits to the village reveal a source of food, drink, healing and extra arrows. Random events need dealing with – brigands often attack the village, for example, and occasionally rather unholy alliances are formed against you.

Attacking the enemy castle is also good fun – this time you get to shoot bolts at the defenders who move around extremely quickly! Your score is displayed onscreen along with your current food and water levels and the number of troops and amount gold at your disposal.

My only major criticism is the lack of any documentation which leaves you to flounder around for a while until you get the hang of it. Not only that, but there doesn't seem to be any point to the game other than staying alive and keeping your kingdom happy and healthy. While this may be an admirable ideal if you happen to be a king, for the rest of us it's a little less rewarding.

All in all, however, the game is ➤

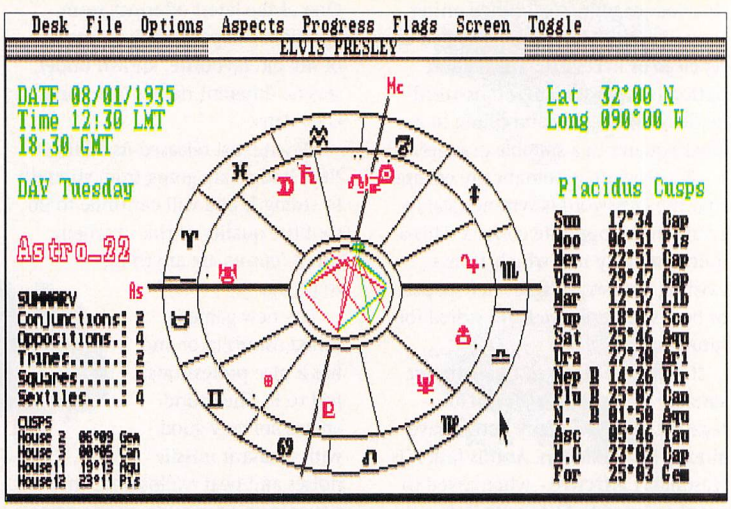
Arthur of the Britons – refreshingly novel. I bet more people get upset about killing ducks than knocking off the poor old defenders

The archery contest – a game in its own right!

One for the pot – I hope the anti-bloodsports people aren't about!

Public Sector

The opening scene in Arthur of the Britons – a whole world to explore



Astro22's version of the Elvis Presley star chart. I wonder if the squiggle on the right means he's still alive?

Public sector news

● New Age PD Library, one of the newest to hit the ST scene in recent months, have announced their intention to form their own licenceware label.

Similar in concept to the Budgie licenceware system which has grown very successfully over the last few years, the New Age label aims to concentrate on giving programmers more of a return on their investment in time and money. Any budding programmers should contact Caroline Price at New Age and include an sae.

● The ST Club have been having a busy time of it lately. They have just published version 12 of its massive PD and shareware catalogue containing over 2,500 disks. The catalogue is available from ST Club, 2, Broadway, Nottingham NG1 1PS (0602 410241).

Prices have been slashed from £2.80 per disk to £1.45, and the more you order the less you pay. If you order more than six, the price drops to £1.25, and over ten it drops to £1. The price cuts reflect a move to new, larger premises and an increase in turnover.

well designed and nicely done, especially the graphics. And it is shareware – if you don't like it, you don't have to fork out any more than the cost of the disk. As an incentive to register, for the £5 registration fee you get another free piece of software with a choice between STOS PAINT 2, a STOS starter pack, or more games. Sounds like a good deal to me.

All in an Almanac

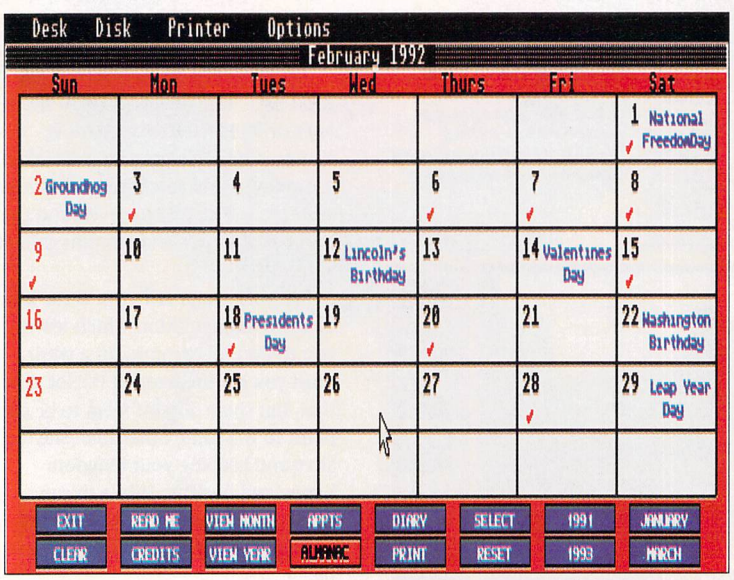
Personal organisers and diaries are notoriously difficult programs to develop, depending a lot on the taste and habits of the individual who is going to use it. As a result there have been very few good programs of this type available on the ST or any other computer, for that matter.

ST Almanac, a shareware product from Canada, is a good try at filling the gap in the market and one of the best around, after the commercial accessory Harlekin, of course. It is a useful tool for anyone who uses their ST on a daily basis.

Almanac is an all-purpose calendar and planner to keep track of special events, anniversaries, birthdays and appointments. It also includes masses of detailed information on public holidays and other world events.

It can be run in three distinct modes – appointments, diary and almanac. There are also two main screens – the calendar screen and the editing screen – which shows details of appointments for a specific date. The text file on disk gives you all you need to know about navigating your way around the program. With a little bit of luck and the ST Almanac, you need never miss a meeting or appointment again!

Almanac requires about 300k of free memory, but unless you have a lot of desk accessories installed, this should cause no problem on a 520ST. It runs in medium resolution and is available from Caledonia PD Library on disk AU-0108 or from the ST Club on disk UTI.181.



The latest attempt at the definitive personal planner – a useful utility from Canada

A star attraction

LAPD have released a superbly put together astrology program on disk M84, entitled Astro22. The program is public domain but various add-on utilities are available from the author, David Wilkinson, for modest amounts.

The program takes all the hard work out of calculating a star chart based on time and date of birth, and latitude and longitude of birthplace. It is easy to use and extremely fast. To calculate a chart, the "new chart" is selected from the menu and the details are entered via dialogue boxes. Various options exist for specifying the time, based on GMT.

A folder full of statistics for various famous people is also included – you can choose from categories such as stage and screen, politics, art and science and load star charts for each personality in seconds.

Quite what you do next I'm not sure, but the program's author suggests a trip to the library to get a good book on astrology. It is far too complicated a subject to fit into a READ.ME doc!

Astro22 is fully GEM-based and comes in two versions, one for mono screens and another for medium resolution colour. Because of the number of odd symbols used in astrology, the author has included Jeremy Hughes's PD font utility, FONTSEL.ACC, which changes the system font to a purposely designed one when the program is booted from the distribution disk.

The screen display is well laid out

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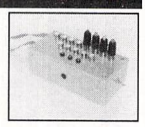

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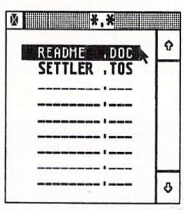

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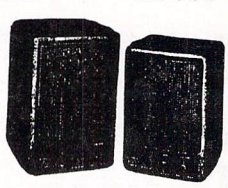

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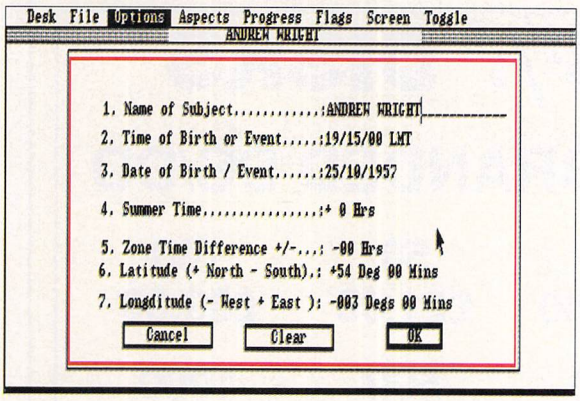


Entering data is quick and easy in Astro22.

➤ and colourful – the default colour scheme works well enough, making most of the characters legible. The GEM menu bar reveals an extensive array of options but most are greyed out as being inaccessible until the additional modules are added.

Documentation is minimal but there is an extensive list of add-on modules for those interested in taking it further. I can't give any opinion on how accurate it all is, nor whether the information gleaned from gazing at the charts will be of any use to you whatsoever. If you are into astrology, however, it looks to be a very good place to start.

Blocked up!

Following hard on the heels of last month's review of Moon Letters comes another excellent quality educational package from Shoestring Software called All Blocked Up. Shoestring disks are sold as licenceware but are available from a number of PD libraries, including New Age PDL (Disk reference Shoe 6).

All Blocked Up is a maths package intended for younger children but the good gameplay and wide range of custom settings allow it to be used by pre-school children right up to age 12 or even higher.

Essentially, the object of the game is to answer routine additions and subtractions. However, a correct answer will fire a missile from the launcher at the bottom of the screen and destroy the blocks which descend from above.

A wrong answer has no effect but as time goes on, the blocks will reach the bottom of the screen and start to fill up the playing area. When the screen is completely blocked, the game is over.

The game consists of two separate programs – an auto-booting introductory program which provides instructions and a list of other Shoestring titles, and the game itself. The instructions are displayed in large letters, which makes them easy for children to read, and the whole process is mouse controlled.

On exiting from the first program the start screen appears, from which you can choose the speed of the blocks and one of 12 difficulty levels. Again the mouse is used to select the options required and a slider bar sets the speed.

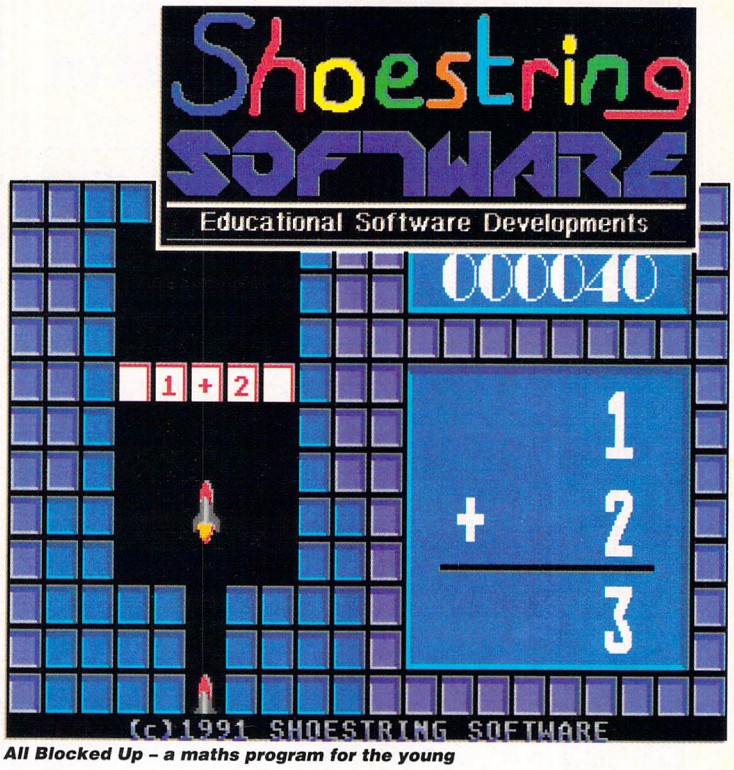
The graphics are very bright and cheerful, sure to attract children by being simple yet fun. The sums are displayed in large figures on the right-hand side of the screen as well as on the advancing blocks for quicker children.

The levels are fairly straightforward – the first three consist of adding, subtracting and then adding or subtracting numbers up to nine. The next three levels cover numbers up to 20, the next three up to 50 and the last three up to 99.

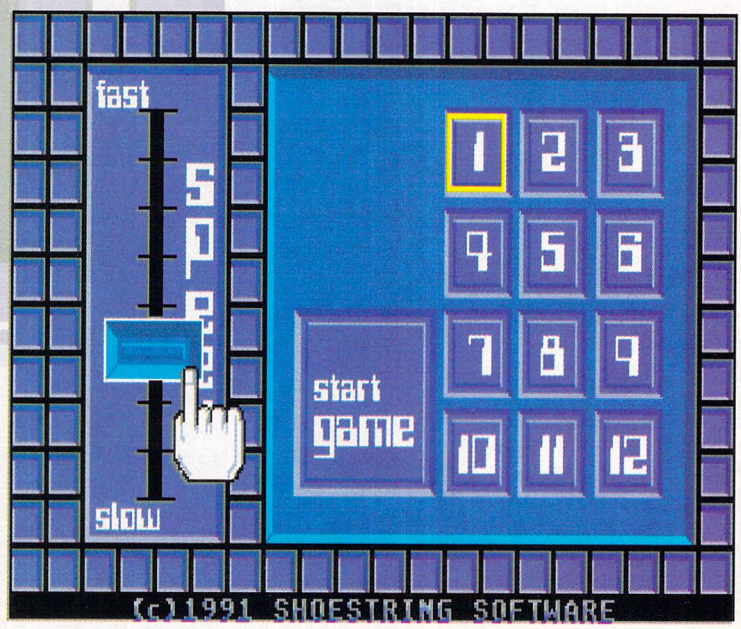
I have two minor criticisms of the game. Firstly, it can actually be customised too much. When the speed is set to three quarters of maximum and the level to ten or more, it becomes incredibly difficult even for an adult!

Secondly, it is possible to get the right answer simply by running a finger along the line of numeric keys, especially at lower levels. This is because the wrong answers have no effect but whenever the correct key is pressed, it is displayed onscreen and the program then waits for the next correct key press.

On balance, however, All Blocked Up is a very good educational program which should amuse younger children for some time.



All Blocked Up – a maths program for the young



The difficulty level and speed can be set, but at the higher levels it's too hard even for an adult

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Andrew Wright, Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield, SK10 4NP

No scan do

I have been a subscriber to your fantastic magazine since 1987. Recently I bought a Golden Image hand scanner and the PC Speed emulator for my Atari 1040ST. I soldered the PC Speed board to the CPU of my ST and it worked perfectly. Then I rebooted my ST and tested the scanner for a while. The next time I tried PC Speed it would not start up again as long as the scanner was connected at the same time (it connects via the cartridge port). The same goes for my Fast Basic cartridge. Is there anything I can do to get PC Speed to work without having to empty the cartridge port first?

Another problem with PC Speed is that certain Norwegian letters do not come out properly either onscreen or on the printer.

Finally there is also an annoying problem with the Migraph Touch-Up program that came with the scanner. It says in the manual that one can start the print program named Outprint from within Touch-Up without quitting to the desktop first. When I try it, I get an error message saying that OUTPRINT.PRG could not be found although it is definitely there on disk. It works fine from the desktop. I've copied the appropriate files to both drive A and drive B (an external floppy) without success. What can I do?

Harald Brorson, Jevnaker, Norway

Compo, the UK suppliers of PC Speed, tell me that there is no known problem with PC Speed and the cartridge port so it would appear that the installation may be at fault. You could have a loose connection or a poorly soldered joint.

As to the Norwegian characters, PC Speed was only designed to be compatible with US, English, French and German keyboard layouts – Norwegian is not supported directly. However, you might check that you have installed DOS correctly. You should have an entry in your CONFIG.SYS file such as COUNTRY = 047 (for Norway) to tell DOS which keyboard and display characters to use, and an entry in your AUTOEXEC.BAT file such as KEYB XX.

In the UK this is KEYB UK but you will need to speak to a PC dealer or another user to find the correct letters for Norway. The format of these commands will vary depending on which version of DOS you are using so you will need to check your DOS manual.

On the final point, we contacted Migraph in the USA who stated that you probably have version 1.61 or 1.62 of Touch-Up (check this using Touch-Up Info under the Desk menu), in which case the solution is to rename the OUTPRINT.PRG file to OUTPUT.APP. The program should then be able to find the appropriate file and print from within the program.

A new TOS for old

I own an Atari 520 STFM with TOS 1.09, a ½ megabyte memory upgrade and an additional external floppy disk drive. I have been using Protext v5.08 for some time now and have been having problems when saving files to disk. Frequently, when I retrieve a saved file from disk, I find that some characters in the text have been replaced with others. It only happens when I save to floppy disk – when I save to a RAMdisk, exit Protext and copy the file from the RAMdisk to the floppy, the problem does not occur. I have also found that the Protext file copy command produces the same result to a greater extent.

I have been in touch with Arnor and they can suggest no reason for the problem. Both my internal and external floppy disk drives are new this year and both exhibit the same problem. Is it likely to be a hardware problem or the fault of my old operating system which, I understand, has a few bugs in it?

Secondly, can you tell me where to get an immediate upgrade to TOS 1.4 for my system? A relatively recent article in your magazine stated that Ladbroke Computing were a supplier. I contacted them earlier in the year, when they were still advertising the upgrade, and they told me they were out of stock. Since then, they have stopped advertising the upgrade, presumably because they have been unable to get hold of supplies.

Finally, I am a little puzzled by the DESKTOP.INF file, which in theory should set up the desktop. The operating system takes note of everything in the file except the colour palette which, it appears, requires the control panel to make it effective. Why is this?

J P Gibbs, Southampton, Hants

The Protext problem is a little puzzling to say the least, particularly as you are having no trouble at all saving via a RAMdisk. You don't mention whether other wordprocessors or programs exhibit the same problem. Why not get hold of a couple of PD wordprocessors such as STWriter or First Word and try them? The result should tell you whether it is a hardware problem or a bug in the software.

Protext is unlikely to be the culprit. It is a tried and tested package and the version you are using, v5.08, has proved very stable, only being replaced by the latest version last year. Arnor assure me that it was beta tested with a wide range of STs including those with the "old" TOS 1.09 which, although it was full of minor bugs (just like the later versions!), it is perfectly acceptable in day to day use.

Upgrading to TOS 1.4 will certainly make life a lot easier. The difference in speed is remarkable – I use two machines side by side, one with TOS 1.4 and the other with 1.2. The difference in file copying speeds is particularly noticeable and the dialogue boxes are much easier to use with 1.4. However, I really don't believe that it will cure your problem.

Some types of TOS 1.4 chips are in short supply. At the time of writing, C & P Rossiter (0602 631631) had some chip sets in stock at a very reasonable price. System Solutions on 071-252 7775 have several alternatives. In regard to your final question, I can only pass on Atari's answer. The third line of the DESKTOP.INF file contains the settings for the colour palette, including the colour of the desktop itself.

The operating system itself, however, doesn't understand these parameters – only the control panel and certain PD replacements can actually make use of the information. According to Atari, the colour palette functions were left out of the operating system to save space in ROM.

Railroad disaster

I have recently purchased an Atari STE so I bought the November issue of your magazine. I tried out the ACCTOOL program on the CoverDisk and used the virus killer on my copy of Railroad Tycoon. It erased half of the program. Is there a way I can copy a boot sector from another disk to use on my original game disk because I can't afford another copy?

J Lewis, Port Talbot, Wales

We contacted MicroProse, the suppliers of Railroad Tycoon, and they have agreed to replace your disk. Just send them a nice covering letter, the original master disk and a stamped addressed envelope.

Accidents do happen, of course, but it's never a good idea to experiment with virus killing programs when you have a precious master disk in the disk drive. Always use either a backup copy or a blank disk until you are sure you know what you are doing.

Virus killers work by destroying the boot sector (and any virus code present) and replacing it with a normal one. Unfortunately many commercial games have vital information on the boot sector, without which the game cannot load. This does prove the value of virus

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ATARI ST USER

killing programs such as the Ultimate Virus Killer reviewed in the last issue. UVK has a data file containing the boot sectors of several hundred commercial games. If you do get a virus on a game disk, UVK will kill it and then replace the now blank boot sector with a copy of the original.

You can obtain a copy of UVK from the UK distributors, Douglas Communications, PO Box 119, STOCKPORT SK2 6HW or telephone 061-456 9587.

Colour crisis

I am writing to see if you can help me to find an answer to what is probably a fairly simple problem to somebody with more knowledge than I have gleaned in my few months of "learner" computing.

My system is an Atari 1040 STE with a Citizen Swift 24e printer with colour option. I have accumulated several good programs during the past few weeks including Neochrome Master, Hyperpaint II and a Budgie art program.

My children (and if I am honest, I) get great enjoyment out of creating pictures and graphic illustrations onscreen and then printing them out. The problem is that, no matter what we try, the printer will only print in one colour at a time. We can't get our pictures to come out on paper in the same colours that appear onscreen.

A telephone call to Citizen failed to resolve the problem. Any help that you can give me would save me from going mad. The kids have decided that I am an idiot because I can't sort out this basic problem although, of course, nobody else has come up with a solution as yet. We are new users and read your magazine avidly. Congratulations on a magazine which is easy to read and understand, unlike some of the "higher maths" offerings of many others.

K Simpson, Paignton, Devon

Rest assured, your inability to print out in full colour isn't your fault. For a start, you've made an excellent choice of both computer and printer. There are few computers better suited to colour graphics than the STE and the Swift 24e is quite capable of producing superb colour output.

Your problem stems from the fact that the art packages you are using are incapable of printing in more than one colour. In the case of Hyperpaint II, for example, this is because the default printer driver supplied with the package is an Epson FX driver meant for 9-pin dot matrix printers.

The Swift 24e can emulate a number of other printers, including the NEC 6+, Epson LQ850 and IBM Proprinter 2. For colour work it can also emulate Epson LQ860 or LQ2500 modes. Unfortunately there are no commercial sources able to provide you with printer drivers for either of these two printer types. You could try the South West Software Library (see the Public Sector pages for an address) who have one of the largest selections of public domain printer drivers.

This leaves you with two more expensive alternatives. You could buy another software package which is capable of printing in colour. Deluxe Paint (£59.99 from Electronic Arts on 0753 549442) is one of the very few ST art packages that will work with the Swift 24e as well as other colour dot matrix printers.

There is another solution, however, which may be a lot more useful than buying yet another standard graphics package. Flexiplus is the colour version of Flexidump, an excellent utility for printing out images in full colour at a wide range of sizes. It is particularly good for cataloguing picture collections, which it does semi-automatically – just put in a disk full of your pictures and watch it print them out in miniature, complete with labels.

The value of Flexiplus is that you can draw a picture in Hyperpaint or Neochrome, save it to disk as a PI1, PI2 or NEO type file and then use Flexiplus to print it out in glorious technicolour.

Flexiplus works well with most colour dot matrix printers including the Swift 24e and Star LC24 and is available from Care Electronics on 0923 672102, priced at £39.95 inclusive of VAT and carriage.

Drivers for the Deskjet

I have just upgraded from a 9-pin dot matrix printer to a Hewlett-Packard Deskjet (a secondhand 500 model) to try and improve the print quality. I run a small business and do a lot of letter writing and occasional desktop publishing of sales reports and accounts. Unfortunately I haven't had much luck at getting it to print out. Whenever I press the Print button, all I get is garbage.

I use Timeworks Publisher and First Word Plus and my ST is a 1040STFM with two disk drives. I don't know much about the computer – it was set up for me by a rather more knowledgeable friend – but I use it every day. What is wrong? Why can't I print anything any more?

R Anderson, Highgate, London

It sounds as though you haven't changed your printer drivers. Both Timeworks and First Word Plus still think you are printing to a dot matrix which uses a different set of print commands.

The Deskjet is rapidly becoming one of the most popular printers for the ST, particularly for those who want the extra quality associated with laser printers but without the high price. One of the main obstacles to it becoming established as a best buy for ST users was the lack of suitable printer drivers. It will work adequately with most Laserjet 2 or Laserjet Plus drivers such as those in Calamus and Timeworks but for best results and faster printing a dedicated driver is needed.

As an interim option, you will need to re-install Timeworks and select the Laserjet 300 dots per inch option in the installation dialogue. This will print rather slowly but the results will be well worth it. You will also have to re-install First Word Plus, which should have a Laserjet driver of some kind supplied with it, if not a specific Deskjet one.

The next step is to contact the ST Club (0602 410241) and get hold of Disk PTR 11 which contains a number of public domain printer drivers specifically for the Deskjet series including the 500. There is a Deskjet 500 driver for First Word Plus which works extremely well. The disk also contains a number of useful utilities for printing graphics and resetting the printer.

Then you will need to contact GST (0480 496666), the suppliers of Timeworks and First Word Plus. They may be able to supply you with a suitable driver for Timeworks. If GST are unable to help, try Working Title (0865 883592). They supply the sophisticated document processor, Calligrapher Professional, which, like Timeworks, uses GDOS.

Working Title have developed their own GDOS drivers for the Deskjet series and are quite prepared to be public spirited about it and give it away to interested callers! If only more companies could be like this! You can also get a demo version of Calligrapher at the same time. Finally, you could also contact Hisoft (0525 71881) who can provide you with the Migraph Deskjet driver for £29.95.

Canine clip art

I wonder if you would be able to help me. Do you know of a clip art program containing human hands, arrows and pointers, which I could use in various positions? Also do you know of a program which has anything relating to dogs of all types but in particular terriers, such as Scottish and West Highland terriers? I need to be able to use them in Hyperpaint or Neochrome.

I am very interested in these as I have to write articles for a club.

D J O'Brien, Vihiers, France

I know what you mean but I think you are a little confused about just what clip art is. Clip art is not a program, it is a general term for a collection of pictures or graphics which can be stored on disk and used in several different types of program from desktop publishing packages to art programs and wordprocessors. It is generally used to add impact to documents or illustrate points being discussed.

There are several specialist public domain libraries which specialise in art and graphics although most large PD libraries have extensive collections. One of the bigger ones in the UK is Image Art who recently sent me a new catalogue. They can be contacted on 081-291 4094 (19 Brenda Road, London SW17 7DD) and I am sure they will be very willing to guide you to the best pictures to meet your needs.

They can also provide you with conversion utilities which you will probably find useful. Although Hyperpaint can import IMG and Degas files, it can't import TIFF files, for example, which is a popular format for storing scanned images.

On the subject of scanners, it may well be worthwhile buying a cheap hand scanner (try the Handy Scanner from Evesham Micros on 0386 765500) if you anticipate using a lot of clip art in future. You can then scan existing pictures from books and magazines, for example. Quite often you will get a disk of clip art only to find that only one image is suitable. With a scanner, you only scan the images you know you will use.

If any readers out there feel able to help, please forward details to me and I will pass them on to Mr O'Brien.

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DBRD 01 MONOPOLY, LAZERCHESS, OTHELLO, CHECKERS, WHEEL OF FORTUNE, SUPERSIMON, MASTERMIND and more. A superb collection of BOARD GAMES.

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328 Formatter, calendar, clock, dir printer, Disk Manager - format, copy file, disk free & rename folder options. + printer utility.
303 Reverse mono display. Fast copier. German Copier 11 sectors and 83 tracks. Hex dump prog. Deg-Neo, Koala-Deg & Neo-Deg. File compressor utils. Tiny Basic language 68K.
337 Hard Disk Drive Utilities. Boot from drive C, Dir checking, back up utilities, Auto folders, & overcome the 40 folder limit.
881 100% IBM compatible formatter - 3.5" & 5.25" for DOS/TOS. Manual pager, a way for Unix techies to produce documentation. MEGA formatter. + lots more.
379 GULAM CLI Command Line interpreter, 60 commands. Comprehensive instructions.
383 DR FLOPPY, disk sector editor, SCODE makes ASCII for easy data transfer. FORMAT plus. SORT, string sorting.+ more
745 STAR LC-10 PRINTER configuration utilities for 1st WORD & 1st WORD PLUS. +
746 SUPER V KILLER is a utility that detects 5 different viruses, 7 anti-viruses & 133 other types of boot sector. +
751 SUPERBOOT V6.0 THE latest version of this utility for controlling your ST. Plus a good selection of other utilities.
438 REAL TIME MULTI-TASKING OPERATING SYSTEM, a complete multitasking environment for the experienced user.*D*
439 GEMDOS USERS GUIDE, a disk full of information about GEMDOS. Excellent value
572 GEM PLUS. This is a great variant of Neodesk. Alter desktop icons, design your own, and do the same with progs.
381 dbMAN tutorial. Visicalc style spreadsheet. Disk formatter. Multi-purpose file print util. Mramdisk.acc. +
882 CHK 2.3 - Disk checker. Desktop Manager v2.1. IBM MODIFIER alters DS Atari disks so that an IBM can read them.+
885 PROMOUSE self-adjusting mouse accelerator. RATTRAP locks out menus. TURBODOS. MAXIDISK reset proof Ramdisk.
333 Printer drivers for use in progs such as 1ST Word, Degas & Gemfont.
385 68000 assembler, an Address/Mailing list, an Autodial Utility. Label printer + more.
824 PICSWITCH 7 change resolution. Hi-Res & Colour emus. BBOOT boot B drive. SWITCHER - 2 progs in memory. FSEL 5.5.
517 STE BOOTUP, boot up utility for STE's, go straight into medium res.
886 DIY DEMO, Make demos, features titlescreen & scrolling message.
836 BICLOCK to set time/date. Coder Set printer from desktop. MONOEMU v5.0.
324 ADDRESS LOG, On this disk there's a limited address book & label printer, a disk catalogger that auto disk directories etc.
747 TURTLE, A HARD disk backup utility. PROTECT, write protect Hard disk drives. HDUTIL. DSBMARK test hard disk speeds.
728 HEADSTART V1.1, excellent program that allows you to autoboot programs, inc. GEM from an Auto folder. +
729 RECOVER,copy specified sectors on a disk to a named file on another disk. BOOTIINFO put any text on screen at boot up. FSCK v1.1 File System Checker & Repairer.
730 GEMINI Desktop replacement. All English version of a replacement Desktop simular to NEODesk.
384 On this disk is a prog called LABEL EXPERT good label maker. Preset formats for floppy disks, video, & cassette tapes.
857 DISKMECH powerful disk analyser/archiver/ editor with full docs.
884 AMC GDOS, Atari's replacement for GDOS, used the same. ARC SHELL v1.98. DISK TOOLBOX v2.03. HYPERFORMAT v2.56
584 MOUSE TRICKS, a .ACC that gives the user extensive control over mouse movement & menu. QuickST Speeds screen output.
843 AUTOGEM autoboots any Gem program when booting. XFORMAT2 extended formatter & VC Spreadsheet.
883 MX-2 v2.3 a multi-tasking & user environment, allowing up to 7 concurrent tasks such as compiling, printing, etc. *D*
842 DEC edit clone, Disk engineer v3.01 Do almost anything to a disk via GEM

GRAPHIC, FONT AND ART/DRAWING DISKS

323 Digitised pictures. 5 from Raiders of the Lost Arc & 12 from Ghostbusters.
375 FONTEDIT v3.0, Editor & loaders for Ram & downloaded fonts. Inc. are a number of fonts, font data disassembler. +
397 DOODLE, This disk has the original Mono & Colour versions. NEOCHROME v0.6.
578 ST GRAPH. A comprehensive graph, handles Bar, Horizontal/Stacked Bar, Line & Dot Charts.
376 FONTS2, Screen & desktop fonts. Columbia, Devoll, Hudson, Saturn, Spokane,. Thames & Universal Roman.
876 DELUXE FONTMASTER v2.0 Print a large choice of original fonts on an Epson/IBM/NEC compatible printer. *MD*
388 A Pics disk includes Mona Lisa, Moon, ST keyboard, Planet, Yoohoo, Saturn.+
392 A version of Neochrome & Neofun. A great art package.
803 Amiga & Macpaint pic files plus PICSWITCH which can read Neo, Degas, etc.
808 FRACKTAL is a fractal drawing program from Germany. Fractal landscape prog.
850 FONTKIT 3.31 An excellent font program. * D *
880 COLOURBURST 3000 v0.2, This program allows you to add different colours to pictures from other packages. *CX*
888 ANI-ST, animation system. You draw the initial & final shapes & the ST draws the ones in between. Full docs.
396 MASTERPAINT, A great drawing package with some excellent features & it works in Mon & Col. LITTLE PAINTER
394 PICWORKS, This is a utility for enlarging, reformatting & manipulating pics up to 3 times normal size. * M *

GENERAL

588 STEVE'S COMPACTED DEMO NO.2 - Megabang, Robomix, & Magiceys. * D *
589 STEVE'S COMPACTED DEMO DISK NO.3 - Micromix, Stingray & Ballit. * D *
569 SLATATANIC CULT, Demo I & II *D*
358 GFA BASIC 1, A run-time version of GFA Basic is included with plenty of samples.
549 POOLS predictor, that includes a data
462 AUTOROUTE DEMO, Demo version is highly useable, covers the south of England.
465 POOLWISE V3.5, Sophisticated pools predictor. MED RES.
586 LIFE'S A BITCH, demo *D*
435 NEWGEN V4: very good Genealogy prog. Can print family trees etc.
437 BUSINESS LETTERS, 100 business style letters. SPREADSHEET, visicalc clone.
587 STEVE'S COMPACTED DEMO DISK NO.1 - Bat Demo, Micromix II, FujiBonk.*D*
889 Virus killer, a mono res` emulator, Art utilities, OIDS demo & a Space Invaders game.
821 POV6, Space ace demo, Starwars Rap, Bouncing ball + others. *DS*
807 SKY MAP, will display over 1500 of the brightest stars.
356 FAST BASIC 1, A selection of FB progs. There's an address database, & others.
575 CONSTELLATIONS. an Astronomers disk *M*.
701 PLANETARIUM, look at planet & get statistics on them.
357 FAST BASIC 2, A selection of Fast Basic progs. FILECOST.ACC, use with Fastcomm, & more
802 THE PLANETS, A slide show around the planets with plenty of pics, facts & figures.*D*
832 ST TOUR, Guided tour of your ST in tutorial form.
833 YOUR SECOND ATARI MANUAL - A text file of the book. A must for all ST users.
593 TRANSYLVANIA DEMO by TLB * D *
594 SOUND CONNEXIONS DEMO * D *
595 THE NEW YEAR DEMO, by TCB. *D*
567 DELERIOUS DEMO II, * D *
568 THE DEFINITIVE DEMO, by TLB *D*

EDUCATIONAL

872 KIDGRAPH, KIDMUSIC, KIDPIANO KIDPOTATO for children from 2-5 years *C*
559 KIDPUBLISHER, Kidsong. Numeric go round, Braille.
424 DOT2DOT, join the dots to make pics. KIDCOLOUR, for young children. KIDSHAPE.
425 MIXN MATCH, an excellent game where you must pick two matching cards.
426 THE BODY SHOP, a great prog ideal for any age group, locate bones and organs.
427 SOLAR SYSTEM GEOGRAPHY, loads of data on the solar system.
428 GEOGRAPHY TUTOR, a great shareware package, full of all sorts of info.
429 ZOO MAKER, a game with a difference, you are asked questions and the computer tries to guess the animal.
704 WORLD MAP GAME Locate places around the World.
825 Spelling made easy
341 BARNYARD pair animals from memory.
Smoothtalk demo. * C *
564 CHUNNEL, A French to English & vice-versa tutorial game, * C *
538 TYPING TUTOR (1).
744 PERFECT MATCH, Try and match cards 2 at a time. Questions & answers.
539 TYPING TUTOR (2) A very good full documentation.
557 SPELLING MADE EASY, The computer speaks the word, you then type in the correct spelling. Words included.

809 AIM 3.21, An image processing package, plenty of docs. * DX *
810 AIM v3.21 disk 2. This has colour images & macros.*DX*
812 AIM v3.21 disk 3. Three macro demos, PCB analysis, shading correction & Abingdon Cross Benchmark.* DX *
540 PUBLIC PAINTER An excellent art package. German but not hard to master. * M *
820 SNOOPY, 25 cartoons with displayer *C*
571 GRAPHS disk. Full of utilities for printing graphs. TOP CHART.
336 ST FONT EDITORS. GEM fonts are used. Includes a font loader that works as a Desk.ACC. Also a mouse designer.
577 PALART. Excellent art program with full docs on disk. Excellent features. *C*
556 VAN GOUGH(Dutch)& STUDIO2(1meg ram), 2 colour art packages.
401 LOW COST CAD 6.20. PD demo version.
442 ST CAD v2.1, a medium or High res CAD package. Full docs. CALCPLOT, scientific calculator and function plotter.
393 THE ARTIST, A great drawing package with all the normal options. * M *
464 NEOCHROME MASTER, This is a recent upgrade of Neochrome. Inc. Extra cut & paste, etc. LOW RES only.
469 JILCAD, a good shareware CAD package. Lots of features (2D)Add-ons available. *XD*
471 FONTS, Calamus PD fonts from USA. Advert, Babyteth, Barnum, Carolina, Casual, Celtic, Chancery Bold, Chancery + others *D*

MUSIC

875 COMPOSER, music creation, uses ST's soundchip or midi interface, with drum kit etc. There is also a player program.
370 Digidrum demo from Microdeal
570 CZ SOUNDS, xfer data from CZ101 to ST midi. MASTER, demo sampled music sound.
371 Digitised music Secret Separation *DX*
550 Digital sound demo, Degas & Neo graphics. Quartet demo, 4 channel sequencer.*C*
373 Digitised Wind Him Up by SAGA. *DX*
870 SINGING CALIFORNIAN RAISONS 4 piece group of singing raisons
720 - MUSIC WRITER, create music on screen, Also Sound Chip Controller.
721A-B SOUNDTRACKER PLAYER & MODULES. ZOWEE, TIMDEMO, AUSIFOOT, GRILLED MUSIC1, more * 2 Disks ! !
536 CASIO CZ SOUNDS & EDITOR, 2 Casio CZ series synthesizer editors/librarian programs.
871 CHANNEL SCOPE, an early version of Midi Monitor. HIGH-TECH TRIVIA v1.2 +
535 ACCOMPANIST 2.3, midi sequencer program. 16 voice 96bpm resolution. Loads of features.* C *
760 KYLIE MINOGUE, digitised sound demo with a slide show of Kylie.* D *
753 XBIOS Music Construction Kit, a powerful song editor.
754 PERCUSSAMAN is a 4 track, 16 instrument, digitally synthesised sequencer.
750 SOUNDTRACKER PLAYER & MODULES. D-DREAD1, D-DREAD2, PAT-MIX, RVB_DEMO, SPREAD.
767 MICHAEL JACKSON - BAD, digitised sampled sound & great graphics.
466 GHETTOBLASTER, a simple but enjoyable demo designer. LOW RES.
477 MFP, music design package from Yugoslavia. Comprehensive package in English *DX*

PROGRAMMING/LANGUAGE DISKS

574 6800 ASSEMBLER. Assembler. This disk is full of the assembler and it's associated files.
702 STOS SOUND FX CREATOR, Create sound effects for STOS games in the format of STOS banks.
325 XLISP v1.7, Experimental object orientated language. Includes masses of docs.
360 A Pascal disk with a large selection of programs and their source codes.
828 STOS RUN, is a utility that enables you to run STOS programs without STOS.
312, 313 & 314, C LANGUAGE DISKS 1, 2 & 3 of Elementary C, a set of 3 disks of program to illustrate to the beginner the use of 'C'. Each prog includes C source code.
361 A 68000 Assembler, selection of progs in FORTH-83, ST Logo, ST Basic & OSS Pascal.
305 CPM EMULATOR, CPM-8 version 2.0, runs at 2 megahertz.
306 CPM UTILITIES, to utilise disk 305.
308 GEM CLASSES, 1 to 17 taken from Antic magazine. Good tutorial.
334 C COMPILER, boot up utility, ramdisk, and command line interpreter.
813 PROGRAMMING EDITORS, 3 editors, CONTEXT v2, PRO-ED and P-EDIT. Docs.
359 On this disk there are a large number of Pascal documents, programs & source codes.
839 Nigel Smith's ST 68000 Ref. guide v2.0 gives a popup guide to Assembly language.
887 SOZOBON C, Probably the best PD C compiler.
851 The STOS products demo. Covers the language, compiler, Maestro & Sprites 600.
759 SPRITE EDITOR. Create & save your own sprites. Excellent Sprite design program that has several fast & flexible routines.
440 C TUTORIAL, superb disk manual that provides an excellent intro to C programming.
474 GNU GDB, source level debugger. SZ ADB, M/C debugger for SOZOBONC.*D*
475 MKRSC GEM resource construction util.
476 MODPAS, Pascal Compiler, docs. *D*

COMMUNICATIONS DISKS

364 PACK-ET-TERM v3.3A, a great radio package. YARP split screen RTTY terminal.
316 XMODEM, MODEM 7, a multiple file transfer utility, transfer a whole disk in one go. Plenty of docs.
366 UNITERM v2.0a, docs inc. Superb comms package. Tektogem transformer prog
752 VANTERM 3.71 & 3.8 is just about the best PD Communications package around
463 LOFT COMMS DISK. Ideal for the beginner, some conns progs and very large helpfile.

APPLICATIONS - SPREADSHEETS, DATABASES ETC

826 DATABASE I, GEM driven database. Easy to use & learn. Online help screens.
827 ST SHEET. This is a very good quality spreadsheet. Can be used as a Desk Accessory. *C*.
830 HOME ACCOUNTS v1.0 Pullin. 43 different statements in memory. 100 entries per statement *C* NOT STE.
873 B/STAT v 2.01 This is a sophisticated graphing & statistical analysis program *D*.
874 OPUS v2.2. This program is a GEM based spreadsheet & charting program *DX*.
543 WG DATA, database, custom screen layout for data input. Comprehensive docs.
537 DOUBLE SENTRY, Accounting prog. A fully working accounts package that covers all aspects except VAT.
755 PERSONAL DTB is a database for storing your names & addresses & creating labels or personalise mail shots.
541 INVENTORY PRO v2.0 is a fully featured stock control system. Very powerful.
432 TCOS database that allows data to be structured in a tree arrangement.
433 ZAPCARD, easy to use card type database. Allows upto 1024 cards. BANKER Simular to Lotus 123. Comprehensive docs.

WORDPROCESSING & DESKTOP PUBLISHING

727ATEX, 6 DISK PACK, Includes TEX the document processor & typesetting system. Comes with it's own programming language, handles graphics & equations with ease. Comes with 114 fonts in 28 styles. Full documentation ***** 6 DISKS !!! ***** *DM*
310 On this disk there are three versions of Includes template & quick reference files.
835 1ST WORD Wordprocessor. Fully GEM based professional wordprocessor.
831 (SS)841(DS) EASY TEXT v1.2- Fully working DTP demo program. Fully Gem orientated using the WYSIWYG presentation. 21 page manual on disk. The only difference between this and the fully working version is that this will only print 1/4 of a page at a time.
363 ST WRITER ELITE,v3 the latest release of ST WRITER. It's a superb PD Wordprocessor with text files, docs, etc.
877 ST FOLDING EDITOR v0.9A Shareware 'folding' text editor which allows sections, sub-sections & paragraphs to be made invisible so the structure of the document can be clear.

GAMES

343 SHERLOCK, A cluedo game Sherlock. El Bozo City, Sci-Fi text adventure. Around The World In 80 Days, collect 17 souvenirs in order to succeed.* M *
340 ARKANOID CONSTRUCTION Kit.*DX*
544 AYATOLLA, Your border is under attack from terrorists.
868 ROBOTZ, Very playable game with excellent graphics & animation. There are 40 levels for you to complete.
847 FRUIT MACHINE simulator.
352 Eamon is an Adventure game writing write your own games. Comes with 5 games.
856 CHESSNUT, is a 3D chess game. SPOOKS is a great PACMAN clone. BELLUM INTERNECINUM, Galaxian clone.
531 COMPUTER PINBALL, as it sounds. DEVASTATOR, a 3D game, & a DARTS game.
576 TALESPIN. The wolf and the 7 kids. This was intended as a first adventure for children aged 5-9.
518 Cribbage, Othello, Yahtzee.
519 WIZZARD'S LAIR complete text & graphic adventure.
780 UNDER BERKWOOD A massive graphic adventure.
781 MAKE A BREAK, A great Trivia game leaning heavily towards Snooker rules.
403 FLYOVER, a bombing raid game, reasonably difficulty.
405 BOXING CHAMP, fight the worlds top 10 champs.
409 ESCAPE FORM THE TOMB OF RA, collect jewels to prolong your life, find the secret passsages, and if you can, get out alive.
410 MUTANT, A reactor in a nuclear powered mine goes out of control. You must get to the end cavern and destroy it.
413 MARS MAZE, good platform game. Work your way up through the levels, get the fuel pod before your time runs out.
419 CHESS, a very good implementation.
421 COMPANY, business simulation.
422 MOTORBIKE, drive your bike around and BLACKJACK.
423 TARK, great text adventure. You are Tark, priestess of the First Church, in her battle against the Demon of the Dark Desire. D & D type.

200 **GULF TORNADO.** awesome scrolling shoot 'em up. Blast those Tanks, Missile Launchers & Migs. Not Public Domain. **EXCLUSIVE TO US.**
£2.50

467 BATTLE FOR THE THRONE, a role playing adv.
418 THE NAME GAME, based upon the Sun puzzle.

CLIP ART

521 Various human figures, different cartoons, Titles +
522 Sports figures of high quality, July 4th logos.
523 Children's whimsical & elaborate fonts & Christmas card images.
524 Food images, Atari ST & Fuji logo etc. Disks, Computers, Robots & other Sci-Fi.
525 Faces & Eyes, concentrating upon expressions, Horses, Building plan symbols & some different Christmas images.
526 American trademarks from the 1920's & 1930's. Some very atmospheric images.
527 Various borders, tints etc. High arty & cartoons - Picasso to small fluffy animals.
732 IMGSHOW, IMGVIEW show progs. fruit, over 20 arrows & Access symbol.
733 Occasional Clips, Various Characters etc,
735 Herbs & Kitchen parts.
738 Humorous clips + individual letters A-Z.
736 More Arrows, Artdeco, Breakfast, cups/glasses & more kitchen parts.
737 Babies, Boys & girls.
739 More Girls, Scrolls & Occasional clips.

GAMES

764 YAHTZY, An extremely popular game.
799 BOMB OUT BROTHERS, Compilation disk No.1. MAD MOLE, great version of the Boulderdash, LASER RACE, defeat enemy laser cars in the arena.. ALIEN BLOCKADE, based upon the arcade game QIX.
548 ENGLAND TEAM MANAGER. Football team management. MILEGAME is a card game.
563 DARKNESS IS FOREVER, adventure full graphics in Mono or text only in Colour.
565 SKIDPAN, A motor racing game.
529 STOCKMARKET, Wheeling & dealing. GALACTIC WARRIORS, a good shoot 'em-up.
532 ADVENTURE SOLUTIONS 1 - Solutions to over 25 advs. Crowley Manor, Amazon, Zork 3A, 2B & 3,Enchant, + others.
354 Diamond Miner is a multi-screen game with a built in games editor. Snafu & a card game called Skat.* M *
855 EXPLODE is a fairly original game where you have to outwit the computer. BALLZONE is an Arcanoid clone controlled by the mouse. JITTERBUG, You rescue aliens from a 'dying' spaceship.
528 FLOYD THE DROID, an ultra fast shoot 'em-up. Sampled sound is a real blast.
530 AIR WARRIOR, a Flight Simulator, with a choice of warplanes, accurate details. fly 'solo'. Full documentation.
705 HARRIS WENT SKIING, You have to get Harris across a busy road to buy Skis.
710 VIRUS Save the CPU from a virus out to destroy it.
402 JITTERBUG,The ship contains rare alien lifeforms which you have to catch.
406 TRACKER, destroy the enemy tracker base.
407 OVERLANDER - shoot 'em up where you fly in and destroy the enemy base.
408 CHANCE, Defeat the Archons. You have to fly through their defence system and destroy the mothership.
414 STEEL, a good scrolling shoot 'em up where you can blast everything in sight.
326 Arcade games including Warzone, Daleks, Haunted House & Mousemess.
317 The games on this disk are Battleships, Checkers, Maze(.ACC), Megaroids(Mono) Pool.
547 ADDICTION, a great version of the card game patience, great graphics (not STE).
329 Checkers, The Original Adventure, Pool & a fun Chess game. * M *
345 PUZZLE PUZZLE, jigsaw puzzle games from Germany.*M*
863 SLEUTH, A CLUEDO style whodunnit. LOCATION CRISSLEFRIDGE, You're Denby & you must dispose of radiation canisters.
891 SUPERBREAKOUT, There are over 40 brick types all with special features.*M*
554 NAPOLEON, conquer europe. * M *
761 EMPIRE BUILDER property development simulation. LOST TREASURE, you have to recover the lost treasure.
762 RUSH, rush around moving bricks in order to create a way out for the ball. Game where you head butt attacking rats.
566 DIE ALIEN BLOB, a great shoot 'em up.
742 TREASURE SEARCH, find the hidden treasure.*D*
582 STUMPED play international cricket, Control of team selection *D*
344 BALLER, arcade castle & cannons game. *M*
309 ADVENTURE WRITING SYSTEM
553 1ST SERVE TENNIS, tennis simulation
766 TUNNEL VISION, A great maze game
552 BERMUDA RACE 2, The challenge is to sail to Bermuda.
562 INVASION, adv set on a huge spaceship. Over 100 locations to be explored & puzzles to solve. CRICKET, text simulation.
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350 MINEFIELD & MISSILE two arcade games *M*
507 SKULDUGGERY, Mono/Colour, Guide a cave mite around caverns collecting diamonds. 100 levels. BLASTER defender clone.
347 SPACEWAR is a good arcade game. FIRESTORM, uses the mouse. AZARIAN shoot 'em up, beat the invading Thraxx
349 SOLITAIRE with 3D graphics. MACPAN is a Pacman clone. Galaxy & Sprengmeister are strategy games *M*
508 ATOMS is a mentally challenging game for 2-4 players. KILLERCHESS. AMMOTRACK's a race & blast'em game.
348 PACMAN, TRIVIA QUIZ, YAHTZEE
511 SCANNER a checkers game, SPACEWAR, 2 space ships battle it out
515 SHIPWRECK, educational maths with graphics.
514 A DUDLEY DILEMMA, ADV. game. You guide a student at Harvard University.
782 NAVAL BATTLE, Battleships
707 CENTAURI, a Horizontal scrolling shoot 'em up.
783 CHESS, MONOPOLY, BACKGAMMON
412 GRAND PRIX, good fast racing game
416 WHEEL OF FORTUNE, quiz based upon the TV programme.
417 HEDGEHOG, Frogger clone.
411 KEY TO ATLANTIS, Go around collecting various treasures to prolong your life.

ST P.D NEW ADDITIONS

785 MOVIE CONSTRUCTOR: animate objects & text to create stunning effects. Examples inc. FACE ANIMATOR: design a face then let your ST animate it. *M*
786 SIMPLE DRAW V3.4: A great art package that works in medium & high Res. Degas compatible samples included. (Docs foreign)
787 HYPERTEXT: Shareware prog suitable for the production of very professional documents. Simular to a DTP but more flexible, pics & text easily mixed on screen *MD*
443 ATARI TOS 1.4 FIXERS(STFMs with Rainbow TOS): POOLFIX.PRG & TOS14FIX.PRG for fixing O/s bugs. CACHE.TTP for speeding up disk access. Full docs.
444 XCONTROL: ATARI's latest TT control panel accessory for all STs. CPXs included; Color Setup, Configure CPX's, General Setup, Modem Setup, Printer Setup, Sound Setup(STE only), Window Co lours(TT only) and Accelerator. Plenty of docs on disk.
445 ULTIMATE VIRUS KILLER V5.0: Detects 60 viruses. This cut down version kills only 1 virus per session and some features are not fully functioning. CALSHOW: is a superb calender prog with great features and has loads of American historical data already programmed. Comprehensive docs.
446 SNOW FLAKE FRACTAL GENERATOR: Generates curves based on the Von Koch snowflake principal, with docs. DIARY: A great diary and address book utility, a must for keeping track of events and people, with docs.
447 FLEXIDUMP PLUS: Working demo version, Ok with most print ers. Screen dumps pictures. Some features disabled but still useable.
448 CYPHER: Encodes pics so that they cannot be loaded into normal art packages(& copied or modified) LITTLE GREEN SELECTOR: great file sel. replacement with many features lacking in the Atari version. Full docs. WPTOOLS: A .ACC that gives extra facil ities to 1ST Word and 1ST Word Plus.
449 LLAMATRON: A great Shareware game by Geoff Minter. Beware of the mutant Llamas in this shoot'em up. 1/2 & 1meg versions included. *D*
450 REVENGE V2.01: Super intelligent document displayer, which makes file reading a dream. Full docs.
451 VIDEO POKER: A faithful rendition of a Las Vegas poker playing machine. Docs included, Shareware. HAPPY WORM: Guide the worm around the maze .
452 DERRICK THE DROID: A great mix of platform, Shoot'em up & puzzle game. Select from 6 levels to play. Collect the red & blue tokens.F7;F7
453 CHORDEX: Simple but effective musicians tool, learn major & minor chord shapes, it can connect to a Midi keyboard & play chords automatically.
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DIE ALIEN BLOB (566) great shoot'em up
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SCANNER (511) checkers type.
WHEEL OF FORTUNE (416) based on TV prog

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Don't worry, the Management is not cutting your favourite ST music column down in size! We've agreed to donate a page of this month's Midi & Music Aspects towards the biggest, most comprehensive list of ST music programs ever assembled in print anywhere! Read it and believe it, only in this issue of *ST User*. There are more music programs for the ST than for all the other computers put together! If you think we've missed any, do drop us a line and let us know.

This does mean, of course, that a few items have had to be postponed but we'll be back in force next month.

Words don't come easy

Rhyme King is a rhyming dictionary designed for songwriters, poets and rappers! It runs on any ST in any resolution although the disk is copy-protected. Inconvenient.

Words appear in a normal Gem window grouped by the way they sound beginning with "basque" and ending with "larkspur".

To find a rhyme you type in a word and the list scrolls to the start of the relative rhyming section. You can search for alliteration (the repetition of the initial letter as in ball, bee, bin and bore). A Find Next option in a menu (no keyboard short cut) takes you to the next word beginning with the initial letters.

You can search for consonance rhymes where the final consonant is the same but the vowels differ as in "weedy" and "body", "people" and "ripple". You can also search for assonance rhymes in which only the final vowels rhyme as in "meet", "seen" and "greed".

The dictionary is normally shown in rhyming order but you can display alliterative, consonance or assonance words, too, during the search procedure.

You can add words to the dictionary – useful for names – and browse through it, searching for inspiration.

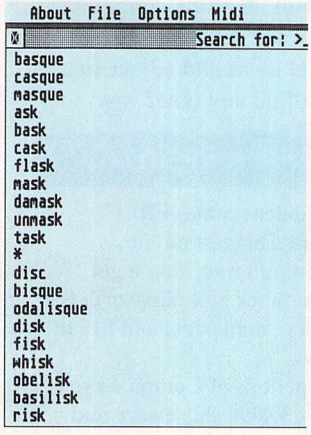
Rhyme King will run with a multitasker such as the Steinberg Switcher (you'll need 2Mb of RAM) but it really ought to run as a desk accessory so you can access it from a wordprocessor or while playing a piece from your sequencer (it has a Midi-thru function so you don't have to reconnect your equipment if it's plugged into your ST).

It's always a challenge to find words a dictionary-based program doesn't recognise. Rhyme King doesn't recognise Atari (well, it rhymes with safari!).

It contains about 1,800 words. I don't know how many different rhymes there are in the English language so I can't say if that's a good number or not although it is somewhat short of the 3,000 words we are supposed to use in our normal communications. And it can't rhyme "grocer" with "no sir", but is that asking too much?

The program is very easy to use, and fun too. If you usually resort to staring at the QWERTY keys running through rhymes in your head, it's worth checking out.

Rhyme King costs £20 including p&p. More from BSA Dataware, 44 Hordern Road, Wolverhampton WV6 0HF.



Rhyme King's main and only window. The words are arranged in rhyming order

News Round-up

● *Software which composes music seems to be growing in popularity. We looked at Band-in-a-Box in December 1990 (it's since been updated) and there was a review of Freestyle last month.*

Steinberg's Tango (£211.50) was written by jazz trombonist Henning Berg and offers the user virtual musicians which act like "the other six members of your band". It records music you play on your keyboard and analyses and modifies it in real time. Parameters can be set to give the session a sense of direction. More from Evenlode Soundworks on 0993 898484.

● Improviser (£95) was written by another jazz musician – Paul Hodgson, a saxophonist. It generates – or improvises – new melodic lines from a four-track sequence of drums, bass, harmony and melody. It recognises 20 different chord types (Status Quo only know three!) and you can alter onscreen parameters to change the music as it is being generated. It can be used with any sequencer which supports the Midi file format. More from Creative Sounds on 0272 244395.

● *Roland's D series of synths – the D-5, D-10, D-20 and D-110 – have proved very popular with musicians over the past few years. Protone (£29.95) is a budget-priced tone editor for the series. It has four memory areas for storing and organising sounds and large, easy-to-use onscreen icons. It includes a randomise function for when inspiration refuses to strike. More from Syntec on 081-977 5270.*

Ian Waug
a program
which help
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your stunn
musical
creations

Welcome to Aspects of the Atari ST

Atari ST User brings you five special pages devoted to your very own favourite ST subjects, starting here with Midi and music. On following pages:

Emulation.....117
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A spectre in the system?

Günter Minnerup considers h his Spectre MacII terr and reveal meaning o extended a expanded memory

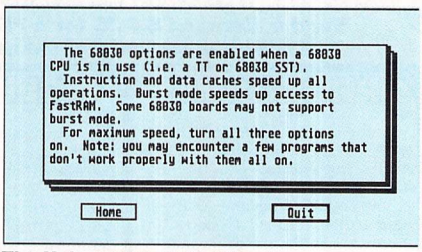
Fans of Dave Small's magnificent Spectre GCR Mac emulator are fond of pointing out that not only does Spectre run just about all of the famous Macintosh applications quite faultlessly, but that it also runs them a little faster than a Mac. This, of course, is due to the ST featuring the same Motorola 68000 chip as used by Apple, running at a slightly faster clock rate.

An impressive claim, but as Mac aficionados will not be slow to point out, the Mac Plus is rather long in the tooth now and things have moved on in the Macintosh world during the last few years. Look at the speed of my MacII, and look at the colour, they say – where does that leave your Spectre-enhanced ST?

Now there's no way that any Atari computer can emulate a colour Mac at present, because Spectre only works with the 128k ROMs found in Apple's mono machines and would have to be completely redesigned to support colour QuickDraw (I wouldn't bet against Dave Small tackling the job one of these days, though...).

In terms of raw speed, however, there is no reason why Atari hardware should run Mac applications any slower than the second-generation Macs. All that is needed is a faster central processor – a 68020 or, preferably, a 68030. Such accelerator boards are now easily available for the ST, and there is, of course, also the TT.

Remember, this page is for ST owners running "alien" operating systems on Atari's grey boxes! So if you have any questions, suggestions, hints and tips concerning the use of DOS, Mac, CP/M or other emulators, write to me at ST User's editorial address, or by sending electronic mail to "gminnerup@cix".



The Help screen in the Spectre setup program explaining the purpose of the 68030 options

Version 3 of Spectre GCR supports the TT, albeit with some restrictions. An obvious one is screen resolutions – ST hi-res and, if you have the special monitor required, the large-screen TT hi-res are the only available options.

Initial trials on my new TT revealed that it will indeed run in Mac mode at an incredible turn of speed. But in case you were planning to buy a TT as the perfect upgrade for your Spectre cartridge, beware – I found some serious snags.

For a start, and as explained by Dave Small in the update to the manual, Spectre cannot as yet make much sense of Atari's new SCSI hard disk driver in the TT, and should therefore only be used with a hard disk plugged into the DMA (ACSI) port.

My Mega ST's Seagate drive with its large Spectre partition worked fine, and I was just beginning to enjoy myself with some greased-lightning picture editing in Digital Darkroom when I began to realise that floppies tended to suffer some corruption.

In fact, several of my Mac floppies used during that session became quite unreadable to Apple's operating system which insisted on wanting to initialise them. I am not quite sure what the problem is, but it has certainly put me off my "Supermac" until Gadgets by Small come up with the promised, fully compatible TT upgrade...

On the other hand, STs with one of the 68020 or 68030-based accelerator boards should not be troubled by this, and I'd be interested to hear from anybody who has some experiences with their compatibility so that I can pass on the good news in these pages. The safest bet should be Dave Small's own 68030 SST board but there does not seem to be a UK distributor for that as yet.

One final thought – once Atari overcome their current supply shortages and the Mega STE is widely available in the UK, it should be interesting to see how Spectre fares with its 68000 chip running at 16MHz, twice the speed of an ordinary ST.

On an ordinary ST without a 68030 board these options are, of course, greyed out

PC memory – the differences explained

When the IBM Personal Computer was first launched in 1981, it came with 64k of RAM – a generous amount in those days, and few people imagined that within years applications software would demand a workspace far beyond that. Least of all, apparently, the designers of the first PC's central processor and operating system who fixed the maximum workspace available for application software at what then seemed an astronomical 640k.

This barrier has hamstrung the PC scene ever since, for even after the new Intel 80286 and 80386 chips could comfortably address a far larger memory area, the need for downward compatibility with the earlier machines ensured that any additional RAM could only be taken advantage of with a number of kludges known as "extended" and "expanded" memory.

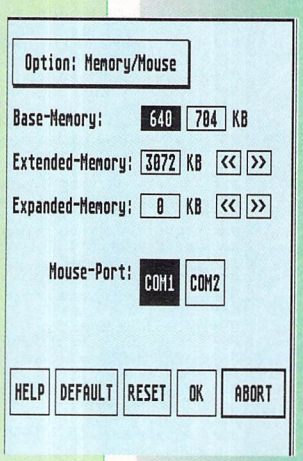
Puzzled

Roger Tilford from Ealing, London, is probably not the only owner of a 1Mb-plus ST with a DOS emulator who is puzzled by this terminology, so I'll try to do my best to clarify the meaning of these terms and the difference between them.

Basically, while expanded memory can be installed on any PC, extended memory will only be "seen" by 80286 and later processors. Until the 286s became commonplace and software houses began to write applications that could make use of any additional memory, the favoured uses of extra RAM were as RAMdisks and printer spoolers, although programs such as DESQview could offer multitasking even with a bog-standard XT – provided enough expanded memory was available. There are several standards for Expanded Memory Managers (EMS), which follow a specification laid down jointly by Lotus (of 1-2-3 spreadsheet fame), Intel (makers of the central processor chips) and Microsoft (authors of the DOS operating system) and hence known by the acronym LIM.

Thankfully, ST owners running DOS emulators need not concern themselves with the many complications of adding memory expansion cards to real-life PCs. With ATonce, for example, installing either extended or expanded memory is a simple question of selecting the required amounts from the configuration menu – assuming, of course, that your ST has enough RAM on board in the first place.

How much of each – if, indeed, any at all – you need depends on the application you wish to run, and your manual should provide all the information required. With Windows, matters become a little more involved, so configuring Windows for your emulator will be explained in some detail next month. Real mode, protected mode, enhanced mode – all will be revealed.



The ATonce emulator has a 286 chip and can therefore access extended memory, a proportion of which can be set aside as expanded memory in this configuration dialogue

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Number	Name	Location	Sysop	Max Speed
0435 872288	The Caravan	East Sussex	Mark Cole	2400
0703 629716	Steve & Jackies	Eastleigh	Steve Hughes	9600 (HST/V32/V42/V42B)
021-717 0455	Apricot Technical Sup.	Edgbaston	John Krzesinski	9600 (HST)
021-717 0454	Apricot Sup. (PEP1)	Edgbaston	John Krzesinski	9600 (V32/V42)
021-717 0453	Apricot Sup. (PEP2)	Edgbaston	John Krzesinski	9600
031-343 6368	ScotHelp ST	Edinburgh	Dannie Colquhoun	2400
081-447 8244	The Crystal Tower	Enfield	Chris Gower	2400
0322 335348	P C Forum Line 1	Erith Kent	Keith Wassell	2400
0322 287842	P C Forum Line 2	Erith Kent	Keith Wassell	9600 (HST/V32/V42/V42B)
0322 350372	P C Forum Line 3	Erith Kent	Keith Wassell	9600 (HST/V32/V42/V42B)
0392 410210	Trinity 1 TBBS	Exeter	John Burden	2400
0392 412370	The Lost .ARC	Exeter	Helen Rogers	2400
0392 433566	Nat Comp Security Ass	Exeter	Brian Sterrett	9600 (HST)
0341 250854	NICC Mid-West Wales	Fairbourne	Ivor Moody	1200
0329 236612	Sanctuary	Fareham	Iain Littlejohn	9600 (HST/V42/V42B)
0329 45384	Night Hawk	Fareham	Robert Leach	2400
0367 242764	Trinity 2	Faringdon	Andrew Bessant	2400
0252 375227	Liberal Leanings	Farnborough	Martyn Wilson	2400
0795 530961	The Chancellors Den	Faversham Kent	Denis Bennett	9600 (HST/V32/V32B/V42/V42B)
0795 538357	DataServe Systems BBS	Faversham Kent	Graham Jenkins	2400
0795 538359	The Chancellors Den	Faversham Kent	Denis Bennett	9600 (HST/V32)
081-893 2359	Aspen BBS	Feltham Middlesex	Gary Welland	2400
0202 873911	The Abbey	Ferndown	Chris Durham	9600 (HST/V32/V32B/V42/V42B)
0252 626233	BOOG BB	Fleet Hampshire	Jeremy Browne	9600 (HST/V32)
0303 42690	Focus TBBS	Folkestone	Quentin Wright	2400
0242 260685	DLG S/W	Gloucester	Keith Taylor	9600 (HST/V42/V42B)
0452 330238	Atlantis Line 1	Gloucester	Alan Walker	9600
0452 330244	Atlantis Line 2	Gloucester	Alan Walker	9600 (HST)
0452 611342	Severn Side BBS	Gloucester	John Sangwin	9600 (HST/V32/V32B/V42/V42B)
0274 851027	More Summer Wine	Gomersal	Nigel Beaumont	9600 (V32)
0343 830315	Moray BBS	Gordonstoun	Mark Parlour	2400
0705 524805	GABBS	Gosport	Stephen Cole	9600 (HST/V42/V42B)
0324 665460	Almac PC Board	Grangemouth	Gordon Sibbald	9600 (HST/V32)
0476 62450	Poacher Opus	Grantham	Mel Warwick	2400
0483 579631	Roots	Guildford Surrey	Mike Fisher	9600 (HST/V32)
0443 834179	Merlin BBS	Gwent	Stephen Sandles	2400
0323 844455	Excalibur's Edge	Hailsham	Mike Atkinson	2400
0422 381164	Style QBBS	Halifax	John Carolin	9600 (V32)
0706 832437	P & P Distribution	Haslingden	Stephen Mitchener	2400
0273 846504	Diamond Opus	Hassocks	Paul Hughes	9600 (HST)
0424 433816	North Of Achernar	Hastings	Steve Anderson	2400
0424 853361	Piston Popper's UK	Hastings	Peter Burnett	9600 (HST/V32/V42/V42B)
0707 263695	The Torture Chamber	Hatfield	Steven Gee	2400
0444 441308	Amiga Information	Haywards Heath	Nick Lello	9600 (HST)
0622 891118	Wonderland	Headcorn Kent	Anthony Hayes	9600 (HST)
0865 64958	DDLG ACE Centre	Headington	David Colven	2400
0442 230460	The Loft BBS	Hemel Hempstead	Martin Carter	9600 (HST/V32)
0442 231693	Tara Recovery	Hemel Hempstead	Dwight Alwine	9600 (HST/V42/V42B)
0442 257527	Searchlight UK Support	Hemel Hempstead	George Cannon	9600 (HST/V42/V42B)
0491 875104	INT #21h	Henley-on-Thames	Dylan Smith	2400
0434 606639	Log on In Tynedale	Hexham	John Rawson	9600 (HST)
0434 608324	The Dog House	Hexham	Ian Dodd	9600 (HST/V32)
0628 810889	Mirror Info. Exchange	High Wycombe	Lee Evans	2400
0258 881151	Trader BBS	Higher Ansty	Andy Barnes	9600 (HST)
091-413 6859	Argus Project	HQ	Graham Denman	2400
0484 435620	The Packet Place	Huddersfield	Michael Shore	2400
0484 653234	Summer Wine	Huddersfield	Chris Townsend	9600 (HST)
0484 681753	DDLG Link Line	Huddersfield	Stanley Sykes	2400
0482 473871	MetNet Triangle	Hull	Jon Witty	2400
0482 586285	Advance Opus	Hull	Eric Sparrow	9600 (HST)
0482 589796	Wall Street BBS	Hull	Kev Baillie	9600 (HST)
0480 406261	Byte Busters	Huntingdon	Ritchie Dakin	2400
0460 54615	Datasoft Opus	Ilminster	Paul Swift	9600 (HST)
0473 232540	Miracom Tech. Sup.-UK	Ipswich	Paul Garrett	9600 (HST/V32/V42)
0473 272447	Nightingale's BBS	Ipswich	Danny Roberts	2400
0294 221350	Sphere BBS	Irvine	Iain Paton	9600 (HST/V32/V32B/V42/V42B)
0496 2426	Dunathad	Islay Hebrides	Alan Hunter	9600 (HST/V42/V42B)
0534 64090	DataStream BBS	Jersey CI	Paul Crick	2400
0536 414151	The Pegasus Connection	Kettering	Gary Marden	2400
0536 725180	Publishers' Paradise	Kettering	John Wilson	9600 (HST)
0553 761290	West Norfolk (10pm-7am)	Kings Lynn	Chris O'Shea	2400
081-547 1479	Packet BBS	Kingston Upon Thames	Ted Batts	9600 (HST)
0482 805225	Forum 88	Kingston-upon-Hull	Frederick Brown	2400
0423 868065	North Yorks QBBS	Knaresborough	Michael Wigmore	9600 (HST)
0524 752245	The End Zone	Lancaster	Adam Purnell	9600 (HST/V32)
0732 845338	Pacific Lightning	Larkfield Kent	Colin Spice	9600 (HST/V42/V42B)
0705 553173	Solitarire	Lee on Solent	Alan Coverdale	2400
0532 605876	The Owl Service	Leeds	Malcolm Arnold	2400
0532 636037	Babble	Leeds	Joe Gonzalez	9600 (HST/V32/V32B/V42/V42B)
051-227 3666	Xstream BBS	Liverpool	B. Fraser & D. Bedwin	2400
051-236 3105	Ps5:QsTel	Liverpool	Alan Smith	2400

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This month column is g over to a complete li all the UK' bulletin bo Together w our inform introductio comms, als this issue, the definiti guide to ge online

COMMUNICATIONS

Number	Name	Location	Sysop	Max Speed
051-270 1635	Keisha BBS	Liverpool	Ken Dalton	2400
051-428 8924	Liverpool Int Mailbox	Liverpool	Peter Tootill	9600 (V32)
051-486 4354	GrayKarn Tech. Support	Liverpool	Bill Philip	9600 (V32)
051-734 5817	Breakthrough BBS	Liverpool	Jim Hamilton	2400
051-931 4271	Grin!	Liverpool	Ben Goodwin	9600 (V32/V42/V42B)
0924 411109	The Wine Rack	Liversedge	Ron Brookes	9600 (HST/V32)
0489 576739	Red Ibis	Locksheath	George Cordner	9600
71-247 9240	01 For Amiga	London	Tony Miller	9600 (HST/V32/V42/V42B)071-253
3064	Fingerfone	London	Phil Crewe	9600 (HST)
071-377 1358	02 For Amiga	London	Sue Miller	9600 (HST/V42/V42B)
071-409 7597	Conner BBS	London	Eddie Seymour	9600 (HST/V32)
071-537 9854	The Docklands Project	London	John Clift	2400
071-580 1690	PolyNet SNC	London	Eileen McCabe	9600 (HST)
071-608 1899	GnFido	London	Mike Jensen	9600 (V32)
071-706 2379	Sinclair QL Bbs	London	Tony Firshman	2400
071-824 8863	Wino's Bar Line 1	London	Andrew Brown	9600
071-730 5145	Wino's Bar Line 2	London	Andrew Brown	2400
071-792 1389	Expert Europe	London	Stuart Fenton	9600 (V32)
071-792 3738	Abnormal ORBit	London	Oliver Bell	9600 (HST/V32)
071-823 3296	PC Support UK	London	Grant Burch	9600 (HST)
071-962 1238	The Hoovers Retreat	London	Frank Toohey	2400
071-976 6807	Nite Life	London	Neil Jelley	2400
081-207 2989	Dark Crystal	London	Phil Day	9600 (HST)
081-332 0722	Calibre Systems BBS	London	Russell Young	9600 (V32)
081-395 8372	The Domain Bbs	London	David Boardman	9600 (HST)
081-543 8019	MacTel Metro	London	John Lockwood	9600
081-566 5393	Paradigmus Maximus	London	John Taylor	9600 (HST)
081-644 8714	Cheam Amiga BBS	London	Jonathan Hamon	9600 (HST/V32)
081-655 4412	Arcade Bbs	London	Dave Coleman	9600 (HST/V42)
081-733 3992	Starbase One (UK)	London	Nick Stevens	2400
081-742 1640	Jolly Roger BBS	London	Roger Seaward	9600 (V32/V42/V42B)
081-995 5829	Jolly Roger II	London	Roger Seaward	9600 (HST/V32/V42/V42B)
081-748 0974	The London Guest House BBS	London	Richard Pike	2400
081-841 0974	Serv-UK BBS	London	Dave Horton	2400
081-905 5176	PopTel	London	Josh Greifer	9600 (V42B)
081-984 1522	The Stateside Link BBS	London	Brian Willis	9600 (V32/V42)
0509 856339	NICC Leics	Loughborough	Len Burch	2400
0502 518274	Disabled Data Link [HQ]	Lowestoft	Cliff Jones	2400
0628 824852	The Cats Board	Maidenhead	Mike Corby	9600 (HST)
0829 782676	The Power House	Malpas	Edward Hobson	9600 (HST/V42/V42B)
0204 364319	PosT Box	Manchester	Graham Stephens	9600 (V32)
061-204 2495	Sharpe Electronics	Manchester	Colin Wilcox	9600 (V32)
061-434 7059	Merkinstead	Manchester	Philip Crookes	9600 (HST/V32/V42/V42B)
061-434 9907	D.I.E.	Manchester	Si Thornton	9600 (HST/V32)
061-483 7307	Bozzimaccoo!!	Manchester	Paul Dickie	2400
061-707 2008	Dead On Arrival	Manchester	Christopher Seeley	2400
061-748 3855	The Sphinx	Manchester	Lorna Price	2400
061-773 7739	Mektronics	Manchester	Brian Benster	2400
061-792 0260	Aspects	Manchester	Dave Gorski	2400
061-799 4922	061-For Amiga	Manchester	Andy Grifo	9600 (HST)
061-8321961	The Co-op Manchester	Manchester	Frank Dent	2400
061-839 5381	New Wave BBS	Manchester	Colin Jones	9600 (HST/V32/V42/V42B)
0760 337981	HoneyMonster BBS	Marham	David Ekins	2400
0858 466594	Aureal	Market Harborough	Eddy Ralphson	9600 (HST/V42)
0642 232142	Middlesborough Social Ser.	Middlesbrough	Tom Lamb	2400
0642 591103	Valhalla II	Middlesbrough	Frederick Holmes	9600 (HST/V32)
0895 272021	Software Madness BBS	Middlesex	Gary Weston	2400
0594 544865	Chicken Shack	Mitcheldean	Lee Bunker	9600 (HST/V42/V42B)
0674 671141	Scottish Wildcat	Montrose	James O'Hara	9600 (HST)
0698 76516	Motherwell-FE College	Motherwell	Colin Gallagher	2400
0509 620442	PageMaker User	MountSorrel	Gill Foster	9600 (HST)
0282 698380	Look Northwest	Nelson Lancs	Neil Metcalfe	2400
0635 248622	Terminator BBS	Newbury	Neil Boffin	9600 (V32)
0635 71324	Eddies BBS	Newbury	Eddie Seymour	2400
0604 705669	Karnak	Northampton	Steve Brecknock	9600 (HST)
0603 507216	Eaton School	Norwich	Paul Welbank	2400
0953 851351	Track 83 Atari ST	Norwich UK	Les Partner	9600 (HST)
0602 455497	MacTel HQ	Nottingham	David Nicholsoncole	9600 (HST/V32)
0602 476175	Nottingham University	Nottingham	Ian Sherman	2400
0602 640488	Rivendell BBS	Nottingham	Paul Dingley	9600 (HST)
0602 855607	Index III	Nottingham	Simon Gledhill	9600 (HST)
0230 25828	Castle BBS	Oakley	Neil Gossage	9600 (HST/V32)
061-627 0630	Oldham Access Centre	Oldham	Wayne Winterbottom	2400
0695 571117	Compass!! Node 1	Ormskirk Lancs	Barry Phillips	9600 (HST/V32/V32B/V42/V42B)
0695 571118	Compass!! Node 2	Lancashire	Barry Phillips	9600 (HST/V32)
0689 827085	Fox's Den BBS	Orpington Kent	Barry Freeman	2400
0844 28660	NeXTel HQ	Oxford	Paul Beaumont	9600 (HST/V32/V32B/V42/V42B)
0865 53999	Daily Information	Oxford	Simon Barber	9600 (V32/V42/V42B)
0865 796430	RM Support BBS	Oxford	David Taylor	2400
0865 882872	M-G-M	Oxford	Nik Garfield-Middleton	9600 (HST)
0867 368123	Clinical Chemistry BB	Oxford	Jonathan Kay	9600 (HST)
061-777 8088	Kneptune BBS	Partington Manchester	Peter Thompson	2400
091-518 1058	The Castle Eden BBS	Peterlee	Andrew Lackenby	9600 (HST)
0752 361291	P.H.A.C.S	Plymouth	Dave Russell	2400
0977 620980	CanOpus	Pontefract	Nick Roth	2400
0202 600305	Fourth Dimension	Poole	Wayne Weedon	2400

Number	Name	Location	Sysop	Max Speed
071-538 2143	Docklands Light Railway	Poplar London	Ian Bavin	2400
0705 754851	The Co-op Board	Portsea	Geoff Wade	2400
0705 871434	Community Centre	Portsmouth	George Cordner	1200
0303 862415	S/e/m/a/j [UKRAS]	Postling Kent	James Berry	9600 (HST/V32/V42/V42B)
0745 855959	Coastline BBS	Prestatyn	John Timmis	9600 (HST)
0772 828975	Grizzly The Third - OS/2	Preston	Colin Adams	9600 (HST)
0296 668148	Komputer Knowledge 1	Princes Risborough	Andrew Eaves	9600 (HST/V32)
0296 668141	Komputer Knowledge 2	Princes Risborough	Andrew Eaves	2400
0706 821837	The Pig Pen	Ramsbottom	Oliver Clarke	9600 (HST/V32)
0734 314191	Detritus' Rest	Reading	Tom Snow	2400
0734 461466	Ichthus TBBS	Reading	David Rance	2400
0737 778607	Frontiers BBS	Redhill Surrey	Dave Parker	9600 (HST/V32)
0737 766027	Infotel	Redhill	Bob Garbutt	2400
0209 821670	Kernow Opus	Redruth	Dave Randle	9600 (HST)
081-7830207	Oldfield House School	Richmond	Mike Burleigh	2400
0706 358331	The Gas Lamp	Rochdale	Ian Strachan	9600 (HST/V32)
0634 683696	Tequila Sunrise	Rochester	Paul Boakes	9600 (HST/V32)
0634 831389	The Hotel BBS	Rochester	Kit Watson	9600 (HST/V32/V32B/V42/V42B)
0928 714460	MerkinLodge	Runcorn	Simon Dowson	2400
0722 414605	TABS Opus	Salisbury	Jon Stephenson	9600 (HST/V32)
0297 24469	Dortec BBS	Seaton	Steve Townsley	2400
0453 511112	Enterprise BBS	Sharpness	Lawrence Freeman	2400
0742 729621	Disu PC	Sheffield	Phil Green	2400
0274 532031	Proxima Centauri	Shipley	Simon Naylor	2400
0795 471515	Pettett's Paradise	Sittingbourne Kent	Graham Pettett	9600 (HST)
0795 425341	Sittingbourne Co-op	Sittingbourne	Phillip Clements	2400
0695 20476	The Magpie BBS	Skelmersdale	Paul Cooper	2400
0753 513435	R U Connected 2?	Slough	Chris Norris	2400
021-705 2906	Academic's	Solihull	John Kelly	9600 (HST)
0708 670068	Barnabas The Caring BBS	South Ockendon	john barton	9600 (HST/V32/V32B/V42/V42B)
0703 333568	AIS Support Location	Southampton	Mike Trump	9600 (HST)
0703 741858	The Cedar School	Southampton	George Cordner	9600 (HST/V32)
0892 516304	Demo Factory BBS	Southborough	Ian Mugridge	9600 (HST/V32)
0702 78330	Adullams Cave BBS	Southend On Sea	Tim Coles	9600 (HST/V32)
0704 79873	D-Term BBS	Southport	David McGarry	2400
0375 674046	P C Link	Stanford Le Hope Essex	Alan Maylin	9600 (V32/V42)
0259 69803	TeleFantasy	Stirling	Guthrie Wernham	9600
061-429 9803	STun NeST Central	Stockport	Daron Brewood	9600 (HST/V32/V42/V42B)
061-442 6758	Seven Seas Maximus	Stockport	Vince Fletcher	2400
0642 360301	Tees for Two	Stockton-on-Tees	Gordon Smith	2400
0642 672813	Mininet-3 BB	Stockton-on-Tees	Mini Mansell	9600 (HST/V32)
0384 441929	Crystal Junction	Stourbridge	Bert Ilsley	9600 (HST)
091-549 2249	Log-on-The-Wear	Sunderland	Alan Myers	2400
0509 673241	The Night Owl's Mailer	Sutton Bonnington Leics.	F W Dajani	9600 (HST/V42)
021-323 2617	The Red Dwarf	Sutton Coldfield	Steve Pitt	2400
081-643 1015	Number 42	Sutton Surrey	Dave Arkley	2400
0793 430029	State of Shock!	Swindon	Philip Timm	2400
0793 480287	Sparx	Swindon	Steve Bernhardt	9600 (HST/V32)
0793 488873	Swindon College of FE	Swindon	Cynthia Ring	2400
0793 724195	Boar's Nest	Swindon	Terry McBride	9600 (HST/V32)
0952 641724	Silver Link	Telford	Phil Gadsby	9600 (HST/V32/V42/V42B)
0666 504597	The Alchemist	Tetbury	Bob Henson	9600 (HST)
081-310 6179	HI IQ	Thamesmead	Mark Alexander	2400
081-312 2123	3 Below Forum	Thamesmead	Dave Powell	9600 (HST/V32/V42/V42B)
0842 762136	Sounds Digital	Thetford	Wally Beben	9600 (HST)
0732 770539	P C I U G Hq	Tonbridge	Andy Kelly	2400
0734 320812	Golly!	Twyford Berks	Terry Robertson	9600 (HST/V32/V42/V42B)
091-221 0108	Emergency Plan. Info. eXch.	Tyneside	TWF&CDA	9600 (HST)
091-228 0427	The Olive Grove	Tyneside	Peter Scargill	9600 (V32)
091-261 5228	The Publishing Shop	Tyneside	Roger Booth	2400
091-263 4303	Wild Imaginings	Tyneside	Martin Nichol	9600 (V32)
091-490 0327	Argus II	Tyneside	Graham Denman	2400
0472 360811	CodeOmatic - 01-4-Paragon!	United Kingdom	Oliver Smith	9600 (HST)
0634 200707	Fuzzy Logic	Walderslade Kent	Phil Piddell	9600 (HST)
051-638 0639	Bob's Baud	Wallasey	Bob Fraser	2400
0932 231347	Valhalla	Walton on Thames	Ivar Petersen	2400
0926 403904	The Music Studio	Warwick	Paul Urmston	9600 (HST/V32/V42/V42B)
0926 421844	DDLG MidWarwick Col.	Warwickshire	Rob Mitchell	2400
0705 264180	Paragon Support	Waterlooville	Andy Smith	9600 (HST/V32)
081-428 9476	Catweazle BBS	Watford	Trevor Riley	9600 (HST/V32)
0749 670030	World of Cryton	Wells	Hugo Fiennes	9600 (HST/V32/V42/V42B)
0732 870941	ChatterBox BBS	West Malling Kent	Mick Spice	9600 (HST/V42/V42B)
0206 385358	The Sages Cave	West Mersea Essex	Peter Jezard	2400
081-533 0348	P-Square BBS	West Sussex	Paul Pywell	9600 (HST)
0501 44262	Chiba City	Whitburn	David McIntosh	9600 (HST)
0227 770403	The Index Linked BBS	Whitstable Kent	Carl Ricketts	9600 (HST/V32)
0268 767365	SPooK BBS	Wickford Essex	Brian Crudgington	9600 (HST/V32)
0942 722984	UK Healthlink	Wigan	David McKendrick	2400
0980 863031	The Manor QBBS	Winterslow	Peter Jowett	2400
0483 751324	Voyager BBS	Woking	Alex MacPhee	2400
0734 891355	PMI Data Plastics	Wokingham	John Shepherd	2400
0793 849044	My Little Phoney	Wootton Bassett	STeVeN Green	9600 (HST/V32)
0905 613968	The Smallest BBS	Worcester	Jim Richardson	2400 (V42B)
0909 479075	Interface Amiga	Worksop Notts	Rob Edwards	9600 (V32)
0978 290272	Wrexham Access Centre	Wrexham	John Williams	2400
0904 679758	York's Best Price	York	Simon Williams	2400

Memory problems for Timeworks?

I've just received the final production version of Timeworks Publisher 2, which is much like the pre-production version I reviewed a couple of months ago, but with a full printed manual and a demo copy of NEOdesk 3 thrown in for good measure.

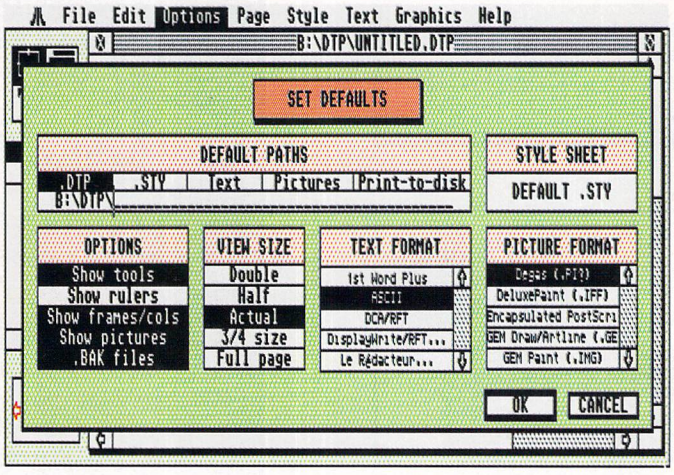
The program comes on six master disks and includes a rewritten, spiral-bound manual. There's no longer a slip-sleeve to the package, though – everything comes in a less convenient single box. Installation is much improved, with an explanatory dialogue screen showing each stage of the copying process.

A sticker added hastily to the rear of the box hints at a possible problem with the program, though. It reads "1Mb of memory recommended". All of v2's extra facilities of have put pressure on the space needed to run the program. Although it is still possible, according to the manual, to load and run the software on a basic 520ST with a single floppy drive, there would be very little room for graphics on a page and you would have to be careful in your choice of printer.

Even on a twin-floppy system with 2Mb of memory you have to swap between font and data disks every time a file is saved – and that includes the automatic timed backup. I tried to install the program for both Epson LQ and LaserJet printers at once, and there was insufficient disk space for both sets of fonts.

Once running, it was quite easy to get the software to fall over or hang, with messages like "memory management error #1 with ID=0". This was most common when changing fonts, or after saving files.

A "novelty" linked to the font handling concerns the TESTCARD.DTP file supplied with the program. It shows examples of the Courier font, supplied with the original Timeworks DTP and this is also mentioned on the box as one of the nine supplied fonts. There's no Courier installed, however, and highlighting the line of Courier in the test card shows nothing when the font dialogue is called up.



You can set many defaults in Timeworks Publisher 2, including a selection from the new range of text and graphics imports

Publisher 2's new features

- *Wider range of text and graphics file imports, including Protext, Le Redacteur, ST Word, TIFF, PCX and EPS*
- *Default settings for paths, import formats, view size, and backup*
- *Custom paper sizes*
- *Adding and deleting multiple pages and automatically flowing text to new pages*
- *Naming of text typed directly into Timeworks and exporting it as Ascii*
- *Automatic timed backup*
- *Improved tab handling*
- *Defining frame borders, including around graphics*
- *Grouping frames and handling as one item*
- *Selecting up to four printers at once (see comments on font space restrictions with floppies)*
- *Full compatibility with Timeworks Publisher 2 PC*

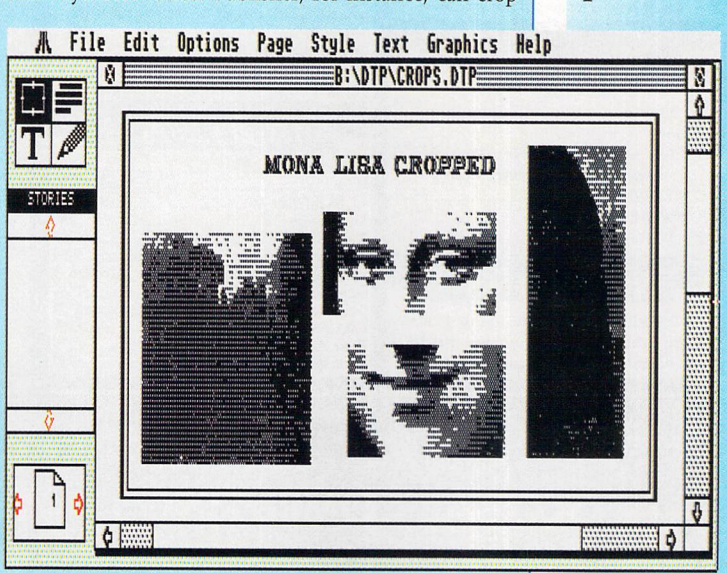
Reap the benefits of the cropping tool

Of all the graphics tools available within DTPs, the most useful is the cropping tool. The direct analogy is to a pair of scissors in conventional page make-up. If you have a photograph or other illustration from which you want to use only a section, you can trim the image to size before placing it on the page.

In DTP, you do the same thing by stretching a rubber rectangle over an area of a scanned bitmap. The outlined image then takes up the full area of the frame, being enlarged as necessary to fit. The most obvious use for this tool is to "zoom in" on an area of a graphic, to focus on the head and shoulders of a full portrait image, for instance.

You can also use the cropping tool for more experimental work. You can take any rectangular section from the image and fit it into any other rectangular frame – see the sample dissection of the Mona Lisa on this page for one idea. The cropping tool gives you the opportunity to create an almost unlimited number of images from a single picture.

Note that cropping in ST DTPs can't normally be performed on vector images and that different programs handle it in different ways. Fleet Street Publisher, for instance, can crop images, but in doing so it loses the areas of the picture excluded from the crop. This is quite reasonable but Timeworks, which makes a copy of the file when it imports it, retains the original, only amending the co-ordinates of the area which is to be displayed in the crop. PageStream and Calamus can also crop pictures.



With judicious use of the cropping tool you can produce some very intriguing effects, even with the most over-used images

Charles Michael w news of a DTP relea and advic cropping pictures

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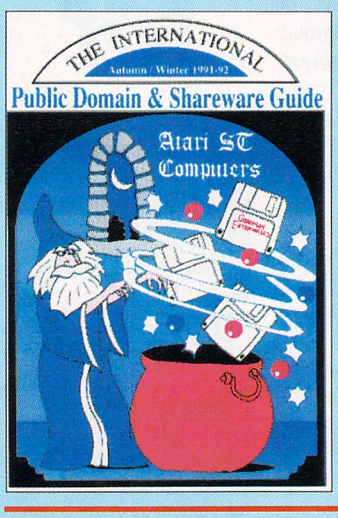

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Data basics

Welcome to the new look business column. For the new user, business software can be pretty daunting. Not only are there new concepts to deal with, but a good deal of jargon too. In the coming months I'll discuss a variety of business packages and giving hints, tips and tutorials aimed mainly at the novice. This month we'll concentrate on the database – what it does and how you can harness its power for your own needs.

What is a database? As any collector knows, keeping track of details is laborious and time consuming, whether the subject be butterflies or recipes. The time-honoured method of recording information is card index files – boxes with a collection of postcards on which are entered the required data.

However, finding say all the butterflies with blue wings, or all the dishes using both beef and garlic, entails sorting all the record cards by hand. A database can make life much easier. Once the system is set up and all the data entered, simply typing in the attributes required will bring up a list of every relevant record. Effectively the procedure is the same, but the ST performs the tedious parts for you.

Card index files

Simple databases merely echo the card index file system. While very useful in simpler cases, this system becomes very time consuming if many records have essentially similar data. For instance, a book collector might have a dozen titles from a single author and wish to avoid typing the same author/publisher information every time. This is where a relational database rears its useful head.

A relational system allows several files to access information from each other. In the example above, one file might hold details of particular titles such as price, subject, the reader's verdict and so on, while another would hold details of each author/publisher. To link the two files together, a field (see Quick Reference) is entered in each file with the same name and contents. This allows one file to call for extra details from another.

Part of my work involves reviewing educational software. Software arrives from a variety of sources – publishers, magazines, one-man bands, distributors and so on.

To keep track of this vast collection of software I use Superbase Professional. This is a relational database with both a forms editor and its own programming language. I also utilise the services of a friend whose knowledge of both the ST and databases in general is minimal. For efficiency it makes sense to keep data entry to a minimum and the method of that entry as uncluttered as possible. So how does it work in practice?

As with the book example above, each software house produces several, often many titles. Having to enter the software house details all over again when a new title is released would be both time consuming and pointless. Instead, Superbase allows me to set up two separate files, one containing game details and the other the software house details. When a new title is released I can simply type in the program details together with a short code for the software house. Then it is a matter of linking the two together in a display.

This is where forms come in handy. A form is simply a template which displays the relevant fields from a record. In Superbase Professional, the form can also be used to edit old records or create new ones – although the latter can have its difficulties.

The form I use pulls information from two files, "house" and "prog". Each contains a field named "code" which contains a short name for the software house. By using this code the form pulls out data from both the file holding details of the program and the file holding details of the software house, displaying both onscreen together.

Forms are also useful if someone else enters or extract data for you. For instance, say you were running a small business which allowed customers credit, but you wished certain details of the client's record to be hidden from a data entry clerk. In this situation a form could be designed which would allow the clerk to view the client's name and address and for him or her to enter details of new orders.

But not all the fields in the client record need be displayed on the form, so the field containing your (possibly libellous) comments could be hidden away out of the clerk's sight. That wouldn't mean the comments didn't exist, and that you couldn't get at them, simply that the form in use by the clerk concealed the unsavoury details.

Many forms

A wide variety of forms can be created, from the very basic to ones using fancy fonts and different colours. Hiding data from prying eyes isn't the only reason for using them. Keeping extraneous fields in the background makes life easier for both novices entering data and yourself reviewing it. A form containing simply a firm's name, telephone number and contact name is far quicker to scan than one which displays every detail down to special directions for delivery drivers.

On the other hand, a form showing such information together with the name and address of the business could be printed out and attached to the consignment the driver has no need for credit reference details or the date of the managing director's wife's birthday. Only your secretary needs that information so that she can keep him sweet by sending some flowers (in your name) to 'er indoors!

In touch...

Feel free to contact me if you have any problems to be solved, hints and tips of your own, or simply news of a wicked piece of software that has helped your efficiency. Write to me at *ST User* or on CiX as peewee.

Quick reference glossary

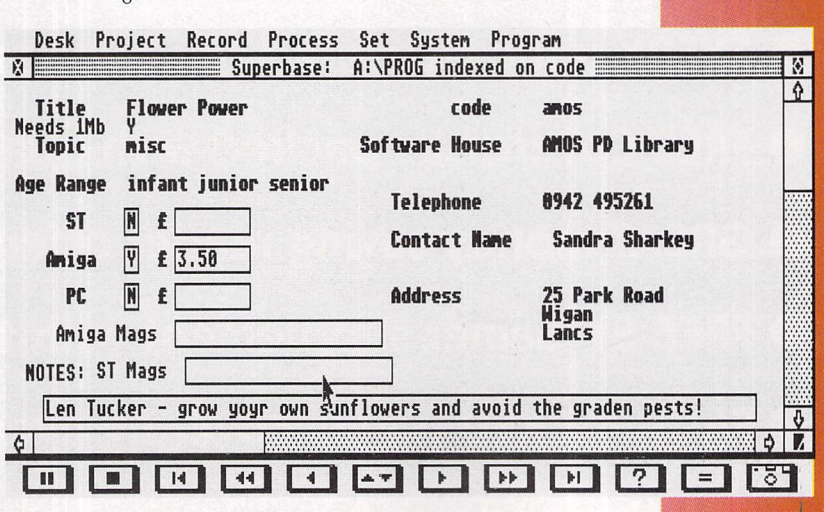
Files – collections of data with similar attributes such as address books or video catalogues.

Records – contain all the information about individual entries in a file.

Fields – items of information in a record such as name, address, phone number and so on.

Filters – used to search for records matching specific criteria.

Forms – facilitate the entry and retrieval of data, and allow various fields from different files to be viewed in conjunction..



BROWSER – Program details on the left, software house details on the right and a memory jogger underneath both

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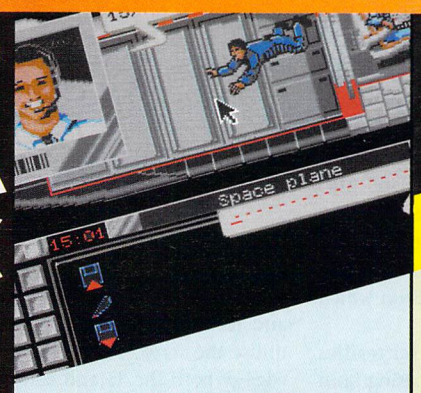

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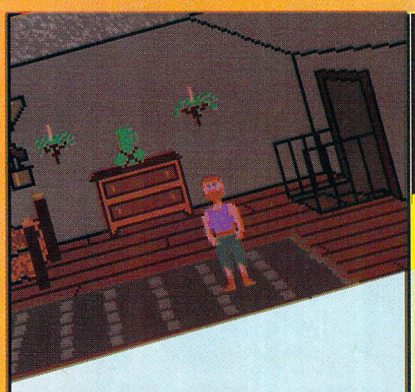

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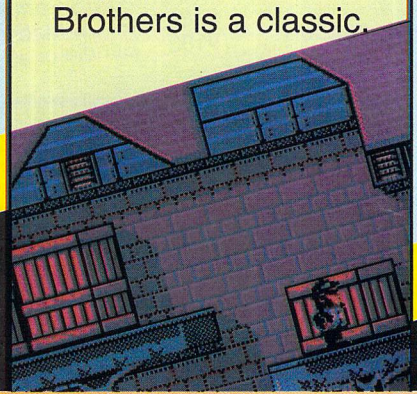

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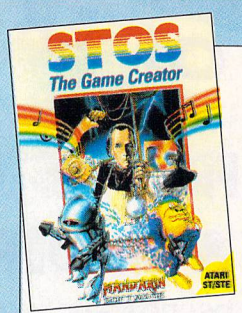

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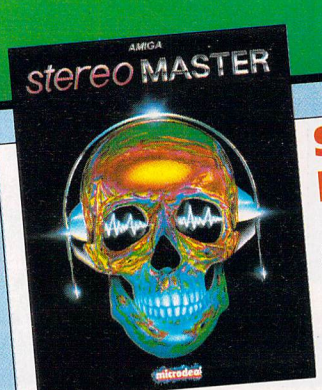

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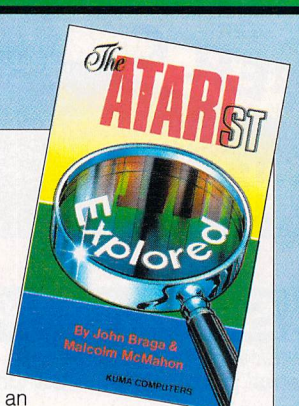

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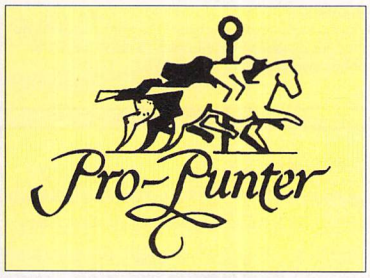

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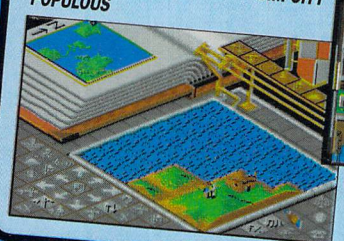

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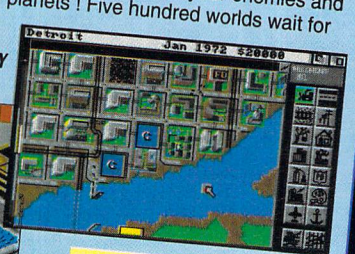

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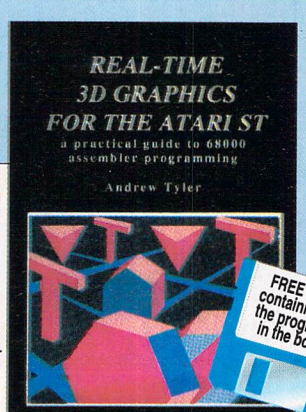

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Advertisers' Index

Abeville Computers 100
ACS 105
Analogic 114
Arnor 18
Avon Micro Centre 100
BCS 99
Best Prices 14, 15
Cambridge Business 62
Care Electronics 108
Castlesoft 105
City Beat 33
City Music 114
Compo Software 11
Computer Connections 112, 113
Computermates 21
Connect Software 43
Cottage Industries 106
Dataplex Computers 129
Datel Electronics 6, 7
Deltronics 122
Desert SW 97
DW Stables 106
Eurostar Computers 122
Evesahm 28, 29
Floppy Shop 93
Gasteiner 24
Global Computing 122
Goodman PDL 122
HCS 64
Heavenly Music Ltd 114
HiSoft ..... IBC
Homebased Business 99
Intraset 53
Kosmos Software 106
Kun Ying 64
Ladbroke 36, 37
LAPD 93
Magic Space Productions 100
Mail Centa 98
Manor Court 108
MD Office Supplies 30
Microtext 111
Miditech 97
MJC 66
MPI 59
MT Software 47
Newtronic 61
PDOM PD 118
Penge TV + Video 97
PLC Computer Supplies 111
Power Computing 2, 3
Power Computing 13
Pro-Bus 105
Qualsoft 100
Rombo ..... OBC
Rutland Comp 99
School 106
Seven Disk 98
Silica Systems 41, 55
Softmachine 48
Special Reserve 8
ST Club 93
Sumner Type 97
Switchsoft 105
The Digital Mouse 114
The Upgrade Shop 99
Third Coast Technologies 23, 34
Warpzone PDL 111
Weserve 94
Wizard PD 111

GAMER

Celebrity Software 7
Eagle Software 12
GHS Technologies 24
Saturn Software 23
Software City 20
Thalion 11

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GALLERY

It's like having the Louvre in your living room

We receive hundreds of disks every month, but every single picture is considered for publication, so send in your artwork in to *ST User* (we know you're out there). We're alway on the look-out for good ST art, so go on! Get mice to mats and start drawing.

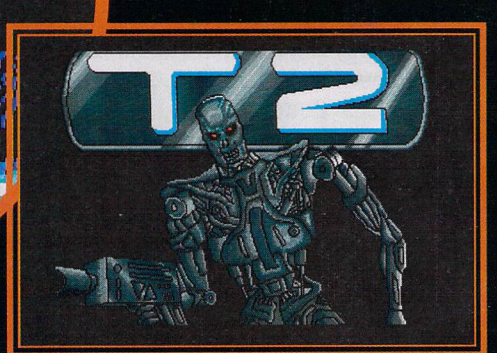
First up this month is Mark Place. Mark lives in Co Durham and is 15 years old. He sent in a massive 14 pictures for the *ST User* crew to ponder over, all drawn on Neochrome Master.

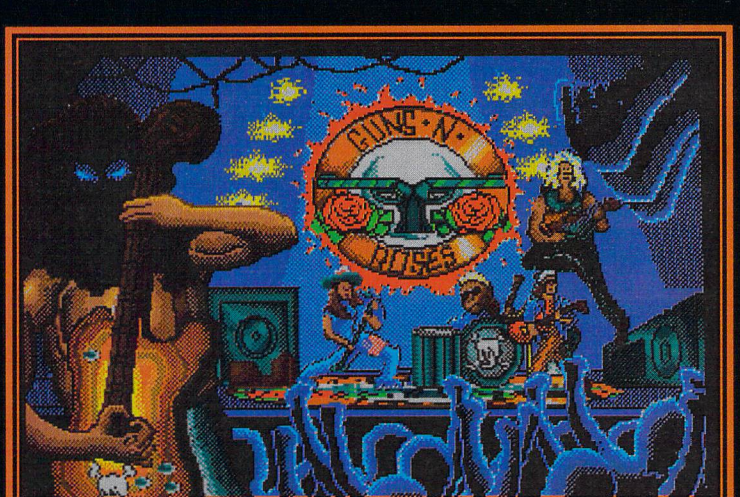
Space is always limited in your favourite ST magazine, so obviously I can't show them all, but here's a mere sample. He takes his inspiration from films, fantasy and heavy metal music (sounds like a man after my own heart).

Mark's first picture is entitled Suicidal Sid and his Pet Sabre Tooth Geraniums, and features a space warrior who I presume is Suicidal Sid, fighting off hordes and hordes of nasty little Sabre Tooth Geraniums.

Guns 'n' Roses are, according to Mark, the best band in the universe, so it's no surprise that they've been immortalised on the ST. This is Mark's "masterpiece", but we don't quite agree. We think that Mark's piccie of Arnie in robot endoskeleton form is quite excellent. Our second artist this month is Chris Sellen, who is 22 and comes from East Finchley in London. Chris takes his inspiration from films and has produced a loving scene from Ghost featuring Patrick Swayze and the beautiful Demi Moore. But the winning scribbling this time around is Chris's scene from Robin Hood – Prince of Thieves starring Kevin Costner. That's all – keep those mice moving and don't forget to send us a copy of the results of your efforts.

Jonathan Maddock





Calling all budding ST artists – get mouse to mat and get drawing, we need good quality artwork. The place to send your pictures to is:

ST Gallery,
Atari ST User, Europa House, Adlington Park,
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Remember to include your name and address and what format the picture(s) are in. Also, hand-drawn artwork wins against scanned or digitised every time.

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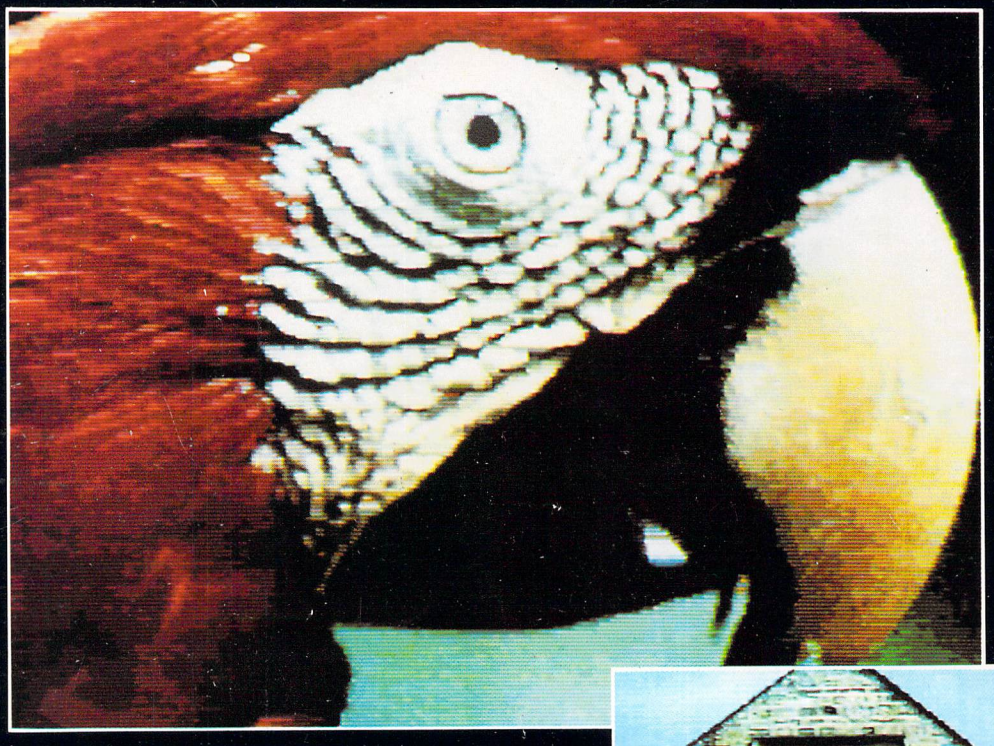

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EDITORS COMMENTS

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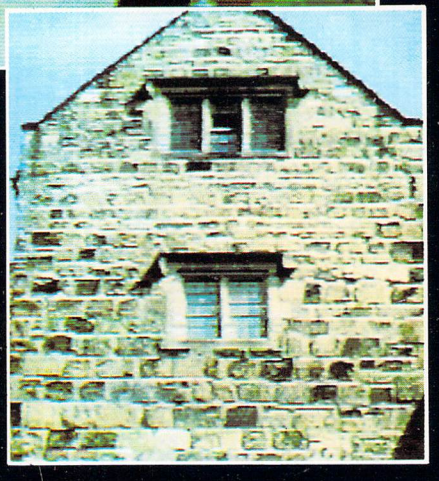

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