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ST inside ACTION

ATARI ST USER

JAGUAR

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THE BEST!
HiSoft program worth £40

MEMORY UPGRADES
How to increase your ST's power

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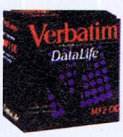

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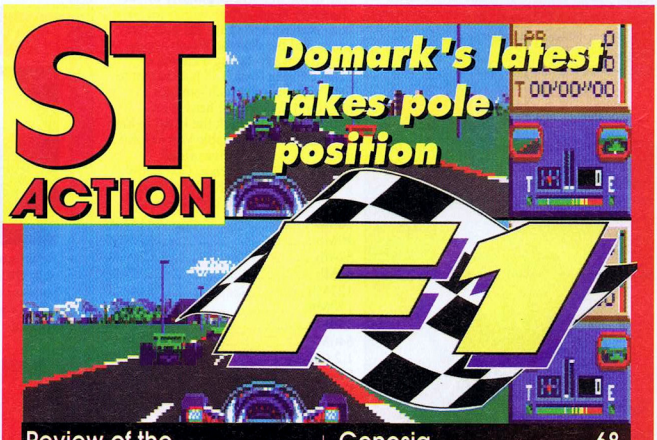
ST ACTION



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More ST-related products in our free advert section. Pick up a bargain!

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Complete this month's text editor giveaway with a 124-page manual and massive upgrade savings

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Last month we gave away Vidi ST (12) digitising software – now save £30 on the full system

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ART EDITORS Terry Thiele, Matthew Bell, Carl Fox
TECHNICAL EDITOR Darren Evans
PRODUCTION EDITOR Phil Morse
STAFF WRITERS Jonathan Maddock, Simon Clays, Adam Phillips
EDITORIAL ASSISTANT Tina Hackett
AD MANAGER Simon Lees
AD PRODUCTION Barbara Newall
MARKETING MANAGER Lucy Oliver
PRODUCTIONMANAGER Sandra Childs
CIRCULATION DIRECTOR David Wren
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CHAIRMAN Derek Meakin
MANAGING DIRECTOR Ian Bloomfield

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The CoverDisk

Write programs and documents with Tempus 2, HiSoft's feature-packed text editor worth £40, but given away free on this month's disk

PLUS:

- **Load programs quickly using the great GoGoST GEM-based menu system**
- **Albion, a powerful file information utility to replace the ST's Show Info function**
- **Have some fun playing 3D puzzle Soma and the challenging Naarjek IV**
- **A colouring book program which allows kids to use the mouse to colour in ten pre-drawn pictures**
- **Manipulate sound samples in various formats using Sound Lab, a brilliant program for use with ST Replay and DaataSound**
- **Convert sound files from one format to another with Five to Five**

The DISK starts on page 12

System Solutions

World Record

68000 CPU running at 36MHz

Two new Accelerators are now available for the MegaST and ST(FM) computers. Performance and price are sensational. The T28 with a 28MHz clock is 3.5 times faster and the T36 with a 36MHz clock is 4.5 times faster than the original ST's clock. The use of the original 68000 processor guarantees near perfect compatibilty. CPU cacheing is switchable for added compatibility with the cartridge port devices. DTP, Graphics Software and Cubase show a fantastic speed increase. Compared with a standard ST with NVDI and without Blitter, Gembench gives the following results:

	ST(FM)	T28	T36
CPU	100%	299%	373%
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Average	100%	763%	890%

The combination of the T28/T36 and NVDI transforms the humble ST into a powerful graphics workstation - a dream come true for all those who want more speed at an affordable price.

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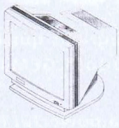
"Essential Buy, 90%"
ST Review, May 93



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ST Review Issue 16, August 1993.

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Awarded 92%, "Essential buy"
Atari ST Review Christmas '93

ST Format Gold Award 93% Feb 1993

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The Falcon Column

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ATARI WORKSHOP

Jaguar's eyes on console owners

by John Butters

SEGA and Nintendo console owners will be the first people targeted for Jaguar when Atari's European marketing campaign kicks off in March.

With console sales now dropping off across the country, Atari consider it important to attract existing games players who may want to upgrade to the world's most advanced games system.

The firm say Jaguar's user benefit will be extremely easy to show, and according to spokesman Peter Walker: "There is simply no comparison when it comes to graphics and sound."

The company have been overwhelmed by reaction to the machine in the United States, where "wild" consumer demand is far greater than the North Carolina production facility can meet.

So far more than 40,000 Jaguars are claimed to have been delivered to end users, and with a national US roll out during the next couple of months, demand is expected to soar.

A small quantity of machines were even shipped into Britain before Christmas, and although no-one at Atari would say exactly how many, one insider described the number as "embarrassingly small".

The source said many companies had taken orders and money from customers but were not supplied with the consoles they expected. There is no confirmed date for the next shipment.

Atari, meanwhile, continue to be busy whipping up enthusiasm for the device, and for the first time in three years attended the massive Consumer Electronics Show in Las Vegas.

Walker explained the main purpose of the visit was for Atari to forge new links with software developers and distributors, as well as previewing software and peripherals.

Among new products shown to visitors were games Alien vs Predator and Tempest 2000 and an Atari-badged CD-ROM drive, which is described by the firm as a "pretty standard" device.

Mega Drive: Owners to be targeted for a better system

Epilepsy report clears video games

PLAYING video games very rarely triggers epileptic seizures in people without a known history of epilepsy.

That's the finding of a Government-funded report just published following a national study led by Dr David Fish of the National Society for Epilepsy.

It reveals that people who suffer seizures for the first time while playing video games are photosensitive – in other words they are susceptible to flashing light.

The report says of the 30,000 Brits who suffer their first seizure each year, 600 are definitely at risk from epilepsy attacks triggered by TV, video games and other light sources.

Up to 150 people each year may have their first seizure brought on by playing a video game, although there is no evidence that photosensitivity can actually be caused by the games.

Most newly diagnosed photosensitive epileptics are between seven and 19 years old, it adds.

Consumer affairs minister Lord Strathclyde said: "This report shows that photosensitive epilepsy affects a very small number of people.

"A much smaller number suffer their first seizure while playing video games – roughly the same as through watching television.

"People who suffer must always seek medical advice and those with known epilepsy should ask their doctor whether they are at risk from seizures triggered by video games."

Some computer games makers have recently been putting warnings on the outside of their packaging advising players how to avoid health problems.

The industry watchdog ELSPA's general secretary Roger Bennett said: "There are certain issues that are important regardless of whether the player suffers from epilepsy."

"Don't sit too close to the monitor, don't play for too long and don't play in the dark."

Games: Government give epilepsy all-clear

News briefs

Playing Falcon

FOUR Falcon-specific games will be launched by Atari during the next few weeks, the firm have just announced.

Among the titles will be Jeff Minter's Llamazap, Steel Talons, Road Riot 4 Wheel Drive, and Evolution Dino Dudes. Each has a target price of £29.99, but distribution remains to be fixed.

Cubase help

CUBASE users wanting to get more from their software are targeted for *Cubase Power Users Guide*, a new book from Intrinsic Technology (081-761 0178).

The firm say the £12 book's 127 pages help musicians get more from their sequencer, with the inclusion of techniques and working methods. It also has a section on Cubase Audio for Falcon.

Scots online

GIANT online information service CompuServe have added an Edinburgh node to their network. It can be used at access speeds up to 9,600 baud by dialling 021-557 5888.

Online guide

MODEM manufacturer US Robotics have published a free booklet aimed at stimulating increased use of the range of online information services available.

***The Sportster Guide to On-line Services* gives details of the various services which can be accessed using a modem, including several small bulletin boards.**

The 40-page guide can be obtained by writing to Sally Roberts, US Robotics, 224 Berwick Avenue, Slough SL1 4QT, or by telephoning 0753 811180.

On sale

WATCH out for the March issue – on sale at a newsagent near you from February 17.

User shows move north

TWO Atari-specific shows held in the Midlands and the north of England recently were the launch pad for several new ST and Falcon products.

Both *Atari ST User*-sponsored events were well attended and gave Atari enthusiasts a chance to see new products and talk to dealers and other visitors.

On show for the first time from Compo Software were ScreenEye – a real time video image processor that works in full colour on the Falcon – Geneva and Musicom II.

HiSoft showed Clarity 16, Colour Master and Harlekin 3 while System Solutions have re-introduced Keyclicks with a new price of £19.95.

The London-based specialist also showed new multitasking system Mag!x for the first time in Britain at the Northern show – see our exclusive review on page 50.

The shows saw the launch of many other new products including an alternative operating system called SMS2, Chroma 24 and Straight Fax 2.

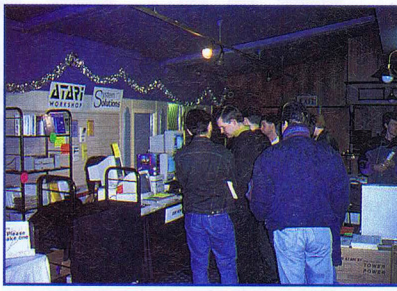
Karl Brandt, managing director of System Solutions said: "I enjoy these shows because they are all Atari users. There's no computer snobbery and they appreciate the equipment."

Other exhibitors included 16/32 Systems, Warpzone PDL, CGS ComputerBild, Gasteiner, Falcon Fact File, JCA Europe and Titan Designs.

Following the success of these shows, two dates have been added to this year's calendar in Newcastle and Glasgow. Provisional dates are March 19 and 20 respectively.

More new products are planned for the show including the first ever British showing of the Medusa, an Atari computer clone with a 68040 processor running at 66MHz.

It is claimed to operate 15 times faster than a TT.



Shows: New products and enthusiastic visitors

Forty programs run at once

UP TO 40 programs can run simultaneously on Atari STs using a new operating system developed by Southampton-based company Furst (0489 894674).

Unfortunately, the system – SMS2 – is not compatible with TOS, meaning Atari software will not run on the computer when the cartridge is fitted.

But according to Furst, plenty of programs are already available for SMS2, including public domain software, a C compiler and a word processor.

The system is claimed to bring several advantages to ST owners. "SMS2 offers a different form of computing," said Furst boss Graham Goodman.

"It's a truly multitasking system that can also be used as a real time system for controlling applications."

Features include a graphical user interface, in-built networking, a suite of utilities, and a special system to enable applications to share memory.

It works with all STs, with the number of programs available for multitasking limited only by memory. SMS2 is, however, incompatible with the Falcon. It costs £135.

Virgin fund football training

VIRGIN Interactive Entertainment have sponsored a scheme to teach Britain's kids how to become skilful football players just weeks after England failed to qualify for this year's World Cup

The company – publisher of football hit Goal! – handed over a £47,000 cheque recently to the co-ordinator of the Virgin Games Schools Football Initiative at Arsenal's Highbury ground.

Virgin: Handing over £47,000 cheque to improve UK football

The scheme enables schools to use a Dutch method of coaching called Coerver which uses one ball, one player training instead of the more common 11-players, one ball.

Children of all ages can take part, and after their schools have signed up are asked to find extra sponsorship from friends and family to fund sports equipment needed for the training.

Of the money used to set up the scheme, Virgin and the Government each donated £20,000, and £7,000 came from other sponsors Adidas a football magazine *Shoot!*

"The sponsorship deal could not have come at a more opportune time following England's failure to qualify for the World Cup," said Virgin's marketing manager Paul Dowling.

"Not only does the scheme encourage kids to learn individual football skills, but it will also give Virgin Interactive Entertainment direct access to around 25,000 UK schools."

Premier Programs For Your Atari

Inshape

Inshapes begins with the modeller, which has a variety of tools such as spin, extrude, and a template editor. Many built in primitives like cube, sphere, disc, cylinder, and tube are also included. Models can be assembled from component objects using up to 16 layers. Manipulation tools means an object can be moved, rotated, scaled to an accuracy of 0.0001mm. A wide range of materials are provided including metals, stones, plastic, wood, glass and sand. Many textures are available from marble to multi coloured spots. Even features such as bump mapping, image mapping, and waves are possible. Models can be illuminated, positioned and animated in the scene editor which in turn is your 3D world.

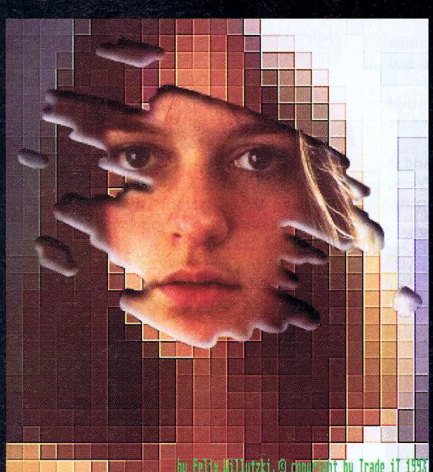
"A feature-packed modelling package that deserves to take the market by storm."
David Nilson. ST Review December 1993.

"It's the best there is."
Clive Parker. ST Format February 1994.

DA's Vector and DA's Vector Pro

The essential graphics, animation and presentation tool.
DA's vector is a colour vector graphics program for any Atari ST(E)/TT and Falcon computer, with at least 2MB of memory.
Unfortunately, we don't have sufficient space on this page to list the 100's of features included, like the tracer, vectorpath editor, 3d extruder, vector morphing, keyframe animator, graph and chart generator, picture converter, colourfade generator, freehand bezier drawing, to name but some of the features that combine to make this program not so much a tool as a fully equipped graphics workshop.
And now the best is getting better with DA's Vector Professional's added abilities. Phone for further information, also details on the excellent Tutorial which is now available.

"If we were to pick just one winner, without doubt this would be it."
Atari ST User 1993 Awards.



DA's Picture

The brief was simple: "Develop an image retouching program with more power than Retouche Professional and be easy to use."
The result "DA's Picture".
DA's Picture is the most recent member to the Digital Arts family of acclaimed products, and a software hardware bundle is available with the Matrix Screeneye Digitiser.
DA's Picture Software £149.00 inc. VAT.

Please note that InShape requires a maths co-processor and works with an Atari TT or Falcon, priced at £149.00. DA's Vector is £149.00 and DA's Vector Pro is scheduled to be approx £249.00. Chagall Limited is £149.00. The Tabby Graphics Tablet is £49.95 and DigiTape Lite is on special offer at £99.00 with a copy of this advertisement, until Feb '94. CGS ComputerBild may be contacted on 081 679 7307 for orders and further information, or write to us at:
231 Northborough Road, Norbury, London SW16 4TU.

Euro News

Don Maple rounds up the latest highlights from the European Atari scene

Hollywood effects come to the home

UNTIL recently morphing effects were only possible on multi-million dollar purpose-built computers, but now Morpher brings the latest Hollywood video tricks to all STs and the Falcon.

A special version of the program supports a floating point co-processor, works on both 2D and 3D objects and runs fully under GEM and inside windows.

There is a total of five windows of which only three contain graphics. These are the source graphic window, the target graphic window and the "morphed" window. The remaining two contain the tools and a progress indicator. The Morpher can create animations in up to 99 steps but due to the calculation-intensive nature of the processing this might take a very long time to achieve.

A fast machine such as the TT is therefore recommended. Once the images have been saved a separate program called the Player is used to animate them.

Running in up to 256 colours, the programs are available from Application Systems Heidelberg, Postfach 10 26 46, 69016 Heidelberg, Germany.

Falcon takes to the rails

AT LONG last Falcon-specific games are beginning to appear. Golden Island runs only on the Falcon in the high resolution 256-colour mode.

Because of this, a VGA monitor is recommended, as running the game on an RGB monitor is only possible in the interlace mode.

The game is based around a railway network and the goal is to drive a train collecting gold, which has been hidden all over the place by a bunch of criminals.

The train contains a crane which is used to pick up the gold and to load it in. Various other objects can also be collected and used along the way.

In the course of the game enemy trains must be destroyed without using any weapons and this can prove a formidable challenge.

It supports those rarely-used extended joystick ports and there are plans to support the new Atari Joypad game controller.

Golden Island costs DM59 (about £25) and is available from WBW-Service, Willi B. Werk, Osterfeuerbergstr. 38, 28219 Bremen, Germany.

CHRONOS, the calendar/appointment planner with a difference reviewed in last November's Euro News has just been released in v1.5.

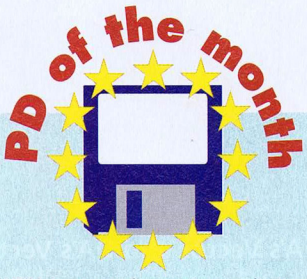
Improvements include MultiTOS compatibility, more appointments are shown during booting, additional astronomical data is displayed and the appointments now extend all the way to the end of year 2107 for those who intend to live that long.

To register send £12 to Daniel Roth, Bruecker Mauspfad 448, 51109 Cologne, Germany.

The author of 1st Guide, the highly recommended multimedia hypercard program reviewed here in the Christmas issue, has moved. The new address is: Guido Vollbeding, Turmstr. 61, 06110 Halle/Saale, Germany. Send £10 to receive a registered copy of the program.

The eMailList mentioned here in the Christmas edition of EuroNews is now up to v6. Since its release this email equivalent of Yellow Pages directory of prominent Atari individuals and companies has rapidly grown in size and become international.

A must for anyone involved with Atari. Write to Achim_Wilhelm @ m4.maus.de for more information.



WE'LL turn away from serious applications this month and introduce a game. Utopos is a shareware offering from a group of Finnish ST enthusiasts who go by the name of Aggression.

It's a shoot-'em-up, programmed to high professional standards with excellent graphics.

The program makes full use of all of STE features. This means 32 colours, eight channels of sound and smooth scrolling.

A horizontally split screen supports two players, each controlling their own spaceship.

Agressia are bilingual and speak both English and French. The playable demo version is available at the Necronomicon BBS in Finland which can be telephoned on +358-0-3882710.

For a full version send £6 in cash (the authors insists on cash) to Jani Penttinen, Lahdekuja 2b5, 16300 Orimattila, Finland.

An expanding Portfolio

SEVERAL Portfolio products have just been announced by Eickmann Computer, proving that the grandfather of all pocket computers is still alive and kicking.

The memory card called Stefanie comes populated with 128k of RAM, but the really interesting products are the floppy and hard disk interfaces.

For DM300 (about £120) you get the Diskfolio Interface with serial, parallel and floppy drive ports.

The bundle also contains an ST-compatible floppy drive. The hard drive version, called Universal Interface, also has both serial and parallel ports.

In addition, it contains room for up to 512k of RAM and a built-in ROM with a software driver, a terminal program and P-BASIC. The hard disk connects to the parallel port.

Contact Eickmann Computer at In der Roemerstadt 259, 60488 Frankfurt am Main, Germany.

Ladbroke Computing

33 Ormskirk Rd, Preston, Lancs, PR1 2QP

Ladbroke Computing International are one of the longest established home computer dealers in the U.K. We have developed an extensive customer service policy which involves testing of all hardware prior to despatch to ensure that goods arrive in working order, offering free advice and support over the phone and keeping customers informed. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup.

All prices are correct at copy date 10/1/94 (while stocks last), and are subject to change without prior notice. All prices include VAT but exclude delivery.

How to Pay
You can order by mail Cheques/Postal Orders made payable to Ladbroke Computing. Or give your credit card details over the phone.

Delivery
Postal delivery is available on small items under £40 (Normally £3, phone for details). Add £7 for courier delivery. Next working day delivery on mainland UK subject to stock (£20 for Saturday delivery).

Open Mon-Sat 9.30am to 5.00pm.
Ladbroke Computing Ltd trading as Ladbroke Computing International.

Fax: (0772) 561071
Tel: 9.00am-5.30pm (5 Lines)
(0772) 203166

Star SJ144 **£459**
The Star SJ144 is a Colour/Mono thermal wax transfer printer which gives glossy colour output on normal paper.

- 360 dpi resolution
- Emulates Epson LQ 860, IBM Proprinter & NEC graphics

Colour Ribbon	**£6**
Mono Ribbon	**£5**

Star

Star LC100 Colour	**£149**
Star LC24/100 Mono	**£169**
Starjet SJ48 Bubblejet	**£210**
SJ48 Sheet Feeder	**£55**
SJ48 Ink Cartridge	**£19**

Citizen

Citizen Swift 240 Colour	**£260**
Citizen PRO Jet	**£209**

Hewlett Packard

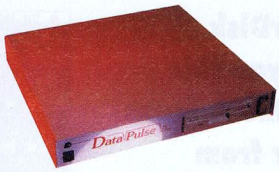
HP Deskjet 510	**£309**
HP Deskjet 310	**£239**
HP Deskjet portable	**£212**
HP Deskjet 550 Colour	**£599**
Hp DJ500 Colour ink cart	**£26**

Lasers

Ricoh LP1200	**£699**

Add £3 for cable. Add £7 for delivery

Data Pulse Plus



The Data Pulse Plus range of drives features a full metal case with integral PSU ideal as a monitor stand.

All Data Pulse Plus Drives now come configured with industry standard 50 way SCSI Centronics sockets which allows connection of the ICD LINK (no clock) for use on the ST or a SCSI II cable for use on the Falcon etc.

To ensure the highest possible reliability, the drives are tested at every stage of assembly by skilled technicians.

All drives are ready to 'Plug in and Go' when you receive them. When you first boot up your hard drive you will find a wealth of Public Domain Utilities which have been selected by our support staff.

All Data Pulse Plus Drives include 12 months warranty and free phone advice and support by genuine Data Pulse Plus users.

The low power consumption of these Autoparking Autobooting mechanisms means that they can operate well within their safe operational temperature ranges without the need for fan cooling. This coupled with the design of the case results in probably the quietest Hard Drive range available for the ST.

Floptical drives are a reliable, high density, replacement media drive for the ST or Falcon. Due to an optical positioning system the Floptical drive is capable of storing 21Mb of data on one 3.5" Floptical disk. The drive can also read/write 720K and 1.44Mb HD disks.

Re-Writeable Optical drives are a new addition to the Datapulse range, offering staggering density with hard drive speed. Each 3.5" optical disk stores 128Mb with access time of 30ms and a data transfer rate of 600K per second.

"Data Pulse is astonishingly fast"– Andrew Wright, ST User

Data Pulse +52Mb	**£150**
Data Pulse +60Mb	**£170**
Data Pulse +170Mb	**£280**
Data Pulse +240Mb	**£360**
D/P +21Mb Floptical	**£330**
D/P +128Mb Optical	**£610**

Please note all prices quoted are for main drive unit only. Add ICD LINK for use with ST or SCSI cable for use with FALCON

ICD LINK (ST)	**£89.99**
SCSI Cable (Falcon)	**£39.99**
128Mb Optical disk	**£35.00**
21Mb Floptical Disk	**£19.99**
ICD PRO Utilities	**£39.99**

Monitors/TV's

Dataview Mono ST **£139.99**
The Dataview Monochrome monitor comes complete with our custom designed adaptor. The adaptor incorporates a small beeper and also a 2.5mm output for better sound reproduction. The monitor/adaptor combination is fully compatible with all ST high resolution programmes and includes a tilt/swivel stand.

Multisync Monitor

Microvitec 1440	**£399.99**
ST Switch Box	**£29.99**
Falcon VGA adaptor	**£9.99**

The Microvitec 1440 is a multisync monitor compatible with both the Atari ST and the Falcon. Utilising the ST switch box it is possible to display all three ST resolutions on the same monitor. Also compatible with screen blaster for the FALCON.

"Microvitec 1440...Highly recommended"–Atari ST User

Dataview .28 SVGA **£239.99**
This high quality SVGA colour monitor comes complete with Falcon adaptor. The .28 dot pitch gives the highest quality picture (Falcon will only display 256 colours in high resolutions).

ST-SVGA adaptor	**£19.99**
Falcon-Composite	**£9.99**
Falcon Scart	**£13.99**
Falcon-ST Mon adaptor	**£9.99**
SCART STE cable	**£9.99**
SCART STFM cable	**£9.99**

Scart TV's

Samsung CI5322X **£249.99**
The Samsung CI5322X is a 20" TV with SCART input for high quality display of computer output. It also features remote control, on screen displays, Auto tuning system (requires SCART lead).

Samsung C13352X **£179.99**
The Samsung C13352X is a 14" SCART input TV with remote control and on-screen displays (requires SCART lead).

Falcon 030

- 16MHz 32 bit 68030 Central Processor, 16MHz Blitter, 32MHz 56001 Digital Signal Processor
- 1.44Mb 3.5" Floppy, up to 14Mb RAM. Displays 65536 colours from 262144 palette at 768 x 480 resolution
- 8 Channel 16 bit, high quality. Stereo sound sampling

FALCON 1Mb RAM No HD	**£499**
FALCON 4Mb No HD	**£699**
FALCON 4Mb 64Mb HD	**£799**
FALCON 4Mb 127Mb HD	**£899**
FALCON 4Mb 209Mb HD	**£999**

STE Packs

1040 STE	**£199.99**
2Mb STE	**£269.99**
4Mb STE	**£329.99**

3.5" External Drive

Zydec 3.5" External Floppy drive. Includes own external power supply.

£59.99

Speed Mouse

High quality 300 dpi mouse with microswitched buttons ST/AM.

£11.99

Marpet Upgrades

Marpet upgrades for the ST are "plug in" and require no soldering. They are compatible with most motherboard layouts and come with full fitting instructions. These boards accept SIMM boards and are upgradeable at a later date. Please check that MMU and Shifter are "socketed' before ordering.

Unpopulated Marpet Board **£24.00**
See SIMM prices below

Forget Me Clock II	**£13.99**
512K SIMM'S	**£5.99**
2MB SIMM'S	**£59.99**
4MB SIMM'S	**£119.99**

Midistudio Master

240 PPQ Midi Standard file format compatible. 100 tracks. Phrase arrangement. Very easy to use.

£9.99

Hand Scanner

- 100,200,300,400 Dpi Resolution
- 1 letter mode, 3 photo modes
- 105mm scanning head
- Includes Cartridge through port with switch box
- Supplied with Scanlite Accessory. Compatible with any graphics package which supports accessories.
- Allows scanning directly into compatible packages, such as Silhouette.

Hand Scanner+ Scanlite £99.99

Hand scanner supplied with Silhouette V1.4 Autotracing vector package (mono monitor only). £119.99

Repair Services

The Only ATARI Authorised Repair Centre in the UK

Our Atari trained technicians can repair ST's at competitive rates. We can arrange for fully insured, courier pickup and return delivery of your machine to ensure its safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day.

We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge.

Please note: The minimum charge covers labour, any extra parts are chargeable.

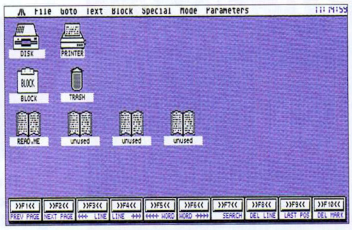
Minimum repair charge	**£35.25**
Same day service	**£15.00**
STFM(E) PSU	**£34.99**
1Mb internal drive	**£39.99**
TOS 2.06 + Switch STFM	**£65.00**
Courier Pickup	**£11.00**
Courier Return	**£7.00**

PC Emulators

- Check configuration before ordering

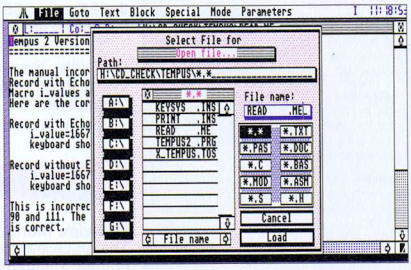
PC Speed STFM or STE (XT) **£49.99**
AT Speed STFM (8MHz) **£139.99**

Lots of CoverDisk goodies for you this month with the Tempus 2 text editor from HiSoft and a great "hacker" game going by the curious name of Naarjek



Tempus' desktop-type environment, complete with icons, makes it a joy to use

COVER disk



Tempus replaces the ST's less versatile file selector with its own custom version

Tempus 2

The complete and unrestricted text editor from HiSoft. Fast, feature packed and very powerful

By: HiSoft/CCD
Configuration: All STs - medium or high resolution
Filenames: X_TEMPUS.TOS - Self-extracting archive
Disk space required: 163,182 bytes
Start program with: TEMPUS2.PRG

THERE are many text editors available for the ST but few have the speed and features which Tempus 2 offers in such a small program.

Written completely in assembly language and utilising GEM to the full, Tempus 2 provides both speed and ease of use. It works both on colour or mono monitors and lets you edit up to four files simultaneously.

The size of files being edited is limited only by available memory and text lines can be 255 characters long. Full block editing features are available to make copying and pasting of selected sections of text very easy.

Other powerful features include macros, definable function keys and the ability to configure the keyboard.

Tempus 2 also includes its own custom file selector to replace the less versatile one which is offered by GEM.

The number of features which Tempus offers are too numerous to list here which is why the Tempus 2 manual runs to 124 pages, but, to get a more detailed description of just how good Tempus 2 is, turn to this month's Disk Tutorial pages for a basic guide to some of its features.

Tempus 2 reader offer

You can obtain the full 124-page manual and master disk for $14.95 + £1 p&p from HiSoft. For further information on this special offer, turn to page 18.

Sound Lab

Excellent shareware sound sampler software which can be used with both ST Replay and DataSound cartridges

By: Damien M Jones
Configuration: All STs - medium or high resolution
Filenames: X_SNDLB1.TOS, X_SNDLB2.TOS - Self-extracting archives
Disk space required: 214,749 (disk 1), 709,112 (disk 2)
Start program with: SOUNDLAB.TOS

SOUND Lab is split into two archived files called X_SNDLB1.TOS, which is the documentation, and X_SNDLB2.TOS, which contains the program and data files.

You will need to copy them to their own separate disk and extract them from there first. You can then delete the archived files and put all the remaining files onto one disk.

Sound Lab is a brilliant shareware sound sampling program which offers lots of features for creating and manipulating sound samples in varying formats.

It works with ST Replay and DaataSound cartridges, which are needed in order to record samples from a sound source such as a hi-fi.

There are many functions available which will allow you to manipulate and edit samples in memory as well as record and play them.

Albion

A versatile and powerful file information utility to replace the Show Info function available from the ST's desktop

By: Carl J Hafner
Configuration: All STs - all resolutions
Filenames: X_ALBION.TOS - Self-extracting archive
Disk space required: 136,807 bytes
Start program with: ALBION.PRG

MANY of you must be familiar with some of the functions offered by the ST's desktop. One in particular, called Show Information, which is available from the File menu, allows you to alter certain attributes of a file or folder as well as view other file information such as size, date and time created.

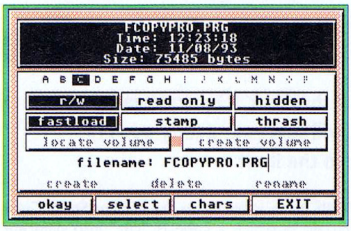
On a standard ST, you can set a files attribute to either Read Only, or Read/Write, and you can also rename the file from here too.

Those of you with later TOS versions, such as 1.4 or above, have the added bonus of being able to rename a folder, which is not possible on STs with TOS 1.2 or earlier.

However, the later TOS versions do support other file attributes such as the Fastload and Hidden attributes. The Fastload attribute, when set, increases the speed at which the file is loaded and run.

These special attributes are not alterable from the Show Information function from the desktop, not even in the latest TOS versions, including MultiTOS.

As well as offering the features which the standard Show Information function does, Albion allows access to these special attributes and also includes some other useful features too.



Albion gives you much more information and control over various aspects of a file and its attributes

For more information on these features, check out the documentation file which is included with the program.

Five to Five

A great utility for converting sound sample files from one format to another

By: Harald Schinfield and Bernd Spellenberg
Configuration - All STs - medium or high resolution
Filenames: X_525.TOS - Self-extracting archive
Disk space required: 104,225 bytes
Start program with: 525E.PRG

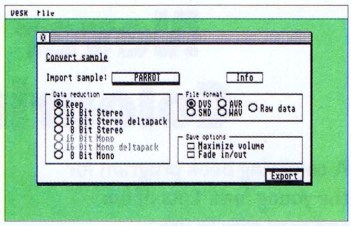
THERE are many sound sampling packages both for the ST and other computers and each have their own file formats when saving sound samples to disk.

In general, the data which represents the actual sound recorded is stored much the same way in many files, the problem with being able to read a sample file in a program different to the one that the file was saved in, lies in the "header".

This header section of the file contains information on such things as the speed (or frequency) at which the sample was recorded, whether the sound data is 8 or 16-bit and the length of the recorded sound data.

Each of the many sound sampler programs has its own way of storing this header information and some headers contain more information than others.

Five to Five enables you to load a sound sample file in one format and save it in a different format.



Various Five to Five buttons apply changes to the currently loaded sample file prior to converting it

There are masses of PD disks for all computers which contain lots of sound sample files and with Five to Five, you can now convert some of them to use in your own favourite sampling package.

GoGoST

A great utility to speed up the executing or loading of programs or data

By: Mark Cawthon
Configuration: All STs - all resolutions
Filenames: X_GOGOST.TOS - Self-extracting archive
Disk space required: 159,178 bytes
Start program with: GOGOST.PRG

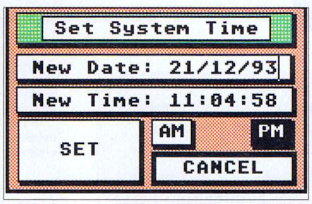
DO YOU have a drive with lots of programs or utilities stored in their own folders? Do you need a quick way to execute a specific file without having to wade through folder within nested folder to find it and then run it? Well, GoGoST is just the program you need.

This little gem (no pun intended, honest) lets you assign programs or a data file to a bank of buttons which, when clicked on, will execute the program assigned to it.

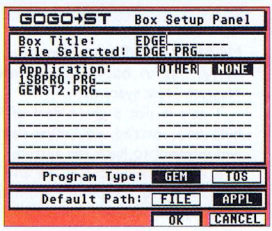
If a data file is assigned to a button – say for instance your latest assembly source code for a game – you can configure GoGoST to load the appropriate program, such as Devpac3, ready to edit the data file.

Essentially, GoGoST is a GEM based "menu" system which displays the files specified by you, ready for executing at the click of a button.

Although those of you with hard disks chock full of folders and programs will find it of most use, GoGoST can also be used on a floppy disk drive system.



You can set the current time and date which is used by the activity log feature in GoGoST



Simply click on a empty button and the Setup Panel appears where you can assign a program or data file to the specified button

CoverDisk Hotline

Hotline number: 0625 859766, 2pm to 5pm every Wednesday.

If you have any other problems with the CoverDisk, our technical editor, Darren Evans, will be available on the *Atari ST User* CoverDisk Hotline. Help is only available within the times specified, and no advice will be available outside these hours.

If a fault turns up...

With thousands of disks being duplicated each month, a few will inevitably be faulty. Fortunately, we can help you. Send the faulty disk to:

PC Wise, Dowlais Top Business Park, Merthyr Tydfil, Mid Glamorgan CF48 2YY.

A replacement will be sent free of charge but please allow 28 days for delivery.

Single-sided service

Single-sided drive users wanting the contents on this month's disk on single-sided disks should send their original CoverDisk and a cheque for £1.50 – payable to *Atari ST User* – to SSD Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP.

Soma

A brilliant 3D puzzle game which will test your acuity powers to the limit

By: Mark J Gallagher
Configuration: All ST/STEs - low resolution
Filenames: X_SOMA.TOS - self-extracting archive
Disk space required: 34,915 bytes
Start program with: SOMA.PRG

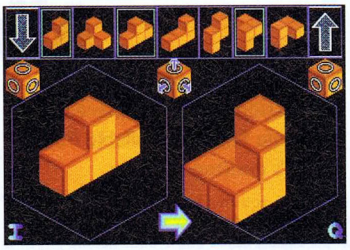
THIS game is based on the ancient Soma Cube puzzle in which a cube is "cut" into different shapes that you must re-assemble into a complete cube.

The game is completely mouse driven and is very easy to use. Simply choose one of the seven cube pieces displayed at the top of the screen and then click on the down arrow to transfer it to the hexagon on the left.

You can then rotate the cube piece in 3D by clicking on the small cube in the top left with the mouse button. To position a piece, click on the direction arrows with the mouse button.

Once you are satisfied with the piece's current position and orientation, click on the arrow at the bottom of the screen to transfer it to the right hexagon which is where the cube is to be assembled.

Should you make a total cock-up, you can remove the offending piece or pieces by selecting its shape and clicking on the up arrow.



Mind-taxing spatial awareness is required if you are to successfully complete a cube

Never Ending Colouring Book

A colouring book program for the young 'uns. Lots of fun and very easy to use

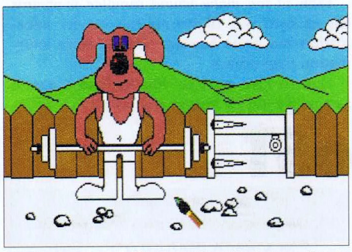
By: Tony Greenwood, Tony Gooding and Mad Max
Configuration: All STs - low resolution
Filenames: X_COLOR.TOS - Self-extracting archive
Disk space required: 248,301 bytes
Start program with: COLOUR.PRG

THIS one is for the youngsters and is a simple colouring book program which allows kids to use the mouse to colour in a selection of ten pre-drawn pictures.

There are also ten blank workscreens for you to create your own pictures for the youngster to colour in.

The program also plays a different piece of music every time the program is loaded, which can be turned on or off as required.

A simple and easy to use mouse interface ensures the youngster will soon get to grips with this fun program



Once a colour is chosen, simply click on the paintbrush icon and begin colouring in to your hearts content

Naarjek IV

Use your computer skills to hack into a network controlled by Naarjek – an artificial intelligence

By: Carl J Hafner
Configuration: All STs - medium resolution
Filenames: X_NARJEK.LZH - Self-extracting archive
Disk space required: 179,967 bytes
Start program with: NAARJEK4.PRG in NAARJEK4 folder

THIS is a game in which you must access a computer network and hack your way into the heart of the system.

Those of you familiar with modems and logging on to bulletin boards and other related services will feel at home as the game simulates being logged on to an online service.

Various menus are available, by pressing the appropriate number or typing in the appropriate word. There are also many hidden menus and commands which you must find for yourself.

The first thing you should do is read the NAARJEK4.TXT documentation file which has some useful background information on Naarjek Data systems.

There is not a great deal of information to help you, instead, you must use all your logic and intellect to hack the system.

It is quite a difficult game and some of us in the office are completely stumped at how you access your personal File area in the game.

Using the CoverDisk

Write-protect your CoverDisk now by sliding the write-protect tab so you can see through the hole at the top right corner of the CoverDisk.

In order to fill the disk with as many programs as possible, ST User employs disk compression techniques when placing large programs on the CoverDisk.

These files are termed "archived files" and cannot be directly executed from the CoverDisk. Archived files are identified by their names beginning with X_.

Any files that do not begin with X_ are actually folders containing files which are not compressed.

These uncompressed files should also be copied to a blank disk. Following are a series of step-by-step instructions for using the CoverDisk.

Important: The ST User CoverDisk uses an extended format of 10 sectors and 81 tracks to increase storage space. This means you will not be able to copy the disk using the ST's built-in copying feature.

To make a backup of the CoverDisk, you will need a copying utility, such as FastCopy 3. Such utilities are available from all good PD libraries.

Alternatively, you may use a formatting utility, to format a disk to the same 10 sector, 82 track specification as the CoverDisk and simply copy all files to this.

Using archived files

Note: When copying files, the ST refers to disk A and disk B in its on-screen instructions. Disk A refers to the disk being copied while disk B refers to the disk being copied to (usually a pre-formatted blank disk).

1. Format a disk.
2. Copy the required archived file to the formatted disk.
3. Run the copied archived file. It will now automatically "extract" to its full size.
4. Once complete, delete the X_ filename as this is no longer required. The formatted disk should now contain all the files that were in the archive file.

Normal uncompressed files

1. Format a blank disk
2. Open the required folder and copy all files in the folder to the formatted disk.
3. You can now immediately run the program/s as is.

Highlighting and dragging files and icons

1. Click once on the item, it should turn black (the item is now highlighted).
2. If you keep the left mouse button held down on the item, a dotted outline of the item appears and you may then re-position it by moving the mouse to the required position (effectively dragging the icon) and releasing the mouse button.

If you are new to the ST and did not understand some of the terminology in the preceding steps. There now follow an explanation of some basic techniques needed.

Formatting a disk

1. Place the disk to be formatted in the drive.
2. Highlight the drive A icon.
3. Move mouse pointer up to the FILE menu at the top of the screen and select FORMAT.
4. A box will appear. Click on OK.
5. Another box will appear. Ensure DOUBLE SIDED is selected then click on OK. The disk is now being formatted.

Copying files to another disk

1. Select the file to be copied by highlighting it and dragging it to the disk B icon.
2. A box entitled COPY FILE(s) appears. Click on OK and follow instructions on the screen exchanging disks as requested.

Protext 6 - *A Winning Performance*

Some highlights of Protext 6

Styles

Styles let you make flexible use of printer fonts and effects. You can change a font throughout a document with a single operation.

Document Layout

An easy to use dialogue lets you lay out your page precisely as you want using inches or cm for the page length, margins and tabs.

Graphics

Graphic images may be imported into a Protext document. Supports IMG, PCX, GIF and IFF. You can select any resolution and scale the image. Dot matrix, inkjet and laser printers.

Printers

Protext's unrivalled understanding of printers gives you the highest quality printing at the highest possible speed. Using a printer's built in fonts enables Protext to print pages in seconds rather than the minutes taken by some programs.

Protext is still the fastest

- Fastest at editing.
- Fastest at spell checking.
- Fastest at printing.

Protext still has the best printer support

- Hundreds of printers supported
- PostScript driver included ***NEW***
- Scalable font support ***NEW***
- Colour printing ***NEW***
- Automatic line spacing ***NEW***

Protext still has the most advanced features including:

- Styles ***NEW***
- Graphics import ***NEW***
- Spelling checker
- Thesaurus
- Hyphenation
- Document analysis
- Glossary ***NEW***
- Footnotes
- Widows and orphans
- Index and contents
- Addition of numbers
- File sorting
- Mail merge
- Programming language

Protext is now easier than ever to use

- Menus and dialogue boxes
- Interactive Help ***NEW***
- Macro editor ***NEW***
- Dictionary editor ***NEW***

The list price of Protext 6 is £152.75 but you can order direct today for just £99 inclusive. For the Atari ST and TT.
Phone us today and we will send you a usable demo version and a full specification, absolutely free. Upgrade offers available - please call us for the current price.

ARNOR

Arnor Ltd (STU), 611 Lincoln Road, Peterborough, PE1 3HA. Tel: 0733 68909 (24hr), Fax: 0733 67299

If you haven't yet extracted Tempus 2 from the CoverDisk, do it now. Those of you unfamiliar with archived files should read the disk pages and the section in this tutorial on using the CoverDisk.

Text editors are some of the most common, and most useful, programs around. Not only can they create documents for printing out, they are also used by many programmers as a means for writing programs.

They differ from the many word processors available in that they take up very little memory and they do not have a spelling checker or thesaurus.

Tempus 2 differs from other text editors in that for such a small program (a mere 70k), it offers many features and functions usually only found in word processors.

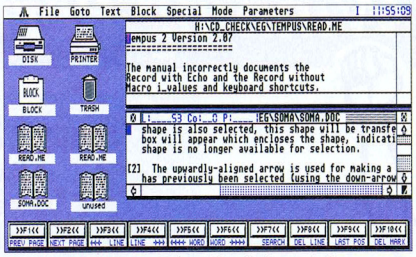
Features such as multiple document editing, macros and extended editing functions, cross reference generation and file comparison are just a few of those available.

Programmers in particular will also find useful features which will aid editing of program source data with Tempus's ability to check for structured source code. C programmers can check for balanced { and } characters (a common source of compiler errors) and Pascal programmers can check for balanced BEGIN and END statements.

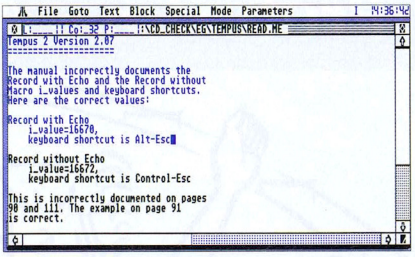
There is even a built-in programmer's calculator offering basic arithmetic functions such as multiply and addition as well as Boolean functions such as NOT, OR, XOR and others, all in hex, decimal, binary or octal bases.

Besides being very small in size, Tempus 2 is also extremely fast. This is because it's written entirely in assembler.

If you haven't already got Tempus 2 up and running, do so now by double clicking on the TEMPUS2.PRG file.



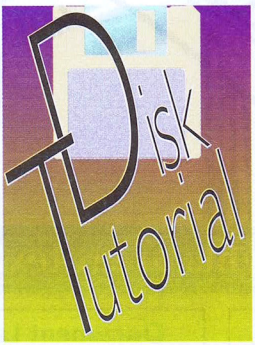
Tempus uses its own desktop like display and allows up to four document windows to be open at once



Block functions allow text to be selected, then copied to other documents, or saved to disk

Kickin' up a

Get familiar with the basic features of this month's CoverDisk giveaway, with our informative tutorial



The first thing you should be presented with is Tempus's custom file selector, which is a vast improvement on the ST's built-in one. As you can see, unlike the STs file selector, you can change drives simply by clicking on the appropriate drive boxes to the left.

Also, there are a selection of buttons representing standard file extension names, which can be customised to your tastes.

At this point, locate the text file READ.ME and load it into Tempus by either double clicking on the file name, or by clicking on the file name once and clicking on the Load button. The contents of the READ.ME text file should now be displayed in a window.

The window covers the entire screen, but you can alter the size and position of this window as you see fit. Move the mouse pointer to the bottom right-hand corner box of the window.

Press the left-hand mouse button and keep it held down. Now, if you move the mouse, you will see a dashed outline of the window being drawn as you move around.

Make the window as small as possible and release the left mouse button. You should see the window has been re-drawn to its new, smaller size.

Next, move the mouse pointer to the top horizontal bar of the window, between the top right and left-hand boxes. It's the one where the path name and the name of the file being edited is displayed.

If you press the left mouse button and keep it held down while moving the mouse, you should be able to re-position the window to anywhere on screen. Move the window so it is at the top right-hand side of the screen.

As you can see, Tempus has its own desktop-like display with icons representing the maximum of four files which can be open at once, as well as other icons for printer, trash and block functions.

Take a look at the four text page icons and you will see that three of them are unused, while one of them contains the name READ.ME. This shows that the file READ.ME is currently resident in memory.

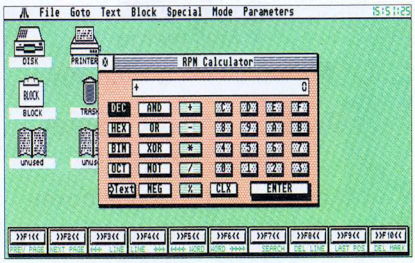
Move the mouse pointer to the top right box of the text window currently open and click the left mouse button. This will close the window.

As you can see, although the text window is gone, the text page icon still shows that the file READ.ME is still in memory. This feature means you can have up to four separate text files in memory with each of them assigned to their own icon.

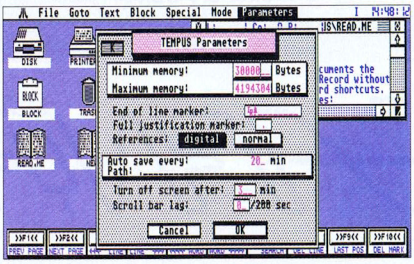
If you wanted to print, clear or save the READ.ME document, you could do it by selecting the appropriate print, clear or save command from the menu at the top of the screen.

However, as you can see, there are other icons on the screen besides the text page ones.

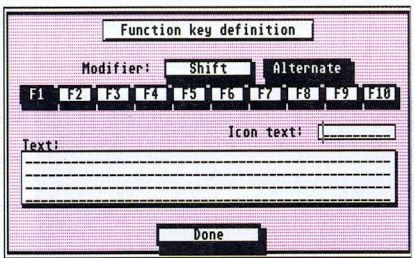
Ignoring the block icon for now, you will see a disk, printer



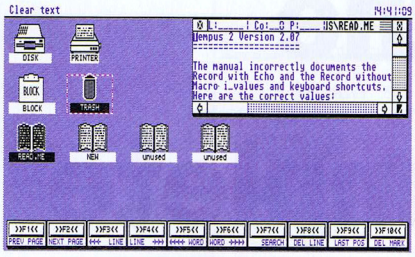
Tempus includes a useful built-in calculator for the programmers among you



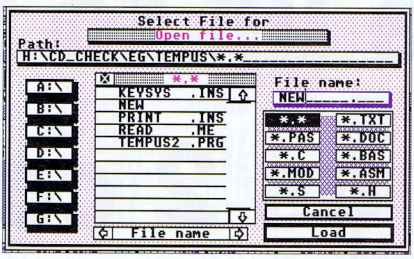
Various parameters allow you to switch on auto saving, alter memory usage and configure the built-in screen saver



Tempus 2 also allows you to assign text strings to the ten function keys



Using icons allows quick and intuitive printing, saving or clearing of text



Tempus does away with the ST's limited file selector and replaces it with its own custom version

Tempus

and trashcan icon. If you wanted to clear the READ.ME file from memory, you can simply drag the READ.ME text page icon to the trashcan icon.

Alternatively, if you wanted to print out the READ.ME file, you would drag the READ.ME icon over to the printer icon. This icon method of doing things is obviously much quicker than having to access the menu and the appropriate sub-menu function.

You can have all text files open at the same time, each within its own window. However, things will get a little cluttered unless you are running Tempus on a high resolution monitor, or if you have a graphics card which provides enhanced resolutions.

This makes for some powerful multiple document editing with the ability to cut and paste between each document. To show how easy it is to copy text from one document to another, let's create another document.

Move the mouse pointer to the File menu and select Open file. Locate the File name box and if it contains any text, erase it by pressing the Esc key.

Now type the word NEW into the box and press Return. Tempus will realise that this file does not exist and will ask if you wish to create it. Select the Yes box.

Next, open the READ.ME text file (which should still be in memory) by double clicking on the text page icon marked READ.ME. Now position both the NEW document and READ.ME document windows so that you can see both windows at once.

Click on the READ.ME document window and position the cursor at the top of the document using the mouse.

Now move the mouse pointer to the block menu and select Set block start. You should see the entire text in the READ.ME document window turn blue.

This marks the text for manipulation using the block commands. You will notice that all the text has been selected by default.

If you wanted to just select a specific section of the text body, you would move the cursor to the end of the text section and select Set block end from the Block menu.

With the text selected, move the mouse pointer to the empty NEW document window and position the cursor at the top of the document using the mouse.

If you now move the mouse pointer to the Block menu and select Copy without markers, the text which is selected in the previous window is copied to the window at the current position of the text cursor.

Whenever you mark any text using the Set block commands, the specified text is copied into a buffer. This buffer has its own icon on Tempus's desktop called (spookily enough) Block.

As with the text page icons representing actual documents, the contents of the block buffer can be printed, saved or cleared by dragging them to the appropriate icons or by accessing the menu functions.

As you can see, using Tempus is both intuitive and fast. There are many, many more features available which are covered in a 124-page manual.

This manual is available from HiSoft for the bargain price of £14.95 + £1 p&p. For information on how to order, turn to page 18.

Using the CoverDisk – An insider's guide

A quick discussion on the format of our CoverDisk will be of benefit to the many newcomers to the ST who, according to the number of calls we receive on our CoverDisk hotline, seem to be suffering from common problems when trying to extract the CoverDisk files.

To give the maximum value for money we can, *Atari ST User* uses self-extracting archived files before putting them on the CoverDisk.

This archiving process takes all the files which comprise a particular software package and, using a special technique, reduces the size of each file (known as compression). It then stores all files in one single file, known as the archive file.

Because a program has been compressed and all files stored into a single file, we can fit many more programs onto the CoverDisk than we could have done normally.

For example, this month's collection of files, if stored on a disk without being archived, would require almost 1.4Mb (1,377,513 bytes to be exact) of disk space, which would mean a double disk issue with a subsequent increase in the magazine price.

After archiving these files, we can reduce the space required to a mere 662,225 bytes, which can fit onto a standard double sided ST disk of 726,016 bytes.

The price of this drastic space saving is that any archived files on the CoverDisk must first be extracted before you can use the programs.

This extraction process involves copying the required archived file from the CoverDisk to another disk and then running the program from it.

Judging from the calls we receive on the CoverDisk hotline, many newcomers are trying to run archived files directly from the CoverDisk, which will most probably result in a Write error.

You should write protect the CoverDisk immediately after removing it from its plastic bag on the front of the mag, and then treat it simply as the master disk for the stored programs on there. In fact, you should ideally make a copy of the CoverDisk as backup and put the original CoverDisk in a safe place.

To use a particular program on the CoverDisk, you must ideally copy the related file (refer to the disk pages for the name of the related file) to a blank formatted disk and then run it from there.

This will start the extraction process and all the files which are stored in the archived file will be copied onto the disk along with the archived file.

If you look at the description of the CoverDisk files in the disk pages, you will notice a few changes over previous issues. In particular, new information on the disk space required for an archived file to successfully extract is present, allowing you to calculate whether you can put more than one archived file on a disk to extract them.

As an example, The description of Tempus 2 in the disk pages tells you that the disk space required for Tempus 2 to extract is 163,182. So, this amount of space must be available on the disk you copy the file to.

Once copied you may then run the archived file, at which point the extraction process will begin.

A series of asterisks (the * character) will appear, showing the progress for each file. A successful extraction should end with the message "Press any key".

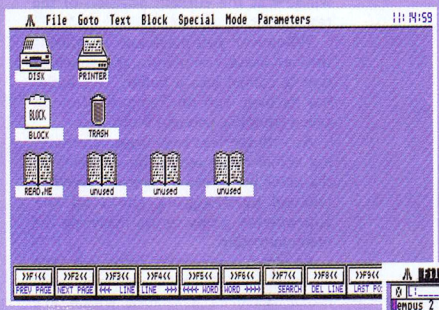
Pressing any key returns you to the desktop. You will need to re-read the disk with the archived file in order to see the new files which have appeared. Press the Esc key or simply double click again on the disk A: icon.

At this point, you can delete the archived file as it is no longer required and is just taking up disk space. All CoverDisk archived files begin with the letter X, as in X_TEMPUS.TOS, to make them easy to spot amongst other files.

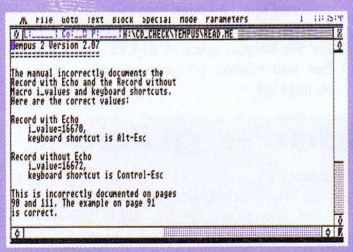
Then, simply refer to the disk pages for the name of the file which starts the CoverDisk program, in the case of Tempus, this file is specified as TEMPUS2.PRG, and then run it.

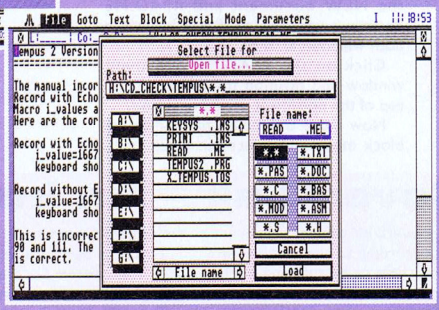
Trade up to the Tempus 2 complete package

and pick up a Power BASIC bargain as well...



The Tempus 2 complete package includes the 124 page manual, the master disk plus full registration details, and costs just £14.95 plus £1 postage and packing. This great offer also includes full details of the new (1.2) version of Tempus 2 which supports large screens, the TT and the Falcon, together with a special offer for upgrading to this new version.





Included with this offer for the premier programmer's editor is an opportunity to pick up Power BASIC, the acclaimed compiler for FirST BASIC which is supplied with most STs.

The Power BASIC package allows you to turn you FirST BASIC programs into super fast machine code quickly and easily, and comes with an extensive manual and registration details for only £10 plus £2 postage and packing.

Don't forget that FirST BASIC is not required in order to use Power BASIC – it is a standalone package in its own right, making it even more fantastic value!

ORDER FORM

ATARI ST USER

Please send me...

- ☐ The Tempus 2 complete package at £14.95 plus £1 p&p
- ☐ Power BASIC at £10 plus £2 p&P

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Address.....

.....

.....

Postcode.....Daytime phone.....

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- ☐ Credit card

Expiry date __/__

Card No. ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

To order either of these great products send this order form to HiSoft, The Old School, Greenfield, Bedford, MK45 5DE. This offer ends on March 31

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Sweet memories

Treat your ST to sugar, spice and all things nice with a stonking new memory upgrade. Andrew Wright reveals what's available, for how much, and where to get it from

Fitting a memory upgrade is one of the best things you can do for yourself and your ST. After all, random access memory or RAM is one of the ST's main components – like the disk drive, the CPU and all the other essential chips and components, you can't do anything at all without it.

All programs (and accessories) have to be loaded into RAM before they can be used and even more memory is required for data files. For example, a paint program will use around 32k for each screen size picture it keeps in memory while an image processing package, working on large 24-bit colour images, will need at least 500k to 1Mb for each one. There's no getting away from it – some programs just won't run if there isn't enough RAM, so the more you have the merrier you'll be.

In the early days of ST computing most people plumped for 520s – after all, who on earth could use more than 512k of RAM? Most Sinclair Spectrum owners at that time were still puzzling out ways of using their full 48k!

HORRIFIC

Some of the more far-sighted users went straight for the full megabyte but the price differential in those days was pretty horrific. Unfortunately it didn't take long before bigger, more powerful programs like Calamus started appearing and it was then that an upgrade to a whole megabyte started to look increasingly tempting. When the first 1Mb only games arrived, the writing was on the wall for the users still bashing away on 520s.

In a brief survey of the last12 issues of *Atari ST User*, 36 per cent of the serious software titles reviewed or mentioned would run on any ST/STE. Some 42 per cent needed 1Mb while an astonishing 22 per cent needed 2Mb or more.

That doesn't include Falcon only software, incidentally, which is much more memory intensive. The picture for 520 gamers was a little rosier with only 40 per cent needing the full megabyte.

Of course, this is a wide generalisation. If you're happy doing your word processing and running the occasional PD game and leisure software, the extra memory won't be a high priority. That doesn't

Upgrading an STE

Existing RAM	Desired RAM	Instructions
512k	1 Mb	Add 2 x 256k chips in empty sockets
512k	2 Mb	Remove 2 existing chips and replace with 2 x 1 Mb chips
512k	4 Mb	Remove 4 existing chips and replace with 4 x 1 Mb chips
1 Mb	2 Mb	Remove 4 existing chips and replace with 2 x 1 Mb chips
1 Mb	4 Mb	Remove 4 existing chips and replace with 4 x 1 Mb chips
2 Mb	4 Mb	Add 2 x 1 Mb chips

mean you couldn't benefit from it – it would allow you to load extra accessories, more AUTO folder programs and even try out a sizeable RAM disk.

On the other hand, if your sights are set on the really important serious software launched in the last year or so – like MultiTOS, SpeedoGDOS and DA's Vector – that 512k will be looking awfully cramped.

Any gamer about to argue that 60 per cent of games run perfectly well in a half megabyte machine might well be deluding themselves – if you want to play the up-to-date favourites like Elite 2, Zool and Legends of Valour, you'll need every little byte you can get, and at least a meg.

FIDDLY

Opening up your ST isn't half as daunting as you might think. Fiddly, yes, dangerous, no. It does invalidate your warranty, though, so only try it if you know the warranty has expired or you've decided nothing is going to go wrong with it! In fact STs are extremely reliable machines so the odds are on your side.

The first thing to do is switch off the machine and remove the power lead. Now turn the ST upside down and remove all the screws in the square. Holding the case carefully, turn the ST the right way up and take off the top cover.

Unplug the keyboard and remove the separate metal shields around the power supply and disk drive. Now remove the disk drive (attached by three screws accessible from the underside), disconnect it and put it somewhere safe. Unscrew and remove the power supply board being careful not to touch any of its components. Finally lift off the large metal shield by straightening the metal fasteners that hold it to the board. You should now be looking at a bare motherboard. Impressive, isn't it?

A standard off-the-shelf 520 STE has two 256k SIMM or SIP-style RAM chips in four special slots more or less in the centre of the motherboard (a 1040STE has four such chips while a 2Mb model has two 1Mb chips and a 4Mb model has four).

The earlier models such as the ST, STF and STFM had two banks of eight smaller chips soldered to the board if they were 520s and four banks if they were 1040s. These are usually sited on the left hand side of the motherboard, often under the power supply.

STEs are far easier to upgrade as 99 per cent of them will accept plug-in SIMMs while the other one per cent take the rather more awkward SIPs. If you have a SIMM-style STE, you buy extra chips and slot them in, bearing in mind that the slots have to be used in pairs.

With a SIP-style STE, it is far better to add special converters that plug into the motherboard and in turn accept SIMMs (they are sold with the Marpet STE upgrades). If any of the chips are soldered, send it to a specialist centre – ➤

Questions and answers

What on earth are SIMMs and SIPs when they're at home?

A SIMM is a Single In-Line Memory Module while a SIP is a Single In-line Package. SIMMs and SIPs are actually small circuit boards with eight or nine RAM chips on them and they differ mainly in the method of connection which is a row of pads for SIMMs and a row of pins for SIPs. Both can vary in size from 256k up to 4Mb.

What speed does my memory have to be?

RAM speed is measured in nanoseconds but it makes little or no difference whatsoever to your Atari what speed they are as long as each pair of chips is the same speed. Far more important is the price and as you pay a premium for faster 70ns or 80ns chips, go for the cheapest.

Can I have a 2.5Mb machine?

Yes, in certain circumstances. Upgrades like the Marpet XtraRAM allow you to use one bank of 2 x 1Mb and one bank of 2 x 256k RAM chips provided you don't have the 100109 MMU variant.

For STEs it is also possible using a special software patch which is available from PD libraries. Ask for the programs MEM25STE or SIMMFIX, both of which are supplied with Go Direct's upgrades or via PD libraries like the ST Club.

Marpet XtraRAM ST Deluxe

The Marpet XtraRAM ST Deluxe consists of three components – a small 40mm by 30mm MMU adaptor, an L-shaped 54mm by 33mm video shifter adaptor and a large 100mm by 75mm board for the SIMM-style RAM chips. Two lengths of cable are supplied for connecting the adaptors to the main memory board.

There are also a number of wire jumpers with spring loaded clips which are used for disconnecting memory banks in some circumstances.

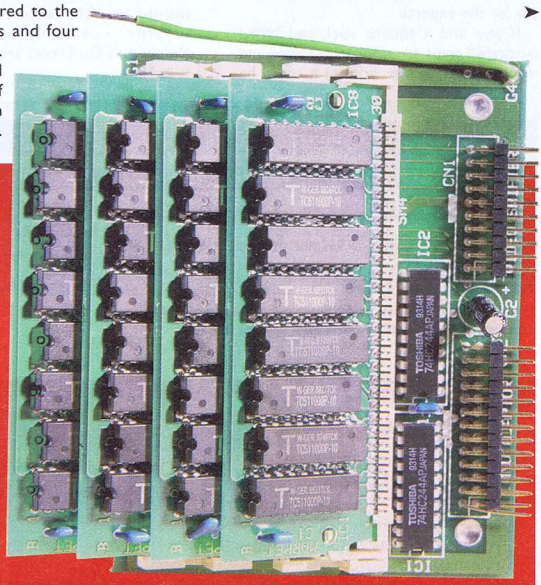
The upgrade is adequately package and comes with a comprehensive instruction manual that covers every conceivable combination of chips and motherboard layouts. It isn't particularly easy to follow but if you're in doubt, you'll find the answer somewhere inside.

Marpet's XtraRAM Deluxe will upgrade any 520STFM, 1040ST F or FM and a Mega 1 or 2 ST. The beautyof the XtraRAM Deluxe is that you can upgrade in steps if you want to, with 1Mb, 2Mb or 4Mb configurations though it makes little sense these days to go for the 1Mb option as the two 256k SIMMs may well be wasted when you upgrade to 2 or 4Mb.

As industry standard SIMMs are used, you can buy the unpopulated board and shop around for the RAM chips if necessary.

Fitting the upgrade is relatively easy, thanks to the comprehensive instructions, but it can be awkward finding room for the large board and if you have the rectangular MMU, some soldering will be required. A RAM testing program is supplied on a disk so you can check that it all works.

The XtraRAM Deluxe is the best selling board in the UK and comes highly recommended, particularly if you're looking at a 2Mb upgrade – who's to say you won't need more in a year's time?



Product: XtraRAM Deluxe 2/4 Mb
Supplier: Marpet Developments, Meadowfield Farm, Fellbeck, Pateley Bridge, Harrogate HG4 1LU
Telephone: 0423 712600
Price: £179.99
Configuration: Any 520/1040 STF/M or Mega ST

you can do an awful lot of damage to the motherboard in no time at all. Table I shows you how to go about it.

STFMs are a different kettle of fish, but the upgrades all work in much the same way. The original memory on the motherboard is bypassed completely and a new memory bank installed.

This requires that the MMU or memory management unit be modified slightly and also that the new RAM be connected to the video shifter chip. This can be a somewhat more laborious process than with an STE but at least the benefits are the same!

In the centre of the motherboard is a large silver metal box. If you gently unfasten the lid, you'll see a rectangular chip. This is the video shifter and it can be socketed (removable) or surface mounted (soldered to the board). It will be marked either 25914 or 70713.

If the chip is socketed, so much the better, but don't despair otherwise. It just makes fitting a little more difficult as a special adaptor has to be placed over the chip. If you're in any doubt, send it off to a specialist repair centre.

There are four different motherboard layouts to contend with. Look for a large square chip with the number CO25912 or CO100109 on it. This will be the MMU.

If you can't find it, look for a rectangular chip with the number CO101601. If you find one of them, mutter silently to yourself – soldering is required and it's a job for the experts.

If you find a square socketed MMU (socketed chips are noticeably raised and may have spring clips across) it could be in one of three positions, to the left of the video shifter (Type 1), to the right of the video shifter next to another square chip (Type 2) or in front of and very close to the video shifter (Type 3). These types of motherboard don't normally cause problems unless the video shifter is soldered.

If you find a square MMU that is surface mounted – stuck solidly to the motherboard with small silver legs showing – it makes things a little more awkward but by no means impossible.

Whoever sold you the upgrade should be able to provide a special adaptor – certainly companies like Marpet and Go Direct are well equipped to help.

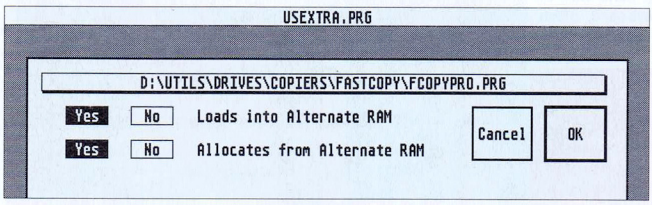
Where to go

Marpet Developments are without doubt the UK's leading Atari memory specialists and they have appointed two agents to carry out upgrades, Peak Electronics (0429 860821) for the north and Analogic (081 546 9575) in the south.

All the company's products carry a two year warranty and there is on-line telephone support if needed.

In addition to Power Computing and Evesham Micros other places to go include Go Direct (0480 891819) who will supply and fit Marpet XtraRAM upgrades or their own proprietary brand based on the Marpet system.

A free disk full of memory checking utilities is included. System Solutions (081-693 3355) and Ladbroke Computing (0772 203166) also supply Marpet upgrades, the latter having recently discontinued their own Aries brand.



The supplied utility can make most programs aware of the extra RAM – Fastcopy Pro, for example, will now use the full 8Mb

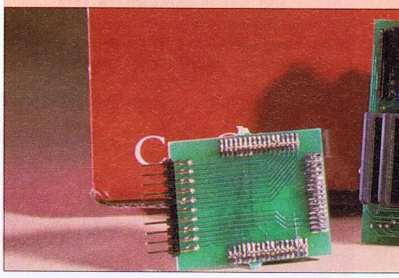
Power Computing 2/4Mb upgrades

Power Computing can supply their own brand 2 and 4Mb upgrades which take a slightly different approach to the others. The upgrade consists of a 100mm by 63mm L-shaped video shifter adaptors and a smaller 40mm by 30mm MMU adaptors.

There are also a number of jump leads with red spring loaded clips. The two boards are linked by a single 200mm cable.

In contrast to the Evesham method, the Power upgrade has the RAM configured as 512k chips – 4 for the 2Mb version and 8 for the 4Mb – on the video adaptors board rather than the MMU adaptors.

This offers some advantages in that there is no bulky board piggy-backed on the MMU which can cause a bulge in the main shielding (or necessitate a square being cut from the shielding). On the other hand the video



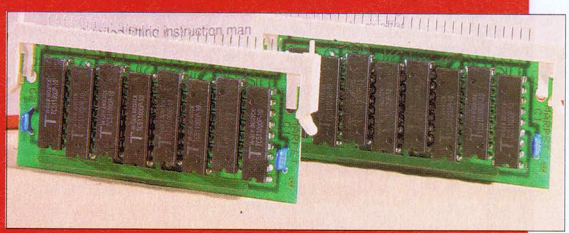
Marpet XtraRAM STE

STE owners have it remarkably easy, of course, and about 90 per cent of you will be able to buy SIMMs off the shelf and insert them into the appropriate slots.

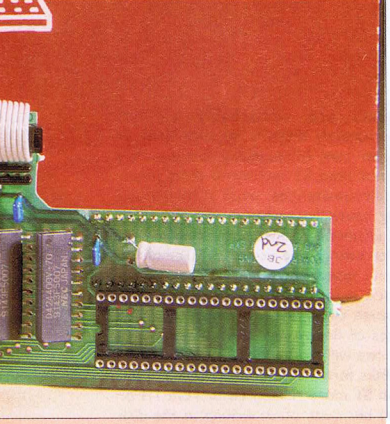
However, Marpet supply dedicated STE upgrade packs comprising 1, 2 or 4Mb upgrades. These consist of SIMM-style RAM boards with special 96mm long converter strips for the ten per cent or so of STEs that require SIP-style chips instead. The packs come with a double sided A4 sheet of instructions.

Just how easy it is to fit depends on what you already have in your STE and what you want to end up with – if you have 2Mb already and want to upgrade to 4Mb, it couldn't be easier as all you have to do is fit the two extra boards but if you're upgrading a 1Mb STE to 4Mb, you'll have to remove all four existing 256k boards and replace them with the four new 1Mb ones.

If you're unsure about how to go about your STE upgrade, it makes sense to look at the Marpet upgrade if only for your peace of mind and the comprehensive instructions.



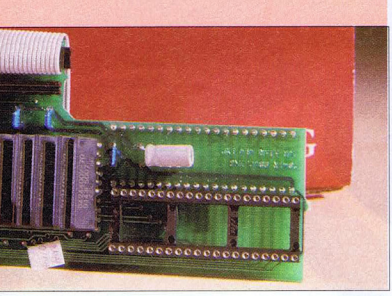
Supplier: **Marpet Developments, Meadowfield Farm, Fellbeck, Pateley Bridge, Harrogate HG4 1LU**
Telephone: **0423 712600**
Price: **£79.99**
Configuration: **Any 520/1040/2Mb STE**



shifter compartment lid has to be cut away to make room for the bulky Power board.

The difficulty with the Power upgrade is that it only works with socketed video shifter and MMU chips – if you have the surface mount variety, you won't be able to do the job yourself. If you're fitting a 4Mb upgrade (or a 2Mb upgrade to a 1Mb machine) you will also need to cut some resistors on the motherboard and hook them to the RAM board using the supplied jump leads.

Product: 2/4Mb RAM board
Supplier: Power Computing, Unit 8, Railton Road, Woburn Road Industrial Estate, Kempston, Beds MK42 7PN
Telephone: 0234 843388
Price: £99/£169
Configuration: Any 520/1040 STF/M with socketed chips



Marpet XtraRAM Plus 8

Of course if you want to go one better than your neighbour, there's always the option of the king of memory upgrades, the Marpet XtraRAM Plus 8. If you have an STE or a Mega ST, you can add a special plug-in board that offers either 4 or 8Mb of extra RAM, on top of your machine's built-in RAM.

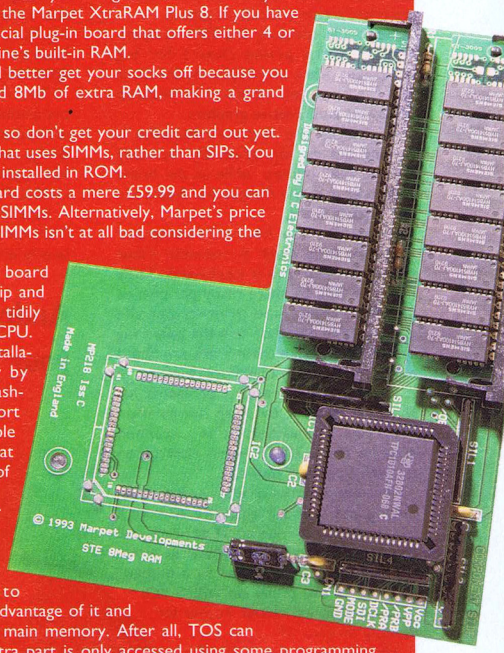
If you use your fingers to count you'd better get your socks off because you can then have 4Mb of normal RAM and 8Mb of extra RAM, making a grand total of 12Mb!

There are a few ground rules though, so don't get your credit card out yet. You will need a 2 or 4Mb STE and one that uses SIMMs, rather than SIPs. You will also have to have TOS 2.06 specially installed in ROM.

The unpopulated XtraRAM Plus 8 board costs a mere £59.99 and you can then shop around for industry standard SIMMs. Alternatively, Marpet's price of £349.99 for the board and two 4Mb SIMMs isn't at all bad considering the cost of memory at present.

The Plus 8 itself is a large L-shaped board that contains its own separate MMU chip and the sockets for the 4Mb SIMMs, and fits tidily if a little awkwardly on top of the STE's CPU.

No soldering is required and the installation can be done quickly and easily by mounting the Plus 8 board piggy-back fashion onto the CPU. There's a small support underneath to keep it attached and stable when the shielding is replaced. Note that no cutting is necessary despite the size of the board.



The Plus 8 board fools the STE or Mega ST into thinking it has TT style extra RAM fitted. Many older programs will not be able to use this extra memory, whatever you try and do to them, as they weren't written to take advantage of it and they will only be able to use the STE's main memory. After all, TOS can only address 4Mb of RAM and the extra part is only accessed using some programming trickery.

Programs that were written with the TT in mind will almost certainly be able to use the extra room, even if it does become necessary to use the supplied utility that alters the program flags and instructs it whether or not to use the extra RAM.

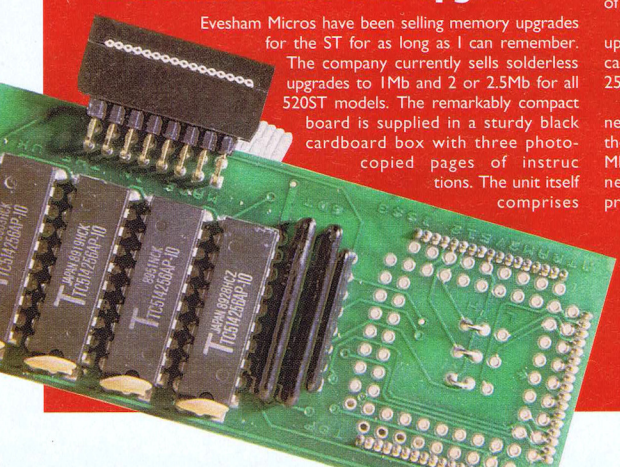
The list of programs includes all versions of Calamus, Didot Professional, DA's Vector and image processing programs like Chagall.

Some RAM disks will work too, including RAMBUFFR and RAMBABY, the PD accessory RAM disks, making it theoretically possible to set up an 8Mb RAM disk for running programs and storing data!

It is important to note that there are still two separate areas of RAM and the biggest single block will be 8Mb or so depending on your configuration. Nonetheless if you're into DTP, graphics, image processing or CAD, this could be just the job for really banishing those out of memory blues.

Product: XtraRAM Plus 8
Supplier: Marpet Developments, Meadowfield Farm, Fellbeck, Pateley Bridge, Harrogate HG4 1LU
Telephone: 0423 712600
Price: £59.99 unpopulated/£349.99 with 8Mb on board
Configuration: Any STE with TOS 2.06 and 2 or 4Mb RAM using SIMMs

Evesham Micros 1Mb upgrade



Evesham Micros have been selling memory upgrades for the ST for as long as I can remember. The company currently sells solderless upgrades to 1Mb and 2 or 2.5Mb for all 520ST models. The remarkably compact board is supplied in a sturdy black cardboard box with three photocopied pages of instructions. The unit itself comprises a small green board some 86mm long and 39mm wide with three sets of downward pointing pins for attachment to the MMU.

The memory chips (four 256k RAM chips in the case of the 1Mb upgrade) are soldered to the upper surface of the board. A 240mm cable connects the board to a video shifter adaptor 55mm long by 25mm wide.

The instructions are brief but effective and especially good for those new to the upgrade game who have never opened up an ST before. On the other hand, not all possibilities are covered (the rare rectangular MMU) and in some circumstances, such as a soldered in MMU, you will need to obtain additional (free) parts from Evesham before you proceed.

Product: 520ST plug-in RAM upgrade
Supplier: Evesham Micros, Unit 9, St Richards Road, Evesham WR11 6TD
Telephone: 0386 765500
Price: £49.95
Configuration: Any 520STF/M

Cross

Andrew Wright looks at ways of getting your ST to talk to other computers

It's the old, old problem – you've got one type of computer at work, one at home and a third at your mate's house. If you've got kids, the chances are there's even a fourth at school.

Generally speaking the IBM-compatible PC is the prime choice for big companies while the Apple Macintosh is still the accepted standard in desktop publishing and creative graphics.

In schools, the Acorn Archimedes is coming out on top, gradually replacing the old BBC micros, while at the home computer end, the Amigas and Ataris are still battling it out.

None of these five main computer platforms have much in common other than a screen and a keyboard. They might be able to share many peripherals like hard drives and printers but the chips they're based on and the operating systems that make them work are about as different as they could possibly be.

Naturally this presents problems for those who want to swap information from one to another, be it a scanned graphics file, a 30,000 word dissertation or even a piece of music.

There are scores of reasons for transferring files – you might want to take a long letter written on an ST at home and print it at top quality on a laser at work, or you might have access to a flatbed scanner at the office on which you want to scan full colour images for viewing on your ST.

Happily there are a couple of areas where most computers agree – they share the same 3.5in floppy disk drives and invariably have RS232 standard serial ports. If you want to swap stuff around, these are the places to look.

The logical way to transfer files from one computer to another is to use the disk drive. Unfortunately most computers have their own ways of formatting disks so that they can store information and not all of them can read those formatted for different machines.

The good news is that the world is slowly starting to standardise on one particular format, the MS-DOS disk format used in IBM-compatible PCs.

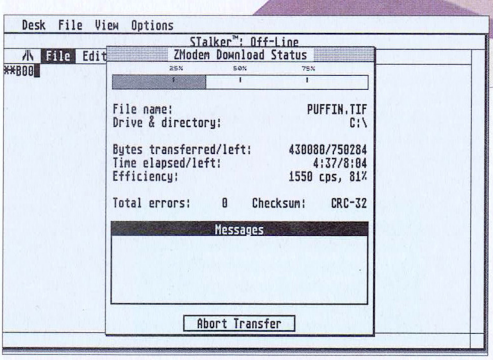
The Apple Macintosh has the most radically different disk format but with the appropriate software (Apple File Exchange, DOS Mounter) almost all Macs can now be persuaded to read MS-DOS disks.

The Archimedes has MS-DOS file compatibility built in, although it uses a different system by default, and the Amiga can read and write MS-DOS disks with special software like CrossDOS, DOS-2-DOS or MessySID.

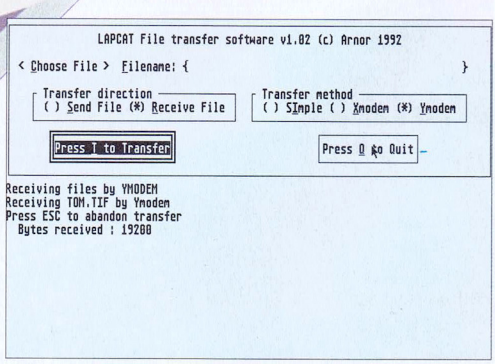
Luckily for most ST owners the ST's TOS disk handling routines were based largely on those in MS-DOS and the disk formats are remarkably similar. Unfortunately there is no such thing as 100 per cent compatibility as some PCs will not read ST formatted disks under any circumstances, even if formatted using specialist software like Fastcopy Pro, Diamond Formatter or Maxifile.

Interestingly the use of a PC emulator doesn't appear to help much in my experience but it is hard to generalise because there are so many different makes of floppy disk drive fitted in STs that one will work where another fails.

Disks formatted on a PC can be read by an ST more reliably (with TOS 1.4 or later) but quite often writing to the disk on one machine can make it unreadable



Serial transfer requires a comms program at each end



Lapcat in action

on the other and the whole process is fraught with difficulty. Incidentally the Falcon seems to have cured the problem completely and now formats, reads and writes disks usable in most PCs.

Apple File Exchange is another bugbear as it rejects around a half of disks formatted on an ST and the ST doesn't appear to read anything formatted within AFE either.

Diamond Formatter will create AFE compatible disks with a slightly higher chance of success but if you are regularly swapping information between STs and Macs, it's worth investing in better Mac software or perhaps the Spectre GCR emulator for the ST.

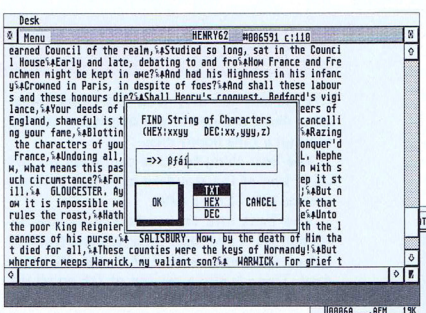
If transfer via floppy disk doesn't work – or of the files are simply too big to fit on a floppy – cable transfer is the next option. The traditional method is to use serial link but of course the two computers have to be side by side, which is a little awkward if you're trying to get material to and from a computer at the office.

If you really can't get the computers into the same room, they can be connected using modems but this means you'll need a telephone connection and a whole lot of new skills. Modem transfer ain't for the faint hearted. For serial transfer you'll need a null modem cable – a standard serial cable with pins 2 and 3 swapped around – and a compatible communications package on each machine.

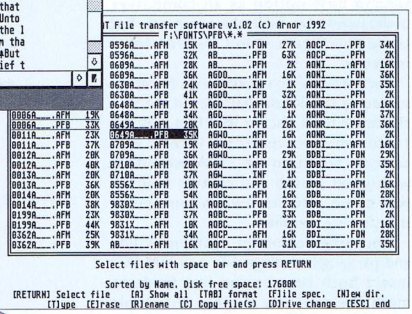
This means a comms programs that will send and receive using the same protocols, something which shouldn't be difficult as most comms programs now handle X, Y and Z modem.

For best results set the baud rate to 19,200 and ensure that other settings such as data bits and parity are the same. You may experience problems with RTS/CTS flow control as the ST's end of it is well and truly bugged.

This may require a patch program in the AUTO folder or simply turning RTS/CTS off completely – at both ends. In tests on the same files, an average transfer rate of around 1,500 characters (1.5k) a second was achieved using STalker linked to a PC and the Z modem protocol. It isn't ideal – a 1MB file will take about 11 minutes – but often it is the only way.



Text editors like EdHak will remove unwanted carriage returns and line feeds, as well as search and replace spurious characters



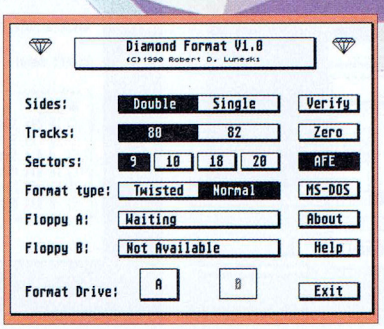
Selecting files using Lapcat

There is another cable option. Arnor's Lapcat software was designed for transferring information from the Amstrad NC100 and NC200 notebooks and it uses a special parallel cable to do the deed.

Software is available for transferring files from the notebooks to PCs, STs, Amigas and Archimedes but the same software can be used to swap data between any computer combination. Data transfer is much faster (around 3000 cps or 3k a second) but considerably less than the maximum theoretical speed of the parallel port which is somewhere in the region of 500k a second.

Three protocols are supported including simple transfer (no error checking and therefore fastest), X modem and Y modem (which supports the batch transfer of more than one file at a time).

Unfortunately, the physical transfer of files isn't the end of the matter. For example, each ST word processor uses a slightly different format for saving text, so it's only natural to expect the same from word processors on other computers. Word processors like Redacteur and Protext will read word processor files from PCs, including those from ➤



Diamond Format creates AFE and DOS compatible disks – up to a point

purposes

Microsoft Word, WordPerfect and Wordstar.

The best way to transfer text is to use the Microsoft RTF format, if possible, because it preserves formatting such as bold, italic and underlined characters.

Programs like Redacteur and Protext both support RTF transfer. Ascii is the second best option as all computers understand the Ascii character set, but some characters won't be translated correctly.

For instance, the pound sign is represented by the 156th character in the ST's character table but on IBM PCs it is the 163rd, which is actually the letter u with an acute accent on the ST. A text editor with good search and replace facilities will come into its own when you're transferring text files.

The other common problem is line and paragraph endings. STs and IBM PCs insert both returns and line feeds to mark the end of a line but the Apple Macintosh uses only the carriage return to signal a new line – if you edit a text file originated a Mac, it will appear to be all on one extremely long line!

In general though, as long as you give some consideration to the format and understand the minor differences, there shouldn't be any real problems.

All zipped up

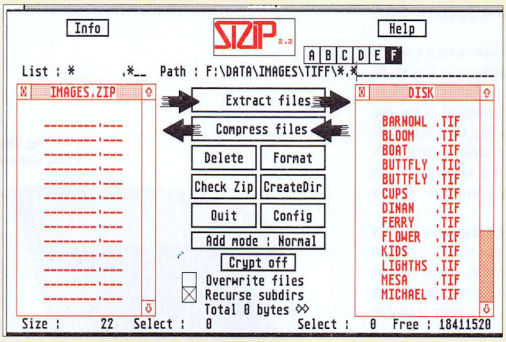
Occasionally you may need to transfer something like a scanned image that is just too big to fit on a 720k floppy disk.

The best thing to do is compress the file using one of the standard archiving systems such as ZIP, LZH or ARC.

The best one to use is ZIP as the ST version has a neat user interface and features full compatibility with PKZIP, the PC standard. There is also a version of ZIP on all the other major platforms.

You will need to ensure that you are using the latest versions of the programs and it is advisable to carry out a simple test run first to check for incompatibilities.

LZH is a good alternative but there are some incompatibilities, as early versions won't work with files compressed using subsequent versions.



Use ZIP to compress files before transfer – as long as you have a similar utility on the target machine!

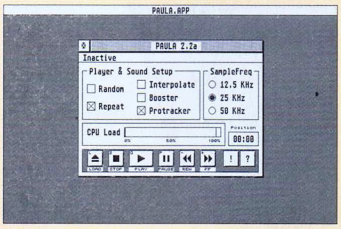
Sound and vision

In many ways, transferring graphics and sound files is a lot easier than transferring text. Many painting, drawing and DTP packages will import and export graphics in formats that can be used on other computers.

The ones to look for here are the Macpaint, EPS and TIFF formats on the Mac, TIFF, EPS and PCX formats on the PC and the IFF format for the Amiga. If your target program won't import them directly, it's unlikely to cause a problem as there are dozens of utilities that will do the job.

Public domain catalogues are stuffed full of conversion programs. A good choice for graphics conversion is the shareware program GEMView, now up to v3.01.

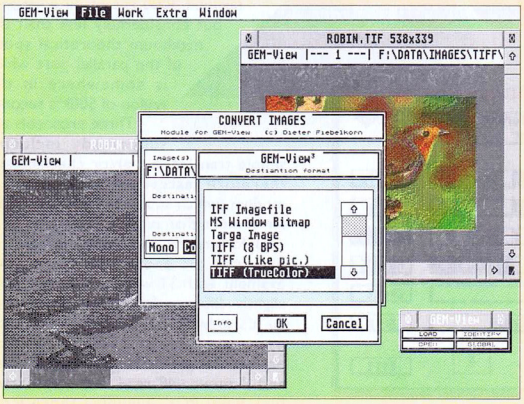
It supports GIF, IFF, Imagelab, TIFF, BMP, GEM, ART, Tiny, Spectrum, Macpaint, Targa, JPEG, SUN, PAC, BMP, RLE, IMG/XIMG, Vivid, ESM, PhotoCD, NEO, Degas and Doodle format graphics files so you shouldn't have much trouble converting your pictures! You can save files in most formats, including TIFF, Targa and GIF formats.



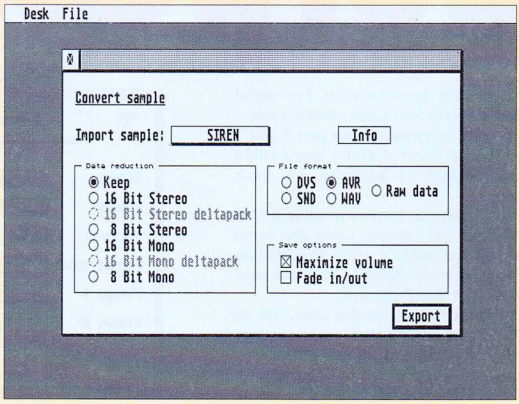
Paula is a shareware MOD file player

Sound is another up and coming area of file exchange, particularly with the coming of the Falcon and its built-in sampling and replay facilities. The major formats include the Midi file format, MID, the Amiga MOD format and the Microsoft Windows WAV format.

Standard MID files can be played on any machine that has the software to play them so you can swap your MID files with musician friends who happen to own PCs or Macs and there are several utilities for converting the formats across to what has now become the standard on the ST, the AVR sample format.



GEMView is an ideal picture converter



525 converts sound from Windows WAV format to the ST's AVR format

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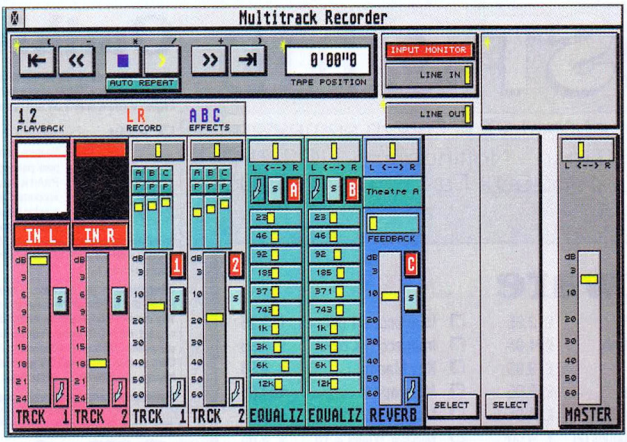


The Multitrack Recorder page is where most of the work is done. This set up includes Record and Playback modules, two EQs and a reverb effect

Ian Waugh takes a first look at Digitape a revolutionary tapeless recording system for the Falcon

Direct to

When the Falcon was announced, one feature which had musicians drooling was the prospect of direct-to-disk recording without the need for any additional hardware. The Falcon's built-in DSP (Digital Signal Processor) is capable of performing the fast data transfers required to do this.

DigiTape from the German Tradelt company, is the latest piece of d-t-d software to appear – and more, such as Musicom 2 and Cubase Audio, are on the way.

The program is copy-protected by a dongle which actually plugs into the Falcon's DSP socket. This leaves the cartridge port free for a music software dongle. It requires a screen resolution of 600 x 400 and will run in mono or colour. Colour is much better although if you use more than 16 colours, it may slow down performance.

Operation is based around a series of windows which are selected from a GEM menu bar. None of the windows has a menu of its own – functions are selected by clicking on icons within the window which cause sub-menus to pop up. Only one window can be active at a time.

CREATE A TAPE

Before starting, you have to create a Tape by telling the program how many tracks you want, the sampling rate and how long the recording will be.

Something to check – there was a problem with this process with some versions of the Falcon's AHDI which controls the hard disk. These should have been sorted by now but do check with CGS before ordering.

You can record up to 32 tracks although you can only play back eight at once – a system the program calls virtual tracks. You can only record on two tracks at a time. You can link tracks into stereo pairs for editing.

You'll know that you need a large hard disk when you realise that a four-minute recording using four tracks will require 200Mb of disk.

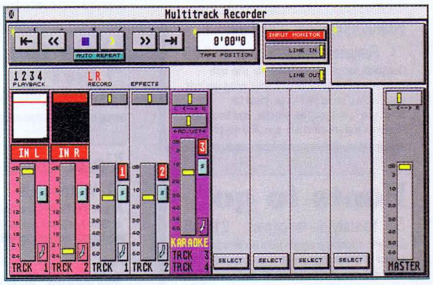
DigiTape supports eight sample rates – 8.195, 9.834, 12.292, 16.390, 19.668, 24.585, 32.780 and 49.170 kHz – which are determined by the Falcon's hardware. The most common d-t-d rates are 44.1kHz (used by CDs) and 48kHz (used by DATs) and these will be available with Tradelt's optional S/PDIF interface. This will bypass the Falcon's internal circuitry and offer higher quality recording. It will cost around £300.

The Multitrack window is where recording takes place. It contains the usual tape transport controls, a master volume slider and nine channels or module slots. These form the heart of the DigiTape record and playback system because you can insert different modules into the slots depending on what you want to do.

For example, there are Record and Playback modules which do as you would expect, plus Effect modules. Let's run through a typical recording session.

Let's say you want to record a signal in stereo. You'd assign two Record modules to tracks one and two to record the left and right signals. Using the Input Monitor, you can check the signal for volume. You can't overdrive digital inputs like tape inputs – the result is a very noticeable break-up of the sound.

After recording you can convert the Record modules into playback modules for checking. When you're satisfied you can replace them with Playback modules proper.

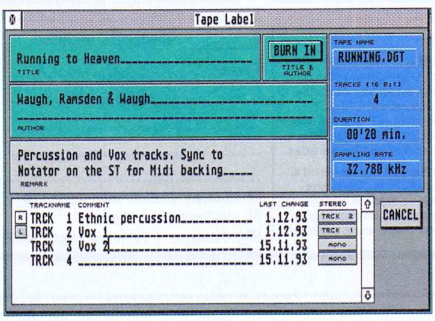


The infamous Karaoke Playback module will attempt to remove the vocal line from a recording

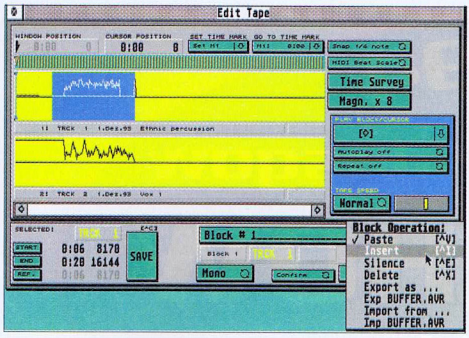
You can plug Effects into the playback chain (you can't apply effects during recording). DigiTape has seven built-in software effects – Short Delay, Long Delay, Reverb (containing 12 reverb types), ten-band graphic equaliser, Vibrato, Flanger, and a Noise Gate with Distortion – with the ability to load in more from disk.

This makes the system quite open-ended and if DigiTape catches on, additional effects modules may appear from Tradelt or third-party programmers.

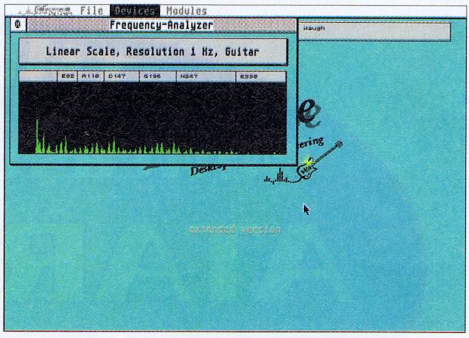
The effects are pretty good quality for a software implementation. The EQ in particular is very useful and can help compensate for some of the shortcomings of the Falcon's built-in audio circuitry. You can adjust the amount of signal sent to the FX with a volume send



You can burn author details into the file to help protect against any possible copyright problems



The Edit window lets you perform block operations on your recording



The Frequency Analyser gives you a graphical representation of the signal arriving at the In socket

control on the playback modules.

The nine module slots will probably be enough for stereo or even four-track recording, but if you want to use the program to its full ability by playing back eight tracks you may need extra slots.

These are supplied in a rather roundabout way by "hiding" existing modules and inserting other modules on top of them. It works but it's not very elegant.

Recording without the S/PDIF is from the Falcon's Mic socket although you can also record from the left and right Master Output channels, allowing you to bounce tracks together. Unlike audio tape bounces, digital mixdowns avoid tape noise so the results are much cleaner.

One of the playback modules is called Karaoke which tries to remove the vocal line from a recording. To do this, the recording must be in stereo and the vocals must be in the middle of the stereo field.

It then subtracts the right channels from the left channel, leaving the music in mono form on the left and sending the vocals to the great phase crossover in the sky.

The Track Edit window shows the contents of one or two tracks in waveform format, similar to the display you get with sample programs such as ST Replay.

You can perform cut, copy, paste, delete and insert functions on the tracks. You can import and export AVR files which provides compatibility with other Atari sample programs and offers an easy way of moving data around.

A rule above the edit window helps sync the recording to a sequencer, say, and DigiTape can transmit Midi clock and Song Pointers.

DigiTape's edit system works fine. It's rather like working with a large ST sample program in that the edits you make directly affect the recorded data. However, the vast majority of d-t-d systems use a system of cue sheets which involves non-destructive editing.

Cue sheets simply involves setting up a list of sections of the recording – or cues – which the program reads and plays back in the cue sheet order. The original recording is never altered which means you can create as many mixes as you wish and the original recording is always intact.

DigiTape has several more interesting features. The Effects Online Rack processes incoming signals in real-time. It's a little like a simplified version of the Multitrack window although it only has four slots and you can only install effects modules.

The Tape Label window lets you enter track names, track comments and other details about the song – a little like a notepad. However, you can opt to burn this into the data which will help prove ownership if you pen a number one hit and someone rips it off. Not that that sort of thing happens very often in the music business, of course...

The Frequency Analyser produces a graphic display of the frequencies arriving at the input and doubles as a guitar tuner!

BARELY ADEQUATE

The manual, alas, is a preliminary affair although registered users are promised a full version – whenever it may appear. But that's not much use to someone who has the program now and wants to use it straight away. Instructions are brief and barely adequate and there are no illustrations.

The program isn't difficult to use but you do need to read the manual in order to grasp the basics. DigiTape is by no means the only program with manual problems but when you're paying this sort of money for a piece of software I think you have a right to good documentation.

If DigiTape's asking price is a little high, a cut down version called DigiTape Lite (now where did they get that name from?) is available for £149. It has fewer tracks, fewer features and no edit facilities.

Apart from the strange lack of cue sheets, DigiTape could do with a few more bells and whistles in the goodies department. Functions such as time stretching, fades, automated mixdown and so on would make it much more appealing.

This, in turn, would help the Falcon become established more quickly as a serious music and direct-to-disk recording machine.

Having said that, even many so-called pro systems (not running on the Falcon) don't have all the facilities they should. But the good news is, most of these facilities can be added with a software update.

CONVENIENT

One problem with current Falcon d-t-d systems is that they are unable to synchronise with a sequencer running concurrently on the Falcon (with the possible exception of Cubase Audio which still has to be evaluated).

This has to be the most convenient method of combining digital audio with Midi backing tracks although with the arrival of multi-tasking software this may soon become a reality.

In any event, users who already have a sequencer or who run one on an ST could continue to use it, upgrade to a Falcon and sync it to DigiTape.

With the promise of more software updates to come, DigiTape has the potential to become one of the premier d-t-d systems for the Falcon although it may be advisable to wait to see what enhancements are made before taking the plunge.

BOTTOM LINE

FEATURES

More features than D2D's 4T/FX direct-to-disk but needs more to be a pro tool.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Easy to use once you know how but not helped by the manual.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Ouch! And if you want better sound quality you'll have to budget for the S/PDIF, too.

Excellent
Good
Average
Bad
Appalling

Product: DigiTape
Supplier: CGS ComputerBild, 231 Northborough Road, London SW16 4TU
Telephone: 081-679 7307
Price: £499
Configuration: Falcon, large hard disk

THE 1994 Newcastle & Glasgow ATARI SHOW

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Following the resounding success of our London shows we ventured out of the big smoke into Birmingham and Manchester – and met with a great response from Atari users and supporters there, too.

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Six is the best

Andrew Wright cleans up with version six of the Ultimate Virus Killer

The Ultimate Virus Killer, better known as UVK, has to be one of the best supported pieces of software on the Atari platform – not only is it regularly updated as new and more devious viruses are discovered, but it gets faster and cleverer all the time.

Updates are generally released every three months but this time, with the jump to v6, the interface has been completely revamped and, perhaps more importantly, it has been redesigned to allow it to run as a desk accessory or from a command line as well as a normal desktop program.

Ultimate Virus Killer 6 is supplied on a single disk containing the program files and the manual in Ascii format. It works on any Atari including the ST/STE and Mega ranges, the TT, the Stacey and, naturally enough, the Falcon. Half a megabyte of memory is all that is required and the program works with multitasking operating systems like MultiTOS and Geneva. Being Falcon compatible, it also recognises and deals with high density disks.

The interface is a significant improvement over previous versions – windows can be moved on large screens and the keyboard short-cuts are far more intuitive.

For those new to the virus killing game, there are some 40 context sensitive help screens to guide you through the process. Having UVK installed as a desk accessory is a great advantage too as you can call it at any time to check a dodgy disk or a suspicious file.

Its recognition statistics are positively awesome – it can recognise almost 1,500 different boot sectors and restore some 700 of them if they get damaged, 73 boot sector and five link viruses, 40 anti-viruses, six harmless file types and 137 "special applications".

The special applications are system enhancements and add-ons and range from proprietary hard disk drivers to replacement file selectors like Selectric and memory resident utilities like Mortimer. Some can look like viruses as they hook into the system but as UVK is so good at recognising them, you get very few false alarms. One program it failed to recognise was Imagecopy, surprisingly enough, and the Outside virtual memory manager made it rather suspicious but it did recognise some newer utilities like Datalite, the hard disk compression program.

The lengthy statistics might seem rather daunting, not to mention meaningless, until you look at how the program works. The first and most obvious thing UVK does is to read the boot sectors of floppy disks.

It checks to see whether the boot sector contains executable code and uses a virus probability factor algorithm to assess whether it is likely to be a virus or not.

It can also compare the boot sector it has read with the 1,500 or so it "knows". Nine times out of ten the user gets a message identifying the boot sector but occasionally the boot sector isn't recognised and the program offers the option of immunising the boot sector or simply doing nothing (it may after all be an unrecognised game disk).

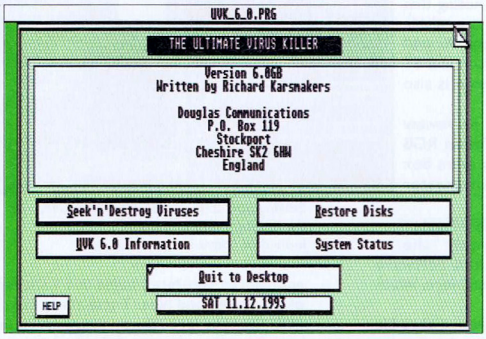
Other tricks include the ability to recognise some viruses that are sitting in memory waiting to pounce, repair damaged BIOS parameter blocks and scan whole drive partitions for link viruses attached to any file.

The author claims that UVK is the only virus killer that can recognise the new Beilstein virus but thankfully I wasn't able to test that claim. If you happen to have been infected by a virus it may well have worked its way onto your software's original disks, even if you have made backups. You can happily kill viruses on the boot sectors of ordinary disks but most commercial games have their own special boot sectors and it is becoming increasingly common for serious software to do the same.

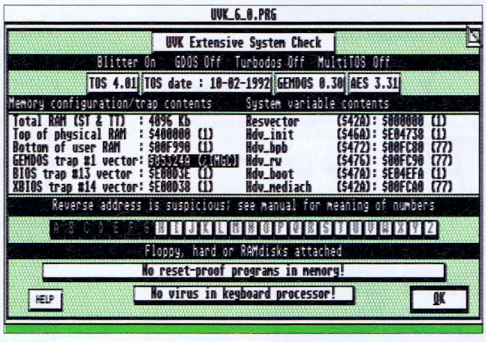
If you do exterminate any lurking code, the chances are you'll render the disk totally unusable. UVK knows all about this and recognises a good number of game disk and demo disk boot sectors.

If you've done the damage, there's a good chance that UVK will actually be able to restore the correct boot sector and get you back into action.

Ultimate Virus Killer is without a doubt the best virus killer you can get and despite a small increase, you get an awful lot of peace of mind for your money.



The friendlier opening screen



UVK's extensive system check

What is a virus?

It's a special type of program that copies itself into the computer's memory and then onto the boot sector of floppy or hard disks or attaches itself to existing files (the so-called link virus). Some are more or less harmless, others can seriously damage your data by erasing files or locking up the system. One of the most common viruses is the Ghost virus – it doesn't do any real damage but if your mouse suddenly starts moving up the screen when you want it to move down and vice versa, there's a good chance you've got it!

BOTTOM LINE

FEATURES
Simply the best protection for your Atari
Excellent / Good / Average / Bad / Appalling

EASE OF USE
New interface is a big improvement
Excellent / Good / Average / Bad / Appalling

VALUE FOR MONEY
Good value dispite a small price rise
Excellent / Good / Average / Bad / Appalling

Product: Ultimate Virus Killer 6.0
Supplier: Douglas Communications
PO Box 119
Stockport SK2 6HW
Telephone: 061 456 9587
Price: £12.99 (upgrade £6.49), £21.99 including next four updates
Configuration: Any Atari

Darren Evans checks out VideoMaster Falcon RGB, a low cost multimedia package allowing full colour video digitising and 16-bit stereo sound sampling at once

VideoMaster has been available for the ST for some time now. Its ability to allow the user to record video images in real-time (complete with soundtrack) from any video source, as well as full screen colour images, has made it very popular.

Since HiSoft's acquisition of the package through their take-over of Microdeal, VideoMaster has been brought bang up to date with some impressive improvements.

The first noticeable update is that two versions are now available, one for ST/STE computers and one specifically for the Falcon, which is the one being reviewed here.

VideoMaster Falcon (hereafter simply referred to as VideoMaster) takes full advantage of the enhanced graphics and sound capabilities of the machine.

Unlike the original VideoMaster, which only grabbed in 16 levels of grey, the Falcon version ups this to a much more respectable 64 grey levels. This ultimately means higher quality and more life-like colour images.

There are basically two ways to capture images in VideoMaster. You can record a sequence of images in real-time (albeit in mono and only a quarter of a screen in size), or you can capture full screen, static colour images.

Grabbing a sequence of mono images allows you to create some excellent animations which can run at up to 25 frames per second for real smooth and life-like motion.

Even more exciting is the fact that you can also record the soundtrack from your video in glorious 16-bit stereo at a respectable 12.292kHz, thanks to VideoMaster's built-in sound sampling hardware.

Of course, the length of animation and sound is subject to the amount of memory available in your Falcon. Ideally, at least 4Mb will be needed for decent length animations. With the 14Mb memory upgrades available, even more can be achieved.

Grabbing static full colour images is where the best results are achieved in terms of image quality. This is because VideoMaster can use the high resolution TrueColour mode for outstanding image quality using 32,768 colours at a resolution of 640 x 400 on a broadcast monitor, and 640 x 480 using a VGA monitor.

Alternatively, you can choose low resolution at 320 x 200 (broadcast monitor) or 320 x 240 (VGA). You can also select to grab in 256 colours instead of TrueColour which drastically reduces the size of the picture file and is faster due to less data having to be processed.

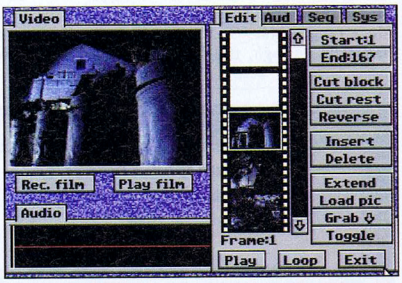
At this point it is worth noting that the VideoMaster package is available in a number of configurations. As well as the two versions for Falcon and ST computers, the Falcon version is also available in two flavours.

The particular package on review here is the VideoMaster Falcon RGB package, which includes an extra box of tricks called the Colourmaster RGB splitter.

Alternatively, the VideoMaster Falcon package is simply the VideoMaster hardware and software without the RGB splitter hardware, which retails for £99.95.

The electronic RGB splitter makes life much easier when creating colour grabs. It is an extra cartridge which effectively sits between the video source and the VideoMaster cartridge.

When VideoMaster grabs a full screen image from a video source, it actually grabs three separate images in 64 shades of red, green and blue. These three separate images are then mixed within VideoMaster to create a full colour image.



Editing film sequences is very intuitive, with the ability to cut and insert individual frames

In the VideoMaster package without the RGB splitter, you would have to manually grab the three separate red, green and blue images by selecting the appropriate buttons from the menu screen. Then you would have to merge the three images to get the full colour picture.

The RGB splitter totally automates and considerably speeds up this process by using electronic methods making the whole thing much easier and more convenient.

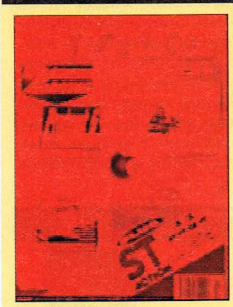
Setting up VideoMaster is extremely easy. The hardware consists of an L-shaped box which plugs into the Falcon's cartridge port. This box also includes controls for adjusting the brightness and contrast of the incoming signal as well as a phono socket for connecting your video source (VCR or camera).

PICTURE CONTROL

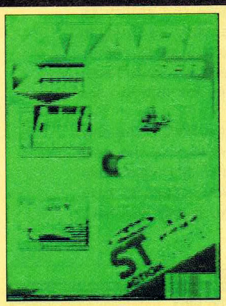
The RGB splitter itself also has a picture control for brightness and a phono socket to connect your video source to. It is important that you first check that your video source has the necessary video outputs for connecting to external equipment.

Most VCRs and video cameras have a phono Video Out socket (also known as an RCA connector), but some may have BNC or S-Video sockets, for which you will need suitable adaptors to connect them to the phono connections of the VideoMaster hardware. These should be available from most local hi-fi and video stores. With the

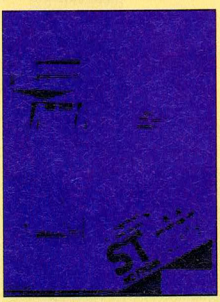
Colour trickery



First step in creating a colour picture is to grab the red image...



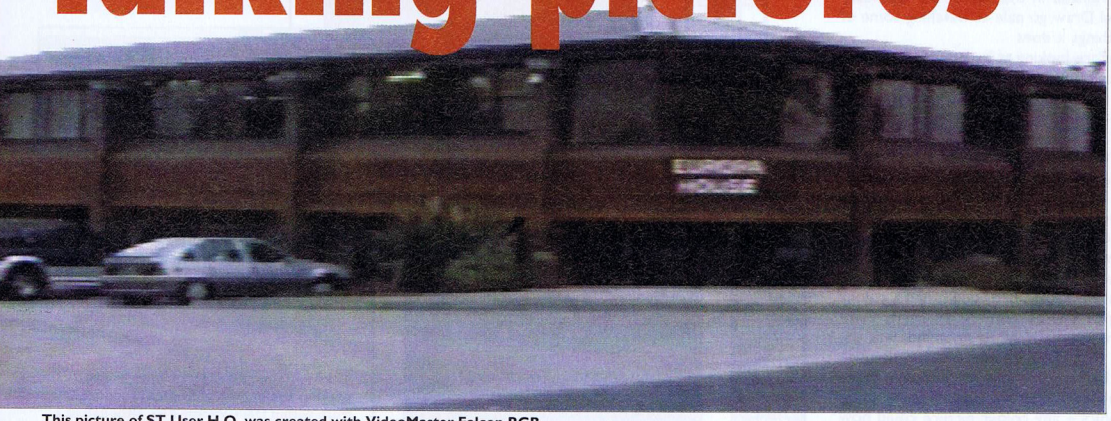
Next, throw in a little bit of the same image in a nice shade of green...



Then, a smattering of the final colour in a cool shade of blue and we're almost ready...

Finally, all three images are merged to produce the full colour picture

Talking pictures

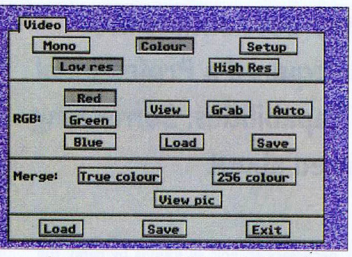


This picture of ST User H.Q. was created with VideoMaster Falcon RGB

VideoMaster cartridge, RGB splitter and video source all connected, it is time to run the VideoMaster software.

This is where all the fun begins. At the click of a button, you can record animations, complete with sound, from any of your favourite videos, or, you can embarrass anyone within range using your video camera.

I say embarrass because once you have an image of a friend, you can then load the image into HiSoft's True Paint art package which comes free with VideoMaster. You



As you can see, the high resolution colour mode produces some tasty pictures

can use it to manipulate and edit any of the images grabbed using VideoMaster – an awesome combination.

As mentioned earlier, grabbing both animations and still frames is simply a matter of clicking on a button. With animated sequences, each frame is stored in memory and the editing section of the software enables quick and intuitive editing of each separate frame.

The actual frames are shown as a "film strip" type display which shows five frames at once that can be scrolled through using a slider bar and scroll arrows.

The audio capabilities which VideoMaster offers are equally as impressive as the graphics.

Sound samples can be recorded in 16-bit at a fixed speed of 12.292kHz, which is not exactly the CD quality which the Falcon is capable of, but then again, the amount of memory which higher frequencies would consume would make for extremely short animations, even with 14Mb.

An audio adaptor lead is supplied with VideoMaster and is plugged into the Falcon's microphone socket. The lead then provides two phono sockets to allow you to connect the audio output of the video source to the Falcon.

The lead also "steps down" the signal strength of an audio source coming from an amplifier, which left alone can damage the internal audio circuitry of the Falcon, so don't go plugging your audio leads directly into the computer!

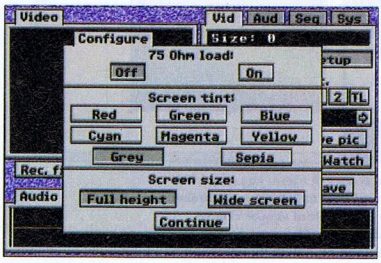
When recording video images and audio simultaneously, VideoMaster has a preference screen which allows you to alter the amount of memory assigned to both the audio and video buffers.

GREAT IMAGES

Although VideoMaster can create great looking images, the quality of such images can be marred unless you have the right video equipment and leads.

If grabbing full colour images from a video, the VCR must have a good pause facility. When in pause mode, some older videos tend to have a jerky display with interference lines streaking across the picture. This will obviously make for a very poor quality grab. Such a problem may be overcome by adjusting the tracking of your video.

More modern videos which have digital tracking features or digital freeze frame are ideal in that they have very stable images when paused.



VideoMaster even allows you to select the screen size to accommodate those videos recorded in widescreen "letterbox" format

If you intend to record something onto a videotape and grab from it, be sure to record in short play (SP) mode, at least on VCRs with twin speed settings. Anything recorded in long play, when paused, will probably lose the colour giving you a black and white paused image.

Another important fact to remember is that the correct cables should be used to connect your video source to the VideoMaster cartridge.

Although a video lead is included, it is not very long. Most people will probably not have their VCR in close proximity to their Falcon, so you may well end up buying longer ones. If so, be sure to visit your local dealer for good quality video leads.

VideoMaster Falcon RGB is outstanding value for money which can produce equally outstanding animations and colour images. The manual is very well written and presented, covering everything from setting up the hardware to tips on how to get the best images.

Hopefully, if sales of VideoMaster are successful, HiSoft will contemplate doing an upgrade that will digitise in 256 grey levels for the ultimate in image quality.

BOTTOM LINE

FEATURES

The VideoMaster software provides lots of functions for easy editing of both video and audio.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Simple and quick to set up with excellent documentation containing lots of tips on how to get the best from the package.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Great quality images at an affordable price, with the powerful True Paint art package thrown in too. Awesome.

Excellent
Good
Average
Bad
Appalling

Product: VideoMaster Falcon RGB
Supplier: HiSoft
The Old School
Greenfield
Bedford MK45 5DE
Telephone: 0525 713671
Price: £139.95
Configuration: Falcon only

DA's big brother

DA's Vector, widely acclaimed as the best outline art package for Atari computers, has acquired a Professional stable mate with much-enhanced capabilities. Something for Günter Minnerup to get animated about

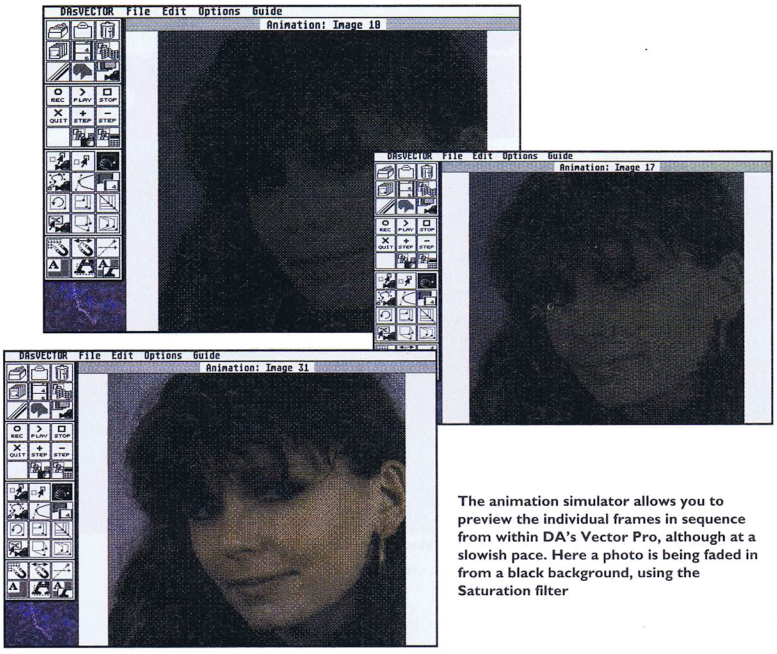
On original release DA's Vector quickly established new standards for graphics software on Atari computers: Indeed, I have seen a few hardened PC illustrators experienced in the use of the legendary Corel Draw go pale at watching some of the things it does.

Before looking at its latest incarnation, DA's Vector Professional, it may therefore be useful to remind ourselves just how revolutionary the original program was.

DA's Vector was the first outline art program on the ST/TT to use colour. Full 24-bit TrueColour – or 16.7 million colours – that is, more than the human eye can ever hope to cope with.

Even the humblest ST could take advantage of this, irrespective of its monitor display, provided it had a colour output device connected to it. Even more impressively, to my mind, was the way that DA's Vector crushed through the barrier that had traditionally separated vector from bit-image or pixel graphics – any colour picture could now be turned into the "fill pattern" of a vector object and thus breathe natural textures into the previously cold world of computer object art.

And all these colours and textures – plus the text in PostScript or Calamus fonts – were available not only for static illustrations but animated graphics as well; the genesis of a completely new approach to the creation of cartoon films.



The animation simulator allows you to preview the individual frames in sequence from within DA's Vector Pro, although at a slowish pace. Here a photo is being faded in from a black background, using the Saturation filter

The success of the Atari TT (which was never seriously marketed here by Atari UK) certainly had a lot to do with this, as the TT's 68030, 32MHz processing power and colour VGA monitor provided a suitable platform for these new developments.

By the same token, the graphics and sound capabilities of the Falcon 030 were clearly the reference point for the development of DA's Vector Professional, since most of the further enhancements are targeted at the video production market. Above all, DA's Vector Pro is DA's Vector for animation artists.

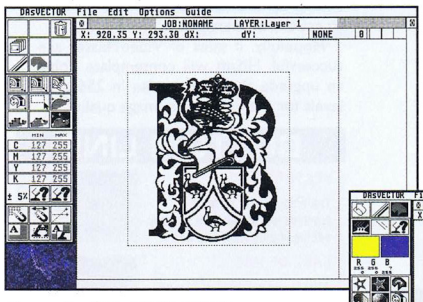
The chief advantage of using vector graphics for animation is that it is not necessary to edit all frames by hand: the computer can do much of the work for you.

For many purposes, only a few keyframes need to be prepared by yourself, and if you place these at suitable intervals on the film strip, DA's Vector's animator will calculate all the intermediate frames by interpolation.

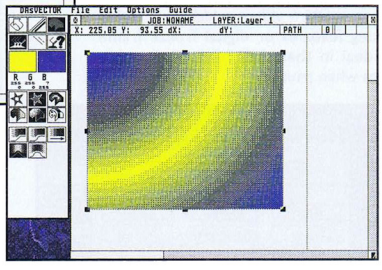
The new, professional version takes this a great deal further by implementing a number of powerful features – the camera is no longer fixed in position and size but can be scaled up or down to zoom in or out, and can follow a Bezier curve path for all or part of the film.

Since the multicopy function and the calculator are also available inside the animation editor, even the generation of keyframes can be much simplified by letting the program multiply an object, scale it, rotate it, cycle through colours and fill patterns, or apply various mathematical formulae for special distortion and projection effects.

Movie compiler now also supports sound tracks and the Player program is



The autotracer can now handle mono images in the TIM format (conversion from IMG is provided for) – it works extremely well and is ideal for creating masks and fill patterns in addition to "ordinary" vector objects



The Area Fill menu has acquired several new capabilities, including the definition of vector colour graduations. The start and end colour as well as the graduation type are easily selected with a few mouseclicks

capable of rendering sound samples in AVR format.

The automatic fill pattern change in the multicopier is worth a special mention. As fill patterns can be pictures – mono, halftone or colour – the changing fill patterns generated by the multicopier can be individual frames of an already existing animation, provided these are available as single pictures with sequentially numbered filenames.

They can be assigned as fill patterns to objects of any shape, of course, and the multicopier enables you to enlarge, reduce, rotate or move them, making them fly through space, perhaps.

The possibilities don't end there, because the multicopier now also gives access to the calculator, so that the copies can be distorted in the process. The calculator in the Professional version features a special variable "I", to which individual pictures numbers can be assigned, thus giving very precise control over the effect of such transformations.

Using all these new options to their full potential requires some understanding of the processes involved and considerable practice if you are a newcomer to animated graphics.

Another major enhancement, the filter functions, are more intuitively understood by those who may not aspire to full-scale cartoon movies but are happy to produce impressive slide shows, perhaps for shop window or show display.

The filters resemble the fill patterns and the new filter dialogue is indeed very similar to the fill pattern dialogue. Two of the filter functions – Saturation and Luminance – work by gradually transforming the colours of a picture on one layer of the film track, depending on the filter picture chosen.

The Grizzle or Threshold filter fades in the picture in randomly distributed pixels, gradually getting denser until the full picture is visible.

There are many other improvements for those who use DA's Vector simply as an extremely powerful vector colour graphics tool without ever venturing into the world of animation.

At the input end of things, I have already mentioned the new ability to import mono pictures into the autotracer. These are now therefore also available as fill patterns in a much improved area fills editor. New icons offer graduated vector fills with a choice of algorithms, as well as so-called "blendings".

These produce smooth transitions between two or more subpaths in one path object: a minimum of nine and a maximum of 255 intermediate paths, each representing a step in the transformation of, say, a triangle into a square. The program will interpolate not only the shape of the paths, but also their colours.

One of the most versatile functions in DA's Vector has always been the Bezier grid transformations, allowing you to project an object onto apparently 3D Bezier grid shapes. Some such Bezier grids are supplied with the program and could always be modified and saved by the user, but now you can maintain several different Bezier grid libraries, much as you always could with object and path libraries.

In this example from the animation simulator, a photo is gradually assembled from randomly distributed pixels using the Grizzle or Threshold filter

Finally, on the output side, there is the long awaited PostScript driver. It would be nice indeed if there was also an option to import Encapsulated PostScript clip art, but PostScript export is at least one important step in the right direction of greater file portability, especially for those who need to employ output bureaux for high-quality hard copy of their artwork.

CLEAR IDENTITY

With the Professional version, DA's Vector is at last carving out a clear identity for itself in relation to the superficially similar DA's Layout (aka Didot Professional) from the same stable.

Both have very similar functions and user interfaces, but while DA's Layout is clearly aimed at the DTP market, DA's Vector Pro is unambiguously targeted at the video industry. The processor speed even of 68030 computers such as the Falcon and TT still imposes some restrictions: animations involving large colour formats and most of the new filters, for example, cannot be replayed inside the computer at real time and need to be recorded to video frame-by-frame.

Having quoted the upgrade manual, I must admit to being slightly puzzled by the very existence of such a manual. One of Digital Arts' proud achievements is the Knowhow on-line manual system, which loads as a desk accessory and gives instant access to the relevant chapter of the documentation from anywhere within the program.

As it happens, I rather prefer a traditional handbook anyway, but since easy upgradability was given as one of the main reasons for the on-line system in the first place, I am nonplussed to find myself holding a laser-printed explanation of the new functions and reading an unamended on-line manual. This is irritating, even if it does not distract from the sheer power and quality of the software itself.

BOTTOM LINE

FEATURES

Walt Disney would have loved it!

Excellent
Good
Average
Bad
Appalling

EASE OF USE

As easy as animation could be expected to be.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Dirt cheap for the professional, affordable for the amateurs.

Excellent
Good
Average
Bad
Appalling

Product: DA's Vector Professional
Supplier: CGS-ComputerBild, 231 Northborough Road, Norbury, London SW16 4TU
Telephone: 081-679 7307
Price: £199
Configuration: All ST/TT/Falcon in any resolution

New Age PDL

THE BEST FOR ST AND FALCON 030!

THE ATARI FALCON

At New Age PDL we are supporting the new Falcon 030 101%. We currently have a huge stock of Falcon specific and enhanced software all on High Density (1.44 meg) disks. We also fill these disks to capacity wherever possible to give you the best possible value for money. We now have a dedicated Falcon catalogue containing loads of free software including utilities, demos, music and a game. This catalogue is COMPLETELY FREE to new customers with your first order – just ask for it.

ALL FALCON DISKS £1.75 EACH ONE FREE WITH EVERY 4 BOUGHT!

FALCON ART & GRAPHICS PROGRAMS

FALC 1 - POV Raytracer, fully zipped, expands to 3 meg of hard drive space!
FALC 3 - Birdy 2 Animation (4 meg+), very cute! Cyrel Palette Master demo.
FALC 8 - Fractal DSP, Fractal Zoomers, IFF, GIF, RAW & TGA viewers, Bit Camera for altering raster images, Speed of Light 2.6, F-Paint, Chagall demo, Slideshower.
FALC 16 - Lexicor demos (zipped): Chronos 1.2, Pheonix 0.91, Prism Paint 1.0.
FALC 37 - Fractal Playtime, Gemview 2.48, Delmpaint, Gix Gif, Binaris 2.0 + more!
FALC 95 - Geotech - landscape generator, Neochrome, Photo Studio demo + more!
FALC 98 - Chloe demo, Overlay demo 1.03 (zipped), Pixart demo 1.02.
FALC 102 - Raystart demo 1.1, View XGA, IMG converter.

FALCON PICTURES & ANIMATIONS

FALC 31 - Temptation! The first disk of an EXCLUSIVE pack of JPEG pictures of gorgeous girls. Excellent quality pictures and the three disk pack contains no less than ninety pictures! Yes 90! Disks 2 & 3 on FALC 32 & 33.
FALC 34 - The Chippendale Auditions. This time a disk of gorgeous blokes!
FALC 38 - FLI Animations: AS Lamp, Balloon, Bart, Glass, Hands, Bounce 2.
FALC 39 - FLI Animations: A3DS, Apple, B Ball, Bugs Bunny, Chubb, Cone, Tigercat
FALC 85 - Startrek Pictures - JPEG's from all series.
FALC 87 - Boat Pictures in JPEG format. 27 pictures in all.
FALC 88 - Dog Pictures in JPEG format. 43 pictures on all varieties of dogs.
FALC 89 - Animal Pictures - the first of five disks of all sorts of mammals. (JPEGS).
FALC 99 - Car Pictures in JPEG format - Ferraris, Porsche's, Lambo's, Mercedes etc.

FALCON DEMOS

FALC 6 - Cebit '93 (RGB), 1600x600, 3DTT, Paragon, Convention (RGB Superb!).
FALC 9 - Grotesque (Excellent!), Gourad, Speeder, Plasma 30 & 50, Intel + more!
FALC 11 - Morphing demo - requires 2 Meg memory + hard drive space. + 3 more!
FALC 27 - Left Donut by Griff (RGB), EKO (RGB - Outstanding music!), Big Digi.
FALC 96 - When Dreams Become Reality (RGB), Warum (RGB), Inconvex (RGB).
FALC 97 - Fuji Ray animation - zipped requires 2 meg memory + hard drive space.

FALCON MUSIC RELATED PROGRAMS

FALC 7 - FoRtune for creating cites, Prqtracker 2, TCB Tracker, Desktracker 1.11.
FALC 17 - Winrec 1.35 (D2D), Wincut for editing Winrec samples, Hardchor (D2D).
FALC 29 - Startrek Cites for Fortune, Dame - Digital Audio Multipayering Editor.
FALC 52 - System Audio Manager 1.1 - assign samples to events, Digitape 2 demo.
FALC 68 - 49 Wav samples for System Audio Manager.
FALC 73 - Another 41 Wav samples for System Audio Manager.
FALC 82 - Protracker 50Khz modules: Come & Get me, Pugsy, Tripout, Hardcore etc.
FALC 83 - As above: Freudian Dreams, Goodbye, Harry, Intro, Journal + 5 more.
FALC 84 - As above: Watch Your Bass Spin, Boom And She Cums, Fin + 4 more.
FALC 94 - Mjuzakk - Huge sound player program. Zipped, expands to 2 meg.

FALCON GAMES

FALC 21 - Humans Demo disk 1. Zipped, expands to 3 Meg. Disk 2 on FALC 22.
FALC 35 - Nethack 3.1.1 - 2 Meg memory+. Brilliant dungeons and dragons game.
FALC 103 - Oxyd (excellent!), Des Lasers et Des Hommes (3D shoot em up), Masters of Chaos (Dungeon Master clone), Tron, Ishar Editor, Mario Kart demo.
FALC 104 - Spacola (RGB) - great space shoot em up, Madtris (RGB) - crazy Tetrus!, Vertical Mayhem (RGB) - nice version of Columns.

FALCON UTILITIES

FALC 2 - Falcon Boot 1.2, Backward 2.23 (ST emulator), New Depack, Text Files, Desk Copy, Deskpic 1.05, Sysinfo, Multi Dialogue, DC Xtract 2.1, Revive
FALC 15 - 45 assorted MiNT/MultiTOS utilities + extended colour icons.
FALC 28 - X Control 1.2, Clock 2.0, Edison screen saver, Mini FS 0.55, Magic Boot
FALC 36 - RDE 3.1 Toswin 1.4, Lha 2.22, Zoo 2.1, Zip 2.3, Gem Bench 3.25, Good Backup 1.13, Boot Init 1.1, Ecopy 1.5, Fcontrol, Shbuf 1.3
FALC77 - Emacs 3.11, Everest 1.5, KM Term, Atomik 3.5, X-Menu 1.3, Profile 1.43, Reztooler (run RGB stuff on VGA monitor), Fullres 1.01, Swabs

THE ATARI ST/STE

New Age PDL in now in it's third year of business supplying top quality ST/E software. We now have over 1500 disks of some of the best PD, Shareware and Licenceware to suit all tastes. Just look through our advert ot get an idea of the huge range that we carry. Our disk based catalogue describes every single program in detail, has a beginners section and is very easy to use - it's also COMPLETELY FREE to new customers! Just ask for it, there's no need to send any disks or SAE's. If you are an existing customer and you would like an update then send back your disk with a stamped SAE.

HIGH RESOLUTION GAMES

GAME 1 - Anduril, Eliminator, Galaxy, Gilgalad, Mini Golf, Bubble, Runner, Space War, Tetris, Play Thing, Once 'A King.
GAME 8 - Diamond (Boulderdash), Invaders, Macpan, Megaroids (Asteroids), Minefield, Missile, Murray, Solitair, Spreng.
GAME 28 - Payramid, Escape, Sokoban, Cube World, Battleships.
GAME 30 - Air Traffic Control, Go-Board, Munchers, Pong, Puz Puz, Trivia, Go-Up.
GAME 33 - Bolo (Excellent breakout game), Super Breakout, Baseball.
GAME 34 - Pork 1 & 2 - spoof Zork type adventure games, Enchanted Realms.
GAME 38 - Net Hack v2.3, Scribble, Sherlock, Zarge, Checkers.
GAME 39 - Eamon Fantasy Role PLaying Kit, DDST - dungeons and dragons.
GAME 50 - Jeopardy, Clueso, Airline Manager, Locomotive, Bandwurm, Hextris.
GAME 76 - Hack & Slay Construction Set, Chess, Match-it, Crossword Editor 2.
GAME 112 - Risky Construction Set, Roulette, Yatsy, Backgammon, Poker, Pai Gow.
GAME 125 - Cyote Dave's Poker, Deena, Cribbage, Tectic, Fast Poker.
GAME 168 - Napolean - a 'Risk' style game of war and strategy.

COLOUR GAMES

GAME 11 - A Question of Snooker, Pinball, Devestator, Roll n Nudge, Ranger.
GAME 68 - Squidge, Fruit Machine, Pin Game, Rocket Ball.
GAME 78 - Popeyed - a pop music game with an adult theme.
GAME 81 - Battlescape, Blox - brilliant variation on the Tetris theme.
GAME 83 - Grandad & the Holey Vest - superb animated adventure. 1 Meg+.
GAME 94 - Hacman 2 (1 Meg+), Dungeons, Wheel of Money 3.
GAME 104 - Blgtl - A very nice version of Tetris. STE ONLY.
GAME 105 - Infiltration - 3D game, Ozone, Atomik Robokid. Great shoot 'em up.
GAME 117 - Fast Freddy - lovely platform game with superb graphics.
GAME 121 - Darklyte - great Isometric 3D war/strategy game similar to Hero Quest.
GAME 122 - Last Arcadian - fly around + blast everything. Hoverjet Simulator Meg+.
GAME 123 - Top Trainer (horses), Anarchy Academy - wreak havoc in school. Boing.
GAME 128 - Dungeon Lord - good Dungeon Master Clone. Arch Mage-shoot em up.
GAME 131 - Glass Buttock of Tharg - save the land from the evil buttock! - 1 Meg+.
GAME 132 - Psycho Pig - two disk platform game, very cute. £3.00.
GAME 135 - Grey Matter - difficult brain teaser from DCS, Splat! Picardy, Galactic.
GAME 136 - Chaos 1/2 Meg version - classic spectrum game converted. 1 meg on GAME 146
GAME 139 - Grandad II - the sequel to Game 83, comes on 2 disks 1 Meg+. £3.00.
GAME 143 - Brain Damage - the biggest, most difficult brain teaser yet form DCS.
GAME 147 - Freaked Out - nice puzzle game. Shift-it (1 Meg) - another good puzzle.
GAME 148 - Operation Blue Sunrise 3 - massive STAC adventure game. 1 Meg+.
GAME 150 - Course Angler 1.02 - go tackle fishing on your ST!
GAME 151 - Sim Pig! - a brilliant pig farm simulation! Like Sim City & Sim Earth.
GAME 153 - Wormhole - nice vertically scrolling shoot em up with slick graphics.
GAME 154 - Midi Zap - multi-player asteroids. A Highly Suspicious Aquarium.
GAME 155 - Three Realms of Suspicion - STAC adventure. Spaceball - like Ice Hockey.
GAME 157 - B17 - bomb the buildings, F-16 - very good flight game, 8 missions.
GAME 158 - Viking III - shoot em up/strategy game. Demon - but like Xenon.
GAME 162 - Baby Mugluck - platforms + ladders, Entombed - more platforms!
GAME 163 - Theme Park Mystery, Combat - kill everything!, Summaria.
GAME 164 - The Obscure Naturalist - STAC adventure with lovely graphics. 1 Meg.
GAME 165 - Quiz Master - quiz that actually has answerable questions! STE only.
GAME 166 - Nirvana - platforms, Pure Logic, Maze, Chain Reaction - columns.
GAME 169 - Megaline - four player Tron/Light Cycles, Insectoid, Cops n Robbers.
GAME 170 - Magic Tomb (1meg+), Hysula - great new 3D CK game
GAME 171 - Oxyd (1meg+) - superb puzzle/strategy game, Duck Dash
GAME 172 - Boffin Brothers - the best Trivia game yet! Excellent presentation!
GAME 173 - Loboty Invaders - uses hardware scrolling, stereo sound. STE only
GAME 174 - Bludgeon 1.1a - fantasy role playing with full colour graphics
GAME 177 - Fatemaster - superb arcade adventure/dungeons and dragons
GAME 178 - Argon, Out, Codename Bamb, Pyramid, Disk Hunt, Sirtet, Turbo, War Jeep, Plumber, Picker, Planet Man, Uboat, Ypsilon - 13 games!
GAME 179 - Asteroid, Bang 3, Battle, Bellum, Quiz, Blaster, Chunks, Europe, Explode, Fuzzball, Gems, Invaders, Megaoids, Micro, Octopod, Othello, Pac Man, Plant, Rocktall, Tanx, Tennis, Wall Street, Zappy
GAME 180 - Mystic Well, Deep Lair, Football, Harris Goes Skiing, Haunted House, Invaders, Jumpster, Roam, Stoneage Deluxe, USA, Zyxm, Firestorm
GAME 181 - Aaron, Mindwarp, Violence, Ozone - 4 brilliant games!

BUDGIE GAMES - £2.75 EACH

BUGAM 83 - Cyberstorm, a very slick Defender game, really fast!
BUGAM 89 - Horse Racing Simulator for 1 to 5 players. Buy/sell and bet!
BUGAM 100 - Clad Hopper - lovely version of Manic Miner from the 8-bit days.
BUGAM 104 - Jetpack - another faithful clone of a classic Speccy game.
BUGAM 113 - Football Tactician - formerly a £20 release! Excellent!
BUGAM 119 - Football Tactician - the Premier League 92/93 season.
BUGAM 120 - Dungeon - traditional hack & slash game written in Talespin
BUGAM 121 - Super Scramble - take a trip to the 8-bit days with this shoot 'em up

POWERFIST GAMES - £3.00 EACH

POWER 1 - Snott 93 - previously commercial playable platform game. 1 Meg+ (512 on POWER 11)
POWER 2 - Ghalfa One - four levels of alien blasting chaos!
POWER 3 - Seven Galaxies - extremely slick shoot em up, one of the best so far.
POWER 4 - Hunchy 1066 - go back in time with some artillery for this classic!
POWER 5 - Deluxe Nostrum - great flip screen arcade adventure. 1 meg+.
POWER 6 - Deluxe Nostrum - the 1/2 meg version.
POWER 8 - Power Cut - fly-around-blast-em-up with 25 power bases to destroy!
POWER 9 - Lord Ramsey in the 25th Century - great cartoon-style caper.
POWER 13 - Location Universe 3D - escape four taxing levels of this brill 3D game.
POWER 14 - Castle Capers - wonderland platform game set in a haunted castle.
POWER 15 - 'Ees Lost His Marbles! - Huge adventure written in STAC.
POWER 16 - Freaked Out 2 - the sequel to the great PD puzzle game.

ADR GAMES COMPILATIONS

ADR are a group of coders who take popular PD games, compress them so that loads can be fitted onto one disk and then put them onto a nice menu so that you just have to press one button to load them. These disks represent outstanding value for money at just £1.50 each!

ADR1 - Galaxian, Grav 2+, Kubes, Plop, Spacewar, Mega Depack 2.12
ADR3 - Balls, Violence, Kid Kong (1meg+), Happy Pac Worm, Llamatron
ADR7 - Grandad (1meg+), Grandad 2 part 1, Critical Mass, Turbo
ADR8 - Grandad 2 part 2 (both parts needed), Prensorium+
ADR9 - Rush 2, H-Mec 2 (STE), Ozone 2, Blob Race, Breakout +, Atomik 3.6
ADR10 - Super Dark Pearl (1meg+), Operation Garfield (STE), Nirvana (trained), Pacmac (STE 1 meg+), Teserae

FOOTBALL TACTICIAN 2

The most up-to-date football strategy game ever! Yes, all the program data is updated every week! FT2 puts you in complete control of every detail of your game plan - change tactics, make substitutions, adjust formation, mark players, inspect possession at any point in the game but watch out for the first ever real referee intervention! Up to 46 players, a massive database with complete details of every match going back 20 seasons. You'll never want to play another football game after Football Tactician 2!

£22.95

ART & GRAPHICS

ART 1 - A disk full of 23 miscellaneous utilities including viewgif 1.2.
ART 51 - Crackart 1.36 - latest version of the best ST art package! 1 Meg+.
ART 128 - Gemview 2.48 - new version of this superb viewer/converter.
ART 157 - PAD 2.4 - English version of this high res drawing package. 1 Meg+.
ART 172 - Paintshop Plus 2.03 - A commercial quality drawing package.
ART 180 - Paintpot - an ex-commercial painting package which was £15.00
ART 187-196 - Temptation! Volume 1 - the first pack in a whole new range of top quality pictures of tempting girls! Two versions (please state which) - one for STFM and one for STE which takes advantage of a 32,768 colour palette! EXCLUSIVE to New Age PDL! Ten crammed disks at just £12.50.

DEMOS

DEMO 339 - STAX Hat Keinan Plan Demo
DEMO 336/337 - Traou'n Int Ket Bet Graet Ben Breman (2 disks) 1 Meg+ £3.00
DEMO 335 - Reality Is A Lie demo - 1 meg+
DEMO 334 - Aladdin Demo - short animation with sound. 1 Meg+
DEMO 328 - Ambience Demo By Chaos
DEMO 325 - Perpetual Dawn Demo. 1 Meg+
DEMO 323/324 - TNM Megademo. 2 disks £3.00
DEMO 320-322 - Froggies Over The Fence - Three disks! 1 Meg+ £4.00
DEMO 316 - Grumbler In a Rutting Season Demo
DEMO 314/315 - Coding So Far Demo. 2 disks £3.00
DEMO 311-313 - Relapse demo - Three disks. STE Only! £4.00
DEMO 310 - Ecstacy 1, Ecstacy 2 - brilliant STE demos
DEMO 303 - Erotica by Madonna. 1 Meg+.
DEMO 300 - U Got 2 Let The Music by Cappella (excellent!) - 1 Meg+.
DEMO 293 - Life, Mission Control Mix by Haddaway. 1 Meg+.
DEMO 292 - What is Love Passion Mix by Haddaway. 1 Meg+.
DEMO 283 - Mr Vain by Culture Beat - the smash hit Euro single - 1 Meg+.
DEMO 276 - E605 - a great STE only demo by Percy of Light.
DEMO 274/275 - Dreamzone - the latest megademo from the Wild Boys. £3.00.
DEMO 270-272 - The Omikron Megademo - takes up 3 disks! 1 Meg+ - £4.00.
DEMO 264 - Romeo, Petit Papa Noel, Sinful Sinuses - 3 STE only demos.
DEMO 258 - Brutal Techno - Fantastic STE and 1 Meg only demo.
DEMO 251 - Great Techno Compilation - 5 brilliant pieces of techno music.
DEMO 242 - Music Dream II - 9 superb 50Khz tunes by E.I. - STE only.

SOUNDTRACKER MUSIC

TRAC 115 - 2 Unlimited Rock, Lost Forever, Moonchild, Techno '93.
TRAC 114 - Acidpan, Delight, I Feel Love, No Limit, Popcorn, The Scene, 1993.
TRAC 113 - Boom! And She Cums! Do Ya Trust Me? Know What To Say. STE only.
TRAC 111 - Empty Spaces, Taik yor Tym, Listen 2 The Rhythm, Hardcore. STE only.
TRAC 110 - Midnight at Noon, Watch Your Bass Spin, Hardcore Hypno 4. STE only.
TRAC 105 - Alright, Daft Trip, Juicy, Moody, Two, Mod 3 (Techno Tunes).

NEW AGE PDL (DEPT STU15), P.O. BOX 30, LEIGH-ON-SEA, ESSEX, SS9 4AD TEL: (0702) 526435

£1.50 EACH
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New Age PDL

UTILITIES (ANY RES)

UTIL 2 - Startgem, Head Start 1.1, DC Clock, Disk Checker, Hard Disk Utils, Ram Disks, Hack 'n' Copy, Turtle 3.0 (HD backup), Megaformat, Memory Test.
UTIL 3 - ST Almanac, Class 3.0 - combinaton spreadsheet/database for teachers, Treesaver - prints several pages on one to save space - good for long docs.
UTIL 4 - Pools 2.5, ST init 3.4, Switcher - loads programs faster, 20 DC utilities.
UTIL 5 - F-Copy 3, DC Showit, Desk Manager, Disk Scan, Mono Emulator 5, Spool, DC Stuffer (loads 32 accs), Speech Syntheiser, Mouse Accelerator.
UTIL 6 - James The Butler, London Phone Codes, MenuSYS, Pinhead, Super Calendar Batch Startup, Auto Sort, Postmortem, No Bombs, E-Disk, 9 Quick Utilities.
UTIL 12 - Jam Packer 4, Wind-XES (Modulator control panel), Satellite 4.01, Clock Set.
UTIL 13 - German to English translator, fast Print, DC Salvage, MiNT, Maccel 3.0.
UTIL 14 - Printer Drivers inc Canon Bubblejet, Qume Daisywheel, Brother + Epson.
UTIL 15 - Calculator, D-Copy 3.08, Directory Printers, Guardian Virus Detector, Label Maker, Recover, Sector Editor, Virus Die, CLI, Diary, Reboot, Mousetrap.
UTIL 16 - Chameleon - loads and unloads accessories without having to reboot, Sticker 3.0 (mono only), Definitive File Selector, Super Virus Killer, Benchmark.
UTIL 19 - Your Second Manual, Jokes, GDOS info, Bombs info + several magazines.
UTIL 30 - Superboot 8.1, Build Your Own Scanner, Report Writer, Disk Cleaner.
UTIL 35 - Cheetah 1.1 (high speed copying util), Rainbow TOS patches, Unarj 2.2.
UTIL 38 - Printer Drivers inc: KXP 1124, Star LC24, NEC Pinwriter, Brother, Canon, Citizen, HP Deskjet, Oki, Qume, Taxan, Toshiba, Riteman, Atari.
UTIL 40 - Loads of packers inc: Atomik 3.5, Automation 5, Dragon 3, Fire 2, Ice 2.4, Pompey 1.9, Speed Packer 2, Branch Always Packer. + Multi Depacker 1.5
UTIL 42 - Intro Maker - mix pictures, sprites, scrolls and music together. Colour only.
UTIL 45 - Kaos Desk 2.01, Terra Desktop 1.36 - replacement desktops.
UTIL 46 - STOS Shoot em up builder kit 0.6 - colour only.
UTIL 51 - Form Finder 2.2 - horse racing predictor which is easy to use. Colour only.
UTIL 53 - TOS Version 1.0 - allows you to run programs that don't run on your TOS.
UTIL 54 - Message Scroller, Archiver Shells, Envelope Printer Demo, Mega Cracker.
UTIL 55 - Spectrum Emulator 1.2 - run Speccy games - includes Hobbit, Manic Miner
UTIL 57 - Revenge Doc Displayer 3.0, Wordfinder 3.0, Desktop.inf configurator.
UTIL 58 - Career Themes Inventory and Personality Tester - great fun!
UTIL 59 - Neodesk patches - upgrades 3.01 to 3.02 and 3.02 to 3.03.
UTIL 60 - JC Label 1.3, Jon-Dos 7.7, Flowchart Compiler, Boot Time 2.0, Multisync.
UTIL 61 - Rename It, Zoo Archiver 2.1, Insert Date, Marrow, Shadow Ramdisk.
UTIL 62 - BJ Chrome 1.1, Desk Master, Crocery Lister, Silk Mouse, Auto Load, Blitz.
UTIL 63 - JC Calendar 0.3 - an extremely pleasant and flexible calendar maker.

BUSINESS (ANY RES)

BUSI 1 - Invoice And Statement Generator demo, Sales Controller - High Res only.
BUSI 2 - Sheet 2.0, Dbase One, First Base 1.6, Home Budget Template.
BUSI 3 - Fastbase 2.0 - demo, fully functioning but with limits.
BUSI 4 - Opus 2.2 - brilliant spreadsheet. 1 Meg+.
BUSI 5 - WG Data, ST Sheet, Visi Clone - three more spreadsheets.
BUSI 6 - Double Sentry Book Keeping System, Address Book.
BUSI 7 - Astubank 1.1 at - complete home accounts system - colour only.
BUSI 8 - G-Base - a graphical database designed for importing graphics. Colour only.

MUSIC & MIDI

MUSIC 1 - Noisetracker 1.5 - a popular soundtracker creator with samples & source.
MUSIC 2 - Samples disk 1. works with most soundtracker creators.
MUSIC 7 - Hacker voice sets and songs for use with Quartet.
MUSIC 9 - Midi Magnet, Chord Master, Keys KMP, TX81z, Satellite (High Res only).
MUSIC 11 - Arpeggiator, Zeppelin, MIDI Beat, Project, Jukebox, MKS-50 - any res.
MUSIC 12 - Henry Cosh Sequencer, Composer - any resolution.
MUSIC 13 - Drum Patterns for Cu-Base in standard MIDI format - any resolution.
MUSIC 16 - Yamaha PSS790 Editor, includes loads of sample voices.
MUSIC 22 - Alchemie Junior 2.2 - sequencer with real-time, multitasking etc. High res.
MUSIC 23 - Sound Mertin - good ex-commercial program, Mozarts Dice Waltz - compose music without musical knowledge. High res only.
MUSIC 24 - Octalyser 8-track tracker - STE only, Protracker 2.1, YM Tracker.
MUSIC 25 - DR T's Omega II demo of their amazing new sequencer. 1 Meg+.
MUSIC 26 - PSS Utilities disk, loads of programs including patch editor, librarian etc.
MUSIC 27 - Casio CZ sounds, 32-track sequencer, Kawai K1 editor, MIDI menu.
MUSIC 28 - Editor and Librarian for Yamaha TX1Z, MIDI rat, Switcher, High res only.
MUSIC 29 - Kawai K1 synth sounds.

WORDPROCESSING (ANY RES)

WORD 1 - ST Writer Elite, EDI Text, Zap ST, ST Page, Typist, Desk Accessories.
WORD 2 - Mail Merger, Spell Check, Large Printer Maker, Count, Double, Convert.
WORD 3 - Font Master Deluxe (High res) - a kind of DTP program in German.
WORD 4 - First Word + tools, Grammar checker demo, Spell Binder, Text Filter.
WORD 5 - Calamus Demo, no save function but you can print. High Res only.
WORD 6 - Redacteur 3 demo - contains everything except for the save function.
WORD 8 - DB Writer 1.4 - slick document processor with spell checker & mail merge built in plus all the usual functions. High Res only.

EDUCATION

EDUC 1 - Kid Music, Kid Notes, Kid Piano, Kid Puzzle, Kid Graph, Rebus Writer.
EDUC 2 - Kid Grid 2, Kid Mixup, Kid Publisher, Kid Sketch, Kid Story, Kid ABC.
EDUC 6 - Maths Made Easy, Kid Shapes, Kid Shapes Plus, Race Cards.
EDUC 7 - Michaels Big Adventure - colourful graphics, easy to play. Age 8+.
EDUC 9 - Bodyshop, Computer School 2 & 3, Butterfly in the Park.
EDUC 12 - English Conjugation System, Pure Logic, Phonics, Key Capers.
EDUC 16 - Franglais 1 & 2 - French Tutors, Me First 2.0, Numbers, Slimming,
EDUC 18 - Spanish Verb Tutor, World at Risk, About the House, Perfect Match.
EDUC 19 - Computer School 4 - tests reflexes, memory, logic, coordination etc.
EDUC 20 - Easter Egg Hunt - pleasant adventure for 7-12 yrs without violence etc.
EDUC 21 - G.C.S.E. Higher Maths Grade Tutor, Franglais 3 - French Tutor.
EDUC 22 - G.C.S.E. Chemistry Tutor - all you need to attain grade 'C' or above.

C.I.A. WORLD FACTBOOK

Four disks crammed with information about the world, covering 247 nations and their populations. An absolute mountain of knowledge useful for research. Also covers weights and measures and contains a complete Chemistry Reference Book. Amazing!! EDUC 23-26.

£5.00

EDUC 27 - Mastertime - brilliant time tutor, covers analogue and digital + Human.
EDUC 31 - 1900's USSR - a very good interactive learning system.

SHOESTRING EDUCATION

SHOE 1 - Robot Attack - tests children on their times tables. £2.95.
SHOE 2 - Moon Letters - a nice spelling type game. £2.95.
SHOE 3 - Picture Mix - Age 6+ the aim is to recreate a mixed-up picture. £2.95.
SHOE 4 - Robot Words - a friendly hangman type game for kids. £2.95.
SHOE 5 - Alphabet Mix - like SHOE 3 but with words instead. £2.95.
SHOE 6 - All Blocked Up - A really good maths/shoot em up game. £2.95.
SHOE 7 - Word Race - win races by spelling words correctly. £2.95.
SHOE 9 - Maths Fun 1 - a nice maths game for children. £2.95.
SHOE 10 - Mini Boggle - a good version of the classic game of boggle. £2.95.

PROGRAMMING

LANG 1/2 - Sozobon C Compiler release 2. Includes documentation, shell etc. £3.
LANG 3 - C Source code, loads of routines including documentation.

GNU C++ COMPILER 2.1

This five disk set is archived and will need to be unarchived to a hard drive before use. It also requires at least 2.5 meg of mermory. This is intended as a developers version - ie not for novices. LANG 5-9.

£6.50

LANG 11 - GFA Basic programs, includes runner program. ST Basic 1 programs.
LANG 13 - Professional GEM guide - 17 chapters of tutorial with C source.
LANG 16 - STOS Tutorial and various Basic programs.
LANG 24 - C Adventure Toolkit - the very best adventure creator available.
LANG 27 - GFA Basic v 2.0 - GFA Expert - a nice GFA Basic tutorial.
LANG 29 - STOS Tracker - adds a new set of STOS commands for Soundtracker.
LANG 33 - Coronado Enterprises C++ Tutorial 2.0 - 12 chapters + source.
LANG 34 - Pascal Compiler, includes linker, library files, shell + programs.
LANG 35 - Ultimate GFA Database 1.7 - loads of references to GFA articles.
LANG 36 - STOS Extensions: Missing Link, Misty, Blitter, MIDI, STE, + 7 more!
LANG 37 - STOS Software pack 1 - millions (almost!) of routines etc.
LANG 38 - Robert Annets Source Code disk - from the author of Shockwave.
LANG 39 - The complete STOS source code to Pandora's Box.
STOS 9 - The latest issue of STOSSER disk magazine, tutorials, articles, reviews.
BUPRO 2 - 68000 Programmers Library - hundreds of routs for games. £2.95.
BUPRO 4 - Moving Bytes 1 - more routines for screen effects, music, scrolls. £2.95.
BUPRO 16 - ST-68K Reference 3 - includes full data on ST internals, excellent. £2.95.

BEGINNERS GUIDE TO STOS BASIC

This is a compete programming course for all ST/STE's consisting of a 618 page, ring bound course manual plus two double sided disks with over 190 programming examples! 26 chapters will take you through step-by-step how to create shoot em up's, art programs, junior educational programs, GCSE maths programs, databases, word processors, music programs, and much, much more. Recommended retail price is £39.95 plus postage but we are doing it for an amazing £29.95 plus postage (£3.00 UK only). Read the box below for details of our unmissable EXCLUSIVE software mega-pack!.

£29.95

STOS PD SOFTWARE MEGA-PACK!

This is a collection of seven double sided disks selected from our library especially for their value to STOS programmers. We are offering this pack EXCLUSIVELY to customers of the Beginners Guide to STOS Basic (as above) at the amazing price of just £6.95! This pack consists of LANG 29, 36 & 37, GAME 19 & STOS 7, 8 & 9 which contain an upgrade to the latest version of STOS, tons of STOS extensions, mountains of source code including several complete games and the three latest issues of STOSSER magazine which are crammed to the brim with articles, hints & tips, tutorials, routines and many freebies. NOT TO BE MISSED!!

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Don't get

When mail order companies take your money and don't provide you with the product you wanted, what can you do? Adam Phillips investigates

Mail order is at its best reliable, fast, and cheaper than the shops, but at its worst has slow delivery times, low quality equipment and a faulty "but it was fine when it left our premises, sir..." product posted to your front doorstep.

Some people swear by postal purchase while others, with their fingers and wallets well and truly burned, advise caution, painting grim horror stories of scandal and swindle as their hard-earned cash disappeared into a large financial abyss – their biggest achievement being an appearance on *Watchdog* as another abused and much misused customer.

Like any kind of business transaction, whether it be buying a house or sending off for a piece of software, the first rule is knowing your rights – essential if you want to have the best chance of not being ripped off.

Due to the recession, many small companies have bitten the bullet and sunk without a trace leaving, in some cases, bitter customers wondering where their money went.

You may think that once a business has folded, that's it, it's tough luck and you might as well forget any cash refund. Well not necessarily; if you have paid a deposit or even an advance payment, you automatically become a creditor.

PECKING ORDER

This allows you to be on the receiving end for some kind of pay back, but there is always a rub – a strict pecking order with the banks, financial institutes and everyone's friend, the Inland Revenue office being first in line for any cash handouts.

You, on the other hand, the humble and most important part of any business (the customer), are left last in line with a begging bowl, hoping to catch a few crumbs as the financial vultures rip off mounds of flesh from the corpse of the dead company.

Under the Insolvency Act of 1986, you are allowed by law to know exactly what has happened to the deceased business, so put your case in writing and contact the liquidator or receiver.

From there, several things can happen – if you have returned the goods for repair and they're still under warranty, it's well worth considering a visit to the premises and having a chat with the administrator or liquidator in person with the intention of laying your hands on your property. If possible, take along evidence of purchase such as cheque stubs or more ideally receipts, while making sure that you have proof of identity to verify who you say you are.

Alternatively, you may have ordered and paid for the product and it's sitting in the offices with your name and address on it. If so, there's a good case for claiming it.

If you paid by credit card for a price over £100, then it's possible to claim refund from the credit card company under the Consumer Credit Act. Though this is not a popular option in the eyes of credit card companies, it's well within your legal rights.

If you placed the order through a magazine or newspaper and it displays either the Periodical Publisher's Association symbol (covering mags) or the Mail Order Protection Scheme, then you are covered for a claim.

Make sure that you do this within three months of the particular company's last advert appearing or this protection is rendered invalid.

Another qualm that can be a problem for customers is delayed merchandising. While in the strictest sense, companies should not take any money or cash any cheques until the order is fulfilled, it's not illegal so you have to approach the problem in a different way.

One of the first rules of home delivery is if you think you may be out when a parcel may be delivered, remember to give an alternative address such as a neighbour's or another time to drop by.

If you need your package sent as soon as possible, a useful piece of legal talk is to write to the company's head office to inform them that you need to take delivery by a certain date as "time is of the essence".

Set a reasonable time for delivery such as a week to ten days and if this expires, you become entitled to a refund because the mail order firm is in breach of its contract.

On top of this, you may also be entitled to claim reasonable compensation brought about by the delay especially if it ended in yourself buying the product from somewhere else in the meantime.

The final and most frustrating problem is when the parcel arrives at your house

CONTACTS

Advertising Standards Authority
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London WC1E 7HN

PPA
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Imperial House
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London WC2B 6UN

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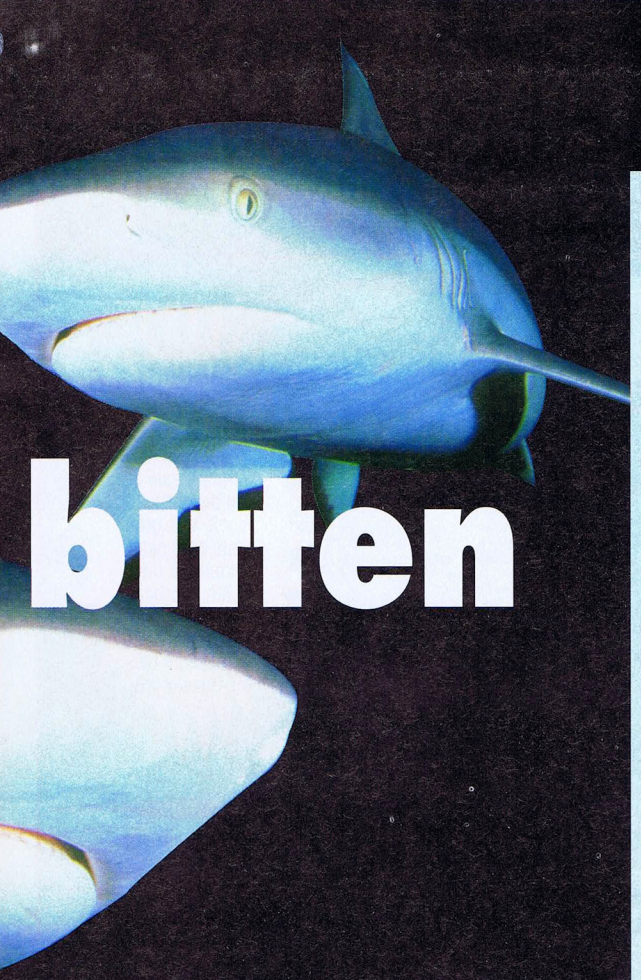

bitten

and on opening it up enthusiastically, you realise to your horror that the wretched thing is faulty.

If the goods were damaged in transit then it's not the supplier's responsibility and therefore the matter must be taken up with the carrier or Post Office (pop in to your local PO and get a claim form if this should happen).

If, on the other hand, the goods are defective, you have the same rights under the Sale of Goods Act as if you'd bought the item directly over the counter. Contact the supplier as soon as possible – by law you are entitled to a full refund.

Phone and put your complaint in writing and send the product by recorded delivery so that the firm cannot deny anything at a later stage, and arrange for the return of the goods. Also make sure to ask for the return carriage charges to be reimbursed as well.

Finally, make sure that the product you receive fits the description given to you in the advert, that it is of merchantable quality and that it's fit for its purpose. Happy shopping.

The 12 Commandments

While the majority of mail order companies conduct their business in a responsible and professional way, what is important to remember is that for someone to set up a company, place an advert in a paper or magazine and sell anything requires no mandatory registration or vetting by a governing body whatsoever.

For that reason, it's always wise to follow the basic rules for safe postal shopping:

1. When first clapping eyes on something you must have, check that the magazine/catalogue is up to date – it has been known for cheques to be sent off recently for offers that were made in 1989 – no joke.

2. Read the advertisement closely. Look for the small print so if anything does go wrong, you're fully aware of what the advert stated – delivery times, guarantees and so on. The publication you are ordering from is covered by the British Code of Advertising. The BCAP states that ads should give a delivery time and that it should be no more than 28 days.

3. Look out for extra costs – postage and packaging can sometimes add a few pounds onto the overall price. Some companies include this in the advertised price, while others seem to forget until the bill arrives.

4. Check availability with a simple phone call. Sometimes the item you want may be out of stock so there may be a delay. Note down what they say.

5. Enquire about rules and costs before you place the order.

6. When you write off for the goods, remember to include your name, telephone number and address and make sure it's legible. Your number is important for any subsequent delivery problems that may occur.

7. If you wish to avoid mailshots landing on your doormat every month, tell the company that you don't want them to pass on your name address to any third parties. For extra security against junk mail, write to the Mailing Preference Service. Any company wishing to send direct mail should check the MPS register and exclude the people who have placed themselves on it.

8. Keep copies of the order with the date on it as well as any subsequent correspondence that may occur with the company. Make photocopies – computer files on disk are frowned upon by modern courts.

9. Make notes of any phone conversations you have with the mail order firm and the names of the people you speak to – this kind of information can be very useful as a legal weapon for evidence.

10. Never send money through the post – the Post Office advises strongly against it and will not refund you in anyway if it is stolen or "misplaced".

11. Only send in the cash in the form of cheque or postal order when absolutely required to. Keep records of any financial transactions you make.

12. Contact the Advertising Standards Authority if all demands are ignored and if push comes to shove, consider legal action in a court of law.

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BUS-03 EZ Text+ (Working DTP demo)
Working demo of excellent DTP program (Full Version Available) see ad for ZZ Soft

BUS-06 Opus (Professional Spreadsheet)
Best S'sheet available without a mortgage!

BUS-11 Deskjet Drivers (loadsadrivers)
If you've got a Deskjet Printer and are in need of drivers, specific or general then this is the disk you're looking for

BUS-12 Fastbase (Excellent First Database)

BUS-16 Calamus Fonts (28 extra fonts)

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BUS-21 Add. book/Card ST/D/base +5 others

BUS-26 Organiser/S'sheet/Word pro +7 others

BUS-27 ALICE... Excellent Text Editor

BUS-28 Publishing Partner Fonts (8 + editor)

BUS-29 EZ-Label/Cardfile/Mailmerge + 8 more
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STE-06 STE Presentations (5 demo's)

STE-07 Fantasia (not Tos 1.62/1 meg) +3 more

STE-08 Boing STE + Mini-Movie

STE-09 Slime Balls + An Cool Demo's

STE-10 The Tobias Richter Art Show
This famous AMIGA artist comes to your ST with a fabulous STEREO soundtrack (mono on STFM's) (2 DISK SET £2.75)

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10 capacity clear Library Case
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only **£1** with **any** order

GENERAL

GEN-02 ST-Tour (Specially for beginners)

GEN-04 Your 2nd ST Manual (A MUST)
All the little things (and some not so little) that our friends at ATARI should have told you but didn't. This is the manual that should have been supplied with your computer (at least in our humble opintion).

GEN-05 Adventure Writer/Skymap + 4 more

GEN-06 Archive Suite (back-up in less space)

GEN-09 ZX-81 Emulator + lots of programs
Back to those halcyon days of the ZX-81
Emulate (if you must) this forgotten unit

GEN-12 Formfinder 2.1 (find a winner?)
If you like a flutter on the horses then maybe this program can help to make it profitable!
This is a Working Demo. Full version available

GEN-16 60 assorted samples (SPL Format)

GEN-20 Firstbase DB+7 more good programs

GEN-22 E-Plan (Electronic Circuit Designer)

GEN-24 Joke Database (Laugh with us!)

GEN-25 Quartet Samples II (730k of samples)

GEN-30 Film File Enquiry
With this unusual Database you can keep track of all your favourite Films, Actors, Directors etc. Lots fo classic films inc

GEN-31 Data File (TV Titler/Asst. Chef/Paarty)
Great value on this one: A Video Titler and extensive Recipe/Instruction Database + a bevy of alchafrolic cocktails!!

GEN-34 Sozobob 'C' (language)

GEN-35 Spectrum Emulator (with programs)
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DEMO'S

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DEM-88 Light Speed Demo

DEM-90 Delirious Demo (2 DISK SET £2.75)

DEM-95 Wings of Death Music Demo

DEM-97 KLF Demo (House hit + dancers)

DEM-98 Star Wars Rap

DEM-101 Spinning Dolls + Shiny Bubbles
This one takes a while to load but the end result is more than worth the wait

DEM-84 Things Not to Do (EXCELLENT)
Very Humorous, animated account of things not to do and the result if you do!

DEM-67 Fish & Chips (GET THIS ONE)
Loads of excellent demos with some very funny interludes between them

DEM-46 European Demo's (2 DISK SET £2.75)

DEM-44 Skid Row (2 DISK SET £2.75)

DEM-43 Punish Your Machine(2 DISK SET £2.75)
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DEM-75 Dark Side of the Spoon

DEM-82 Wasted Years

DEM-70 Lifes a Bitch

DEM-54 Gateway to Hexland

DEM-48 Summoning the Spawn

DEM-100 The Run (animation from T. Richter)
This one is so much better than the original AMIGA version

DEM-55 Art Machine
Sit back and enjoy this stunning artwork

ART & GRAPHICS

GRA-26 Crackart
No.1 in STR's PD Top Ten! This prog will process your pics in ways you will not believe: Curve, Twist, Wave, Tube, Palette edit, Dither, Animation and far more. Uses Degas, Neo & Tny format

GRA-24 Paintlux (full feature paint/art prog)

GRA-20 Kozmic (needs 1 Meg)
Create fantastic, colourful psychedelic patterns on your ST & save to disk

GRA-17 PAD (Mono Art program)
Absolutely the best Mono art package we've seen to date, many commercial features and the ability to hold many screens in memory (1 Meg min)

GRA-27 Mono Pictures (43 high-res pics)

GRA-10 Colourburst II (+ 5 other programs)
A very good little Art/Paint prog also on the disk: MAC to Degas converter Fine Line: art prog using Bezier/Spline

GRA-11 A.I.M. (Atari Image Processor
Exactly what it says, if you can create an image on your Atari then you can process, add or alter it with A.I.M.

GRA-14 Ani-ST
Excellent Art & Animation package that started life as a commercial art program costing £89.95!!

GRA-31 Kid Publisher & Master Doodle
A DTP package + Art/Paint program both good starting points for the kids

GRA-32 Colourspace
This is another program that started life as a commercial package now released as Shareware by Jeff Minter. Create your own colour & light show. Turn up the music, sit back and be amazed

GRA-33 Sprite Works
Art Prog geared towards creation of Sprites for use in your own programs

GRA-28 Hi-res Art
4 programs & pictures for Mono users

GRA-1 Picswitch 7.0 (needs 1 Meg!)
Converts your pics between various formats and all screen resolutions

GRA-2 Play - IT
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TRAX-37 MUG AMIG 3
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Due to the success of January sale i.e. all disks £1.25 each, this offer has now been extended until 28th February
To qualify, all orders must be received by February 28

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Keep track of your tracks with these exceptionally good Studio Utilities

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MIDI-14 Name That Tune (111 midi files)

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Here at Warpzone PDL we're always looking for new and innovative titles for inclusion in our library, if you have written something you feel is of good standard then please call us, we will be happy to hear from you

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You'll need two ST's & null modem cable

COM-03 Vanterm 4.0 (best PD comms prog)
Still the best PD TERM program!!

COM-04 Uniterm (Excellent terminal prog)

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COM-08 View D/L files when off-line + 4

COM-05 D-Term with Z-modem module

COM-06 Mo-Term Elite (for buffs)

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GAM-07 Clowns & Missile (8-bit clones)
GAM-22 AstroDodge/Subhunt + 10 more
GAM-28 Question of Snooker/Frogger + 1
GAM-34 X-word/Bugs/Warrior + 2 more
GAM-36 Klaxtrix/Entombed/Mr Dice + 2
GAM-38 Caves of Rigel/Froggy/Harris
GAM-45 Die Alien Blob (very addictive)
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GAM-88 Odeuss & Sir Ramie Hobbs (adv)
GAM-93 Mars Maze
GAM-95 Lazerbas II/Lazer Racer + 3 more
GAM-23 Go-Up/Nova/Target
GAM-30 Mix & Match + Plumb Crazy

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For Dot Matrix Printers either in Mono or Colour and iron on to any fabric!! all thats left to do is to wear your very own creation!

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MXB-14 Geography/Typewriter + 10 more
MXB-12 Grammar check/Loan calc + 10
MXB-10 Diskmech/ST Init + 11 others
MXB-21 Quark... 30 Sci-Fi stories on disk
MXB-18 Professional Astrology A truly professional Astrology prog with serious support and upgrade - add on modules, available from its very helpful author
MXB-16 15 asst'd utils inc. Goodies/Fontrix
MXB-04 12 asst'd utils inc. Codefind/Arc Inc. Archive prog. Assembler to GFA STD code finder, Format prog. HD-Utility, Data Salvage & more
MXB-25 Miscellaneous STOS upgrade (to any ST), Dual-Column printer, Fastprint utility, Spell Checker & Artprint – a way to keep graphic track of your piccy's and Clip Art

UTILITIES

UTIL-40 Minidraft 2 (+ST CAD + 1 more)
UTIL-34 Mega Utility (31 asst'd utilities)
UTIL-06 HD utils/Ramdisk and 12 others
UTIL-20 Archive Suite (compression progs)
UTIL-21 Sticker III (best disk labeller)
UTIL-22 10 progs for printer owners
UTIL-05 7 suites of various label progs
UTIL-30 Address book/V kill/Packer + 12

WATCH THESE PAGES NEXT ISSUE

We know by now you must be getting rather tired of seeing this same old ad, so watch our next issue for a great new ad with lots of new disks and Special Offers plus new packages never before seen in this country.
Also to be announced in the new Ad are the winners of the Xmas Draw.

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UTIL-33 Superboot 7.2 + 7 others
UTIL-04 Disk cataloger & Labeller + 1 more
UTIL-06 Formatter/Ramdisk + 12 more
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UTIL-11 18 asst'd desk accessories
UTIL-16 17 asst'd desk accessories
UTIL-24 Disk Doubler/Dual Format +12
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UTIL-39 Various Archivers & Packers
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MUSIC

MUS-31 Megarave (extra long Rave track)
MUS-29 Energy for You (5 Dance tracks)
MUS-28 Hardcore Dancefloor (NOT STE)
MUS-21 Hi-Fidelity Dreams As reviewed in March STR, you have just got to hear this! Better on an 'E', Amiga eat your heart out!!!
MUS-22 to 27 Peeks & Pokes 1 to 6 All these tracks are of the same quality as Hi-Fidelity Dreams (MUS-21)
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EDU-5 Spelling Easy + Alphabet
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PUBLIC SECTOR

Another roundup of all things PD, shareware and licenceware as reviewed by our resident word maestro, Adam Phillips... who?

What a turn around! No sooner had I said "Send me more software", then a large amount materialised on my desk. Thanks for your response and keep sending it in – remember nothing is too strange or different for these pages.

Storm

Produced by: Fugitive Freelancers

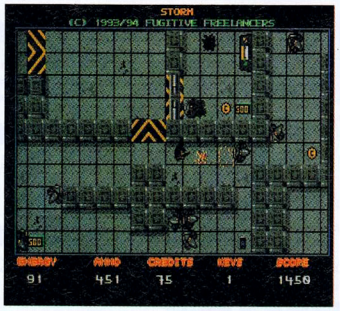
Available from: LAPD Disk No L64

Alien Breed, the hugely popular arcade blast on the Amiga, was heralded by many as the definitive unofficial film licence of a particularly successful film that surfaced nearly six years ago in the cinema.

Now, several years on after drifting through deep space, the ST equivalent has been salvaged and created by Fugitive Freelancers. It's time to experience masses of aliens with dripping mucus-covered claws and blood dripping in slithery trails from their deformed mouths – the player's mission being to go aboard a mysterious space hulk and blow the living hell out of anything that moves.

On booting up Storm, the first things to strike you are the aurals and visuals which make up an attractive front end with well-used music, titles and the odd voice sample as well. As the mission screen is displayed, feelings of anticipation grow but as the playing screen appears and you move the joystick for the first time, these disappear quickly.

The controls and character movement are both slow and sluggish as you move your marine down various corridors, passages, halls and rooms collecting ammo, medi kits, key cards for locked doors and credits to



Run down the claustrophobic corridors blasting anything that dares step in your way...

spend on the onboard computer to get extra weaponry. Aliens come at you thick and fast which may be great for an itchy trigger finger but after a while you can't help but feel that if the enemy had been in fewer numbers and more intelligent, it would have created a far more suspense-ridden atmosphere. Instead the herd of beasties run into your bullets only to be replaced by yet another flock a couple of seconds later.

The graphics themselves are effective, especially the aliens, but the main sprite and other alien form (some kind of dark smudgy thingy) are poorly defined.

Aurally, there are quite a few good spot effects with the shooting guns and the short screaming deaths of aliens. All the while, a rumble of music plays menacingly in the background.

It's hard to really recommend a game that has the potential to be superb but as Storm stands, Alien Breed enviers and Aliens fans will get a few reasonable kicks out of this blast fest.

Label Printer

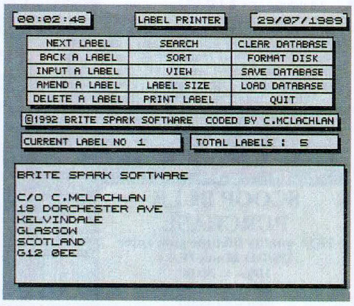
Produced by: Brite Spark Software

Available from: LAPD

If you ever need a quick and efficient way of printing labels for various uses and have to type them on a typewriter or, unless you're a calligrapher, at worst, have to draw wobbly lettering to go on your home grown wine to give it that special amateur look, then Label Printer could be an end to those frustrations.

Presented in a simple and well laid out series of panels, all the user needs to do is type what they want to appear on the labels and let the computer and printer do the rest.

The program also features a personal database plus file to Brite Spark label printer converter to help with any compatibility problems. A useful and practical utility.



Labelling for all occasions with this handy utility

Kev's World

Produced by: Beni P.

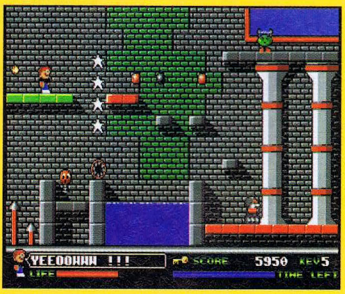
Available from: Caledonia PDL Disk No GM 196

Kev's World, Kev's World, party time, excellent and other hip and happening phrases which will be regarded as relics by the time next year "schwings" round.

Kevin and his planet is actually a reasonable stab at a platform adventure. Guiding a distinctly nerdy character round the screen is the usual joyous affair – collect stars to amass a bigger score, avoid the assorted creatures and hazardous obstacles such as spikes and water, and pick up the occasional power-ups for invincibility, extra energy and more lives.

At the end of each long level through what appears to be a large castle, you're confronted with an especially nasty creature that is guarding your girlfriend. Defeat it and it's onto the next, more difficult stage.

The titles' main weakness is its speed which is always a little jerky but the actual gameplay is quite fun and challenging. The platformer market will always be with us and Kev's World joins the universe of commercial and PD jumping about programs confidently.



Excellent, schwing, take a pill, we're not worthy... and so on into catchphrase oblivion

The Glass Buttock of Tharg

Programmed by: Ian Scott

Available from: The Floppyshop Disk No GAM.4167c

Once upon a time, there was a queen who ruled over a peaceful and beautiful island. One day, she had an accident involving a goat, some soft cheese and an electric sander which resulted in her left buttock being sliced off.

All would have been well but a state of public panic arose for every time she tried to park herself on the throne, she promptly slid right back off – very embarrassing when entertaining foreign ambassadors.

Word was sent across the world for someone to help with the dilemma and in answer to everyone's prayers, a witch called Hazel offered her services.

On taking measurements, she began the painstaking task of recreating the perfect prosthetic buttock for her majesty.

After a few months work, Hazel produced her finished result – a bum cheek moulded in the finest glass crystal. Alas, to her horror, it was useless because glass is not the most ideal of materials to use for replacement limbs.

She was laughed from the courts and kicked out of the country but before she went, she bestowed the glass buttock with humungous magical powers...

Years later, after the queen's death, the buttock now rules with an iron fist using its troops, the bum bandits (political correctness isn't the programmer's strong point), to marshal the harsh law of the land.

Choose from a wealth of celebrities and try to get Jeremy Beadle into a body bag...

Race across the island as Mr Bean and inspire men with your incredible social skills and charisma to join your cause

That was until one day, a group of television, film and rock stars decided they'd had enough and planned the overthrow of the glass buttock of Tharg...

And so begins the scenario of the latest game from the creator of the PD classic Grandad series, Ian Scott. Set on the island of Tharg, the player must move his 12 different characters round the map, visiting castles and recruiting men for the righteous cause.

Simply click on the person you wish to use from the selection screen and the action flicks to a first person view of the island. Then move through the Ishar-esque landscape with the intention of raising a large enough army for the destruction of the enemy's castle.

These 12 characters under your command however are not the usual stuff of heroes – ranging from the likes of Mr Bean, Alan B'stard MP and Kim Basinger to Jimi Hendrix, Jeremy Beadle and that old man, Grandad – all given their own portraits for swift and recognisable identification and all ready to die for the cause.

The game is very much in the vein of the old Mike Singleton classic, the Lords of Midnight on the Spectrum, but with simpler gameplay.

It's all very simple and relatively untaxing but quite addictive. The starstruck heroes are purely superficial and it would have been nice to see more to the title especially when put next to the Grandad series but the Glass Buttock of Tharg is well worth taking a look at for something a little bit different to pass the time of day.

Long live King Buttock!

Financier 2

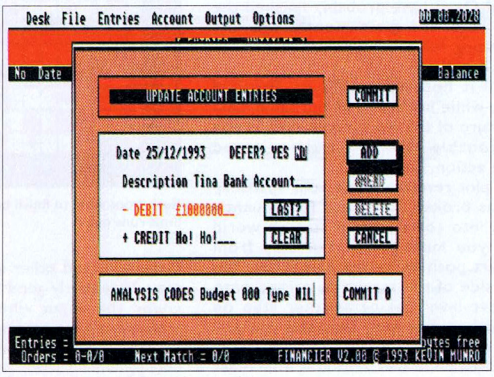
Programmed by: Kevin Munro

Available from: Caledonia PDL Disk No AU-218

This comprehensive utility helps the user to keep track and in control of their finances. While some of us are sticklers for keeping tabs on our accounts, others have enormous difficulty in being motivated enough to keep hold of every little receipt that can then be put into storage with all the others from the last ten years.

Financier 2 is ideal for keeping an eye on your pennies by keeping the records on disk with the ability to store hundreds of different entries. With the fast search and personalised statements options, this can be very helpful for small business use and customers accounts.

Also included is a card file program to organise business cards or addresses for the home. It's possible to import or export files to your spreadsheet or database because the utility has the same data file that your mail merge program has. Financier 2 is well worth taking a look at for a cheap but effective budgeting tool for your ST.



Get organised with Financier mark 2...

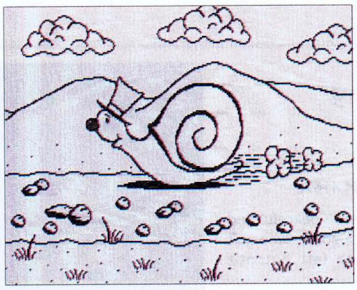
The Never Ending Colouring Book

Programmed by:Tony Gooding

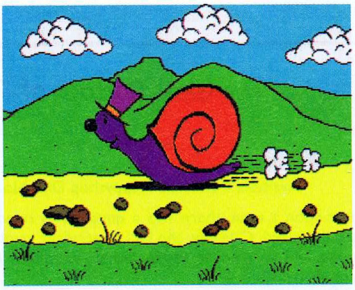
Available from: Merlin PD Disk No MPD1660

Computers are gradually taking over the world. They've steadily replaced most things practical from the typewriter to people's jobs. Now, the colouring book has been made redundant by this rather simple but rather good program from Tenesoft Productions.

No longer are crayons and paints needed for the children to turn the living room into a post-modernist mess worthy of a mention on the *Late Show* – now the ST provides preset pictures with no colour and a painting palette for kids to stick their technological paintbrush and pencil into. By simply clicking on the colour you want and selecting the Fill option, shapes can be coloured and even changed or started from new with the drawing button.



Before...



...and after

The whole package is very simple to use and comes with ten pre-drawn images from Donald Duck to a racing snail. The only problem is that some children might find creating a solid shape with the pencil utility a little difficult because above a certain speed, the line breaks up. This makes filling in impossible because it spills out over the rest of the screen.

Other than this, the Never Ending Colouring Book is a user friendly bit of fun and most importantly, unmessy "edutainment" for young sprogs.

Tri-Heli 2

Programmed by: Janet Dean & Cathy Steinbach

Available from: Emerald City Disk No SG74

Strange games sometimes surface in the public domain which would probably not make it to the screen in these days of large corporations producing more and more mass market formula driven titles.

Less risks are being taken to ensure that sales targets are met and the development budget is justified. This attitude is very similar to the film set up in Hollywood – if it doesn't have tried and tested idea/star/plot then the money men get itchy feet.

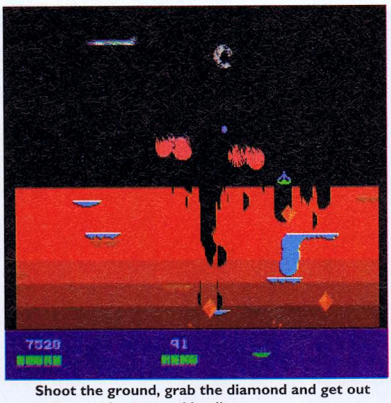
Like the independent film-makers in the rest of the world who are prepared to take a gamble, PD is prepared to experiment a little as well and unlike the indies, have the advantage of little or no overheads and the ideal environment of being able to do what the hell they like.

Tri-Heli 2 is an example of a odd mix of game styles taken from the like of Chopperlift and Boulderdash where a helicopter must be guided over a flat landscape. Under the ground, diamonds sit waiting to dug up or in this case, blown out of hiding with bombs.

Using a limited amount of ammo, the player must collect two per level and return each in turn to the base. While this is going on, an enemy plane flies overhead, and will either dropping a huge ball of dirt to cover the blowhole and destroy any flying mechanism that may be hovering in it, or place a turret on the ground that fires a laser beam directly at the unsuspecting player.

As each stage prog-resses, the land becomes higher and higher, making the gap between the hostile craft and the shafts to the jewellery smaller and therefore the situation more vulnerable.

On first playing, the graphics put you off because of the crude, Spectrum look. Under-neath the surface though, lies an addictive and frustrating program where that one more go gradually creeps up on you as you to try and progress to the next level. A curious and original title but one well worth taking a look at.



Shoot the ground, grab the diamond and get out before you're trapped by dirt

Freaked Out 2

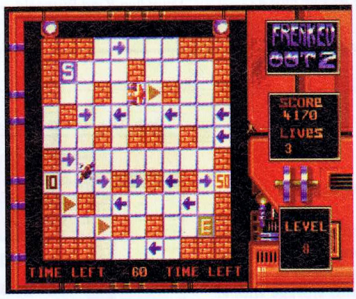
Programmed by: Chris Sharp

Available from: LAPD

Fans of Oxyd have probably finished the highly regarded game months ago and are waiting for the next instalment with baited breath.

Until it hopefully surfaces, Freaked Out 2, while not being of the same classic stature of the aforementioned, is still a reasonable stab at puzzle-oriented arcade action.

The plot revolves round your spaceship that has broken down and subsequently hurled into some sort of strange world where you must guide your ship from the start position to the exit across the other side of the screen to escape onto the next level, taking another step on the road to freedom. Between you and this freedom are various floortraps, directional dictation arrows, creatures from other dimensions and other assorted baddies. The game is relatively good fun if decidedly rough round the edges when compared to the professional presentation and feel of Oxyd. For the time being though, this will have to suffice until something better comes along.



Rush from start to finish before the time limit runs out

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Atari ST User February 1994

Polished text tool

Andrew Wright looks at the new EdHak, a commercial text editor which has recently jumped forward in leaps and bound

When we last reviewed EdHak, then at v2, about eight months ago, we found it below par in several departments. Now with the release of an improved v3, most of the problems seem to have been addressed, making it look pretty good value for such a versatile utility.

So just what does EdHak do? It is a small utility program that can be used for editing just about any type of file from plain Ascii text files such as README documents to binary files like programs and resource files. It doesn't stop there though – EdHak will also read disk sectors on hard and floppy disks and even let you hack into your ST's internal memory, byte by byte.

The program comes on a single disk with a useful 50-page A5 manual and several other utilities. The manual is packed with information on hacking into boot and other disk sectors and areas of RAM and contains comprehensive information on Ascii codes and the Atari character set.

It contains a full list of keyboard short-cuts and has a useful appendix dealing with importing and exporting files from other computer platforms.

EdHak works either as a program which can be run from the desktop in the normal way, or as a desk accessory. Obviously desk accessories are far more flexible, as they can be called up from within other programs but there is a memory overhead to be taken into account.

As EdHak uses up some 116k in its full configuration, it takes quite a chunk out of a 1040 ST or even a 2Mb machine.

However, there is a cut-down version called Diary supplied on the distribution disk that takes up only 22k.

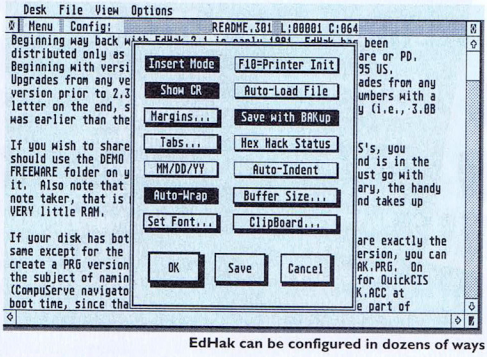
Where v2 had a strangely inflexible windowing system, either full or half screen, the new one has a fully resizable and movable GEM style window with a horizontal scroll bar which is a big improvement.

Unfortunately the rather clumsy menu still exists. Instead of having several menu headings in the usual GEM style, there is a single menu that drops down to reveal a double column of 16 options.

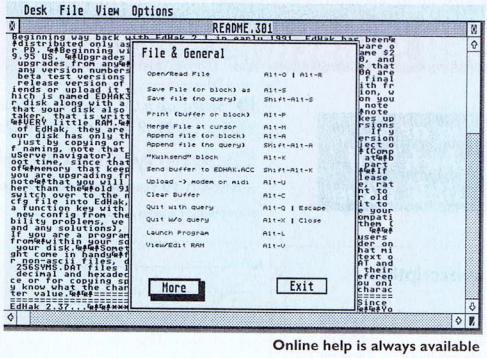
Selecting these brings up relevant dialogues but this rather bizarre nesting system means that accessing some important functions, such as font and buffer size or editing mode, takes at least three or four mouse clicks.

What's more, there's a distinct tendency to miss the EdHak menu and catch the GEM desktop ones instead which is far from merely irritating – it's damned annoying.

Other major changes include the ability to use smaller versions of the system fonts, extra block handling operations, enhanced macro selection and scores of minor improvements and bug fixes.



EdHak can be configured in dozens of ways



Online help is always available

Block handling changes now include support for columns, the ability to apply quotes to a marked block and a complete set of dedicated drop down menus for block operations.

Perhaps EdHak's most intriguing feature, which now works in the program version under MultiTOS, is the ability to send text to the keyboard buffer and hence on to another application using its "kwiksend" facility.

Any size block can be sent in this way and it works with many programs including That's Write, Firstword Plus and PageStream.

EdHak has three standard modes. Text mode is for everyday use as a text editor and programming tool.

It could easily be used for word processing, as it has all the familiar features like search and replace, word wrap, block cut, paste and delete and up to ten 80 character macros corresponding to each of the ten function keys.

In hack mode, all the characters are shown in lines 64 characters long and in hex mode they are displayed in the same form in hexadecimal equivalents. Placing the cursor on any character reveals its Ascii code in the status bar that appears in the window bar itself.

The number of the byte or character in the file is also shown, so you can easily find, for example, the 99th byte in a file by a simple trial and error process.

Another strength is the program's ability to handle files of almost unlimited size – its intelligent loading routines will read part of a large file into memory and buffer the rest on disk until it is required. In this way you can edit and hack big program or data files on a standard 520 ST.

If all you need is a cheap and cheerful way of editing Ascii files, there are much cheaper alternatives in the public domain but if you need more – such as the ability to hack into your ST's memory, examine disks and even co-operate with other programs such as QuickCIS and STalker, EdHak 3.0 represents much better value than its predecessors.

It can hold its head up in a crowded market and it even works out cheaper than registering some of the shareware competition.

BOTTOM LINE

FEATURES

Interesting features and highly flexible.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Easy to use on the whole but the interface could do with a rethink.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Not bad — the handy manual makes it worth a look.

Excellent
Good
Average
Bad
Appalling

Product: EdHak v3.02
Supplier: Douglas Communications
PO Box 119
Stockport SK2 6HW
Telephone: 061-456 9587
Price: £14.99
Configuration: All Ataris in any resolution

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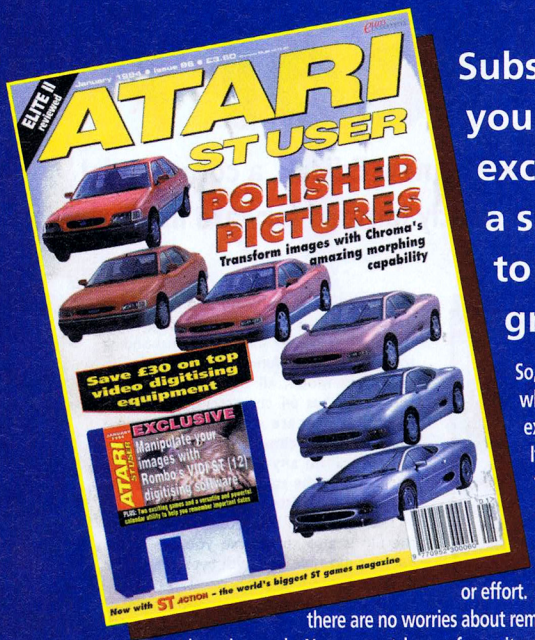

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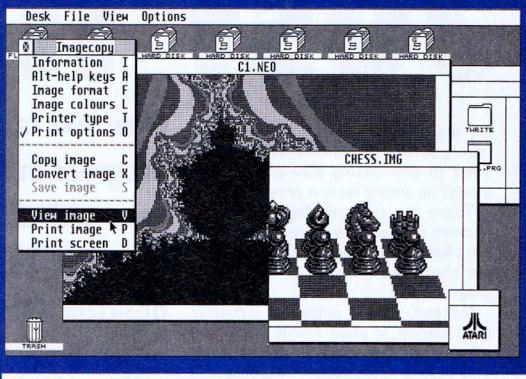

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Gamer, Atari ST User November 1993

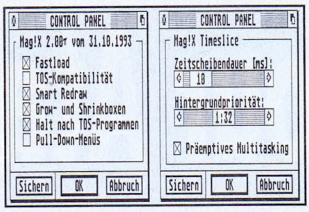
A few months ago, multitasking on the Atari ST was limited to a few simple task switchers. But then, together with Atari's MultiTOS, third-party developers also joined the arena.

Mag!x *(sic)*, or the Multi Application Graphics Interface eXtension, actually pre-dates MultiTOS and can lay claim to being the first multitasking system for the ST – if we ignore the simple task switchers.

Now at v2, it adds a number of new features and is more compatible with Atari's MultiTOS. However, before we plunge in, a few words about multitasking in general, since there seems to be a lot of misunderstanding of the subject even among assorted so-called Atari experts.

There are basically two types of multitasking: pre-emptive and co-operative. The latter requires programs to behave and co-operate with each other. Pre-emptive, on the other hand is much more rugged and multitasks whether the programs want it or not.

Mag!x 1.0 was born as a co-operative system which would multitask only when a program issued a GEM call. Mag!x 2.0, however, has grown into a full-blooded pre-emptive multitasking system where



Two CPX modules used to configure Mag!x

to boot from. This can be either your hard disk boot partition or a floppy. Next, you can set the default directories for ACC, Auto-APP and scrap files.

If you leave the ACC setting empty, the system will load accessories as usual from the root, but it's much neater to have all your accessories in a folder.

Auto-APP folder is where all GEM applications you wish to run at boot time are stored. When Mag!x comes up all these application will then already be up and running as separate tasks. If you leave this setting empty no APPs will be run at boot time.

If after installing Mag!x you later wish to run your old GEM setup again simply hold down both Shift keys during the boot procedure and Mag!x will not come up.

Various Mag!x presets and configurations are performed either in the MAGX.INF file or using the two supplied CPX modules which require you to have XCONTROL installed on your system.

MAGXCONF.CPX configures various system features. Fastload invokes fast floppy access. TOS compatibility takes care of programs which run OK in single tasking TOS but reveal their latent bugs in a multitasking environment.

Smart redraw is exactly that, it avoids unnecessary GEM redraws and so speeds up screen display. The screen is further accelerated by turning off the grow/shrink box animation effects. You can also change the way menus appear by choosing between GEM drop-down or pull-down menus.

Actually, these are not real Mac-like pull-down menus but click-down menus. When this mode is on the menus will not drop down if you accidentally move the mouse into the menu bar area, instead you must click on the menu before it drops down.

TSLICE.CPX let's you set the duration of each time slice in milliseconds (from 5 to 50) and the ratio of foreground to background processing time (from 1:1 to 1:64).

Default settings are 10ms and 1:32. The higher the time slice value the less overhead there will be but the multitasking will not be as smooth.

The lower the ratio, the more equally will the time be divided up between foreground and background tasks. So at a ratio of 1:1, Mag!x will behave like any other pre-emptive operating system.

Just like that!

Now you can switch from program to program in an instant, navigating with ease and efficiency, thanks to Mag!x, a sophisticated third-party multitasking desktop. Don Maple waves his wand

the total available time is sliced up into (you guessed it) "time-slices". These units of processing power are then divided up among various programs.

There is a twist in Mag!x, however, because it doesn't work with priorities like MultiTOS where you can individually set the fixed amount of time each program gets.

Instead, Mag!x employs dynamic prioritisation. In other words the system adapts itself dynamically to user actions. This results in immediate response and background tasks are executed only when there is time.

Sometimes, during heavy user activity, the background tasks will be forced to execute so that they don't go completely to sleep but, in general, Mag!x continues to favour the user for as long as possible.

Because of this Mag!x feels faster than any of the competition. This is convenient for the typical user but the experienced programmer might prefer the freedom of setting the priorities individually.

The focus on speed is also reflected in the fact that Mag!x wastes less than one per cent overhead for multitasking – that is to say, it's almost as fast as a single-tasking system. Actually, multitasking Mag!x is faster than single-tasking GEM!

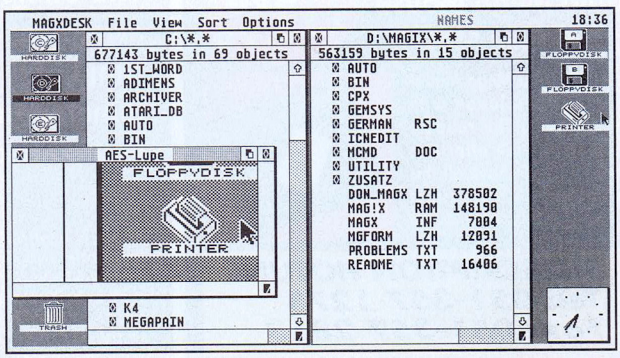
To install Mag!x simply run the installation program. The program can run with a minimum of 1Mb of memory but as with all multitasking, the more you have the better.

In the installation program you can select the default resolution and where

Finally, in this CPX the user can also turn off pre-emptive multitasking completely and run Mag!x as a co-operative system.

MAGX.INF file allows you to set all of the above and much more such as environment path, shell defaults and font defaults, to name a few. The commented listing explains all individual setting in detail.

MAGXDESK is the default Mag!x replacement desktop. Mag!x can handle up to 64 windows. Two features stand out in a Mag!x window: the backdrop button used to push a window/task into the background, and – a more cosmetic feature – the dot in front of executable files which makes them stand out nicely.



Default Mag!x Desktop called MAGXDESK running multiple applications

Clicking on the greyed-out area of a window's horizontal bar shows the amount of free space on that disk/partition. MAGXDESK also supports movable alerts and keyboard short-cuts both within dialogue boxes and menus.

TOS or TTP programs are automatically put into a window so that the Desktop is not disturbed. This task is

taken over by the VT52 program which has its own menu bar and opens the window within which the TOS program runs.

However, because all of this requires more work, TOS/TTP programs run slightly slower in a VT52 window.

Switching between tasks is done by clicking in the upper right corner of the screen. A "secret" menu then appears listing all tasks with a checkmark next to the currently active one.

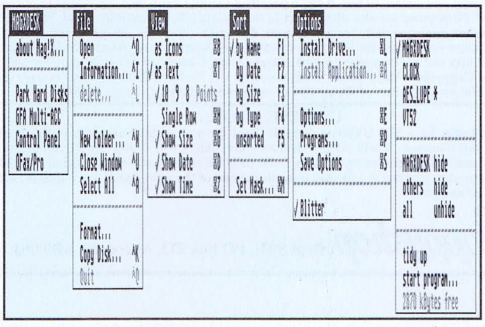
This is similar to the way tasks are activated under MultiTOS where they are listed underneath accessories. However, in Mag!x this menu also has options to launch new applications and to tidy up the desktop if it's been destroyed by some rude program.

You are not limited to MAGXDESK, as the system is capable of running other replacement Desktops, the most popular of which seems to be Ease, by

A programmer's paradise

Mag!x is particularly attractive for programmers as it offers a number of improvements and features over the standard TOS, and yet to a large extent is MultiTOS compliant. There is also a C library on disk to take advantage of these new capabilities.

To get an "under the hood" look at multitasking press Ctrl-Alt-Esc to invoke the task manager which lists all currently active programs. Each line shows the application ID and name, its state ("ready", "waiting" or "running") and what particular event it is waiting for (all possible GEM events are shown), as well as the amount of memory occupied. The tasks can then be manipulated by, for example, freezing them or freeing them up.



Desktop menu functions at a glance

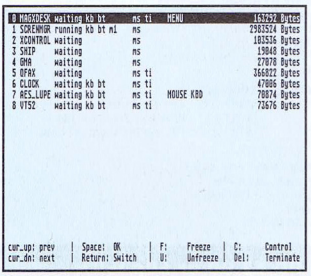
Application Systems of Heidelberg.

There are several utility and demo programs supplied with Mag!x. The demos include a clock and magnifying glass, which are a very good way of demonstrating multitasking at work.

Mag!x has its own icon format so an icon editor is provided to create and customise your own icons. A whole myriad of default icons are included as are additional programs for conversion between RSC and Mag!x formats.

A comprehensive and powerful CMD command shell has over 30 built-in commands as well as a bunch of external commands provided in the BIN folder.

There are also a couple of memory management utilities: MEMEXAMN shows all memory segments with their owners and LIMITMEM sets the maximum available memory to a program. And unlike MultiTOS, under Mag!x each



Pressing Esc-Control-Alternate invokes Mag!x' task manager

program can be assigned a different amount of memory.

One important facet of multitasking is the ability to "talk" to other tasks. Unfortunately the only way to do that under Mag!x is via the Clipboard. Other more sophisticated ways of interprocess communication – such as semaphores and pipes in MultiTOS – are at this time not available, although they are under development.

The other important facet of multitasking is memory management as provided by the PMMU (Paged Memory Management Unit). MultiTOS supports it while Mag!x doesn't.

PMMU is a piece of hardware (either as a separate chip or incorporated in the main processor) that "watches" over programs and only allows access to a program's own memory. This prevents programs from running wild and crashing the whole system. However, this applies only to machines with a PMMU such as the TT.

Both BIOS and XBIOS under Mag!x are re-entrant, as is the AES. That is to say, any system call can interrupt any other system call. This can carry on for as long as there is stack space.

New Mag!x AES functions correspond to all of the new MultiTOS functions and more. Programs can be invoked by other programs and run in parallel. Other AES improvements comprise new object types.

The Mag!x manual is very good especially when compared to anorexic MultiTOS documentation. The first half of the Mag!x manual explains the installation and usage of supplied programs.

The second half, the reference section, is especially attractive for programmers as all new routines and improvements over old system routines are clearly explained with examples.

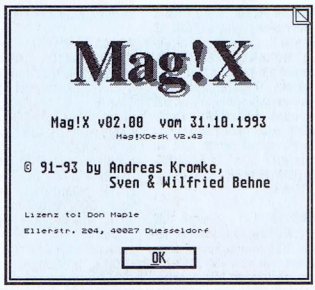
So how does Mag!x measure up against the competition? Geneva as a co-operative system is on the outset inferior to a pre-emptive system. It's also in its early development stages while Mag!x 2.0 has been around much longer and is very stable.

The comparison with MultiTOS is closer and also more important. The biggest drawback of Mag!x is that it does not run on the Falcon. However, the programmers are hard at work even as we speak to rectify this.

There are also other features of MultiTOS not available in Mag!x (again under development) but Mag!x also has features not available under MultiTOS.

The biggest plus is its speed. It's like running an accelerator and getting the multitasking thrown in for free. This makes it particularly attractive for owners of older and less powerful STs on which MultiTOS is so slow it's almost unusable.

And in Germany, Mag!x is quite popular, and Mag!x-awareness is a must for



Mag!x version 2.0: a new powerful multitasking system from Germany

any new application programs being developed today.

BOTTOM LINE

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Very fast for the user but the programmer may require more features. Does not run

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Good
Average
Bad
Appalling

EASE OF USE

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Excellent
Good
Average
Bad
Appalling

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Getting boxed in

Roy Stead opens up a dialogue and starts to make things happen with his Othello program

Lots to do this month, and all about dialogue boxes! Firstly, load your RCS (Resource Construction Set) into your ST. If you don't have an RCS, get one – any will do. I used a public domain program to build the dialogue box on the CoverDisk.

Now read the OTHELLO.RSC file on the CoverDisk into your RCS. If you're using it, it will also read OTHELLO.DEF, to assign symbolic names, otherwise your documentation will explain how to assign names, and later on I'll explain why you'd want to.

The first thing you'll see is an icon representing a dialogue box. Double-click on it and the new Othello dialogue box will be displayed.

The box was built by moving items from the parts box, stretching or shrinking them, putting them where I wanted them to be, then changing their attributes by double-clicking on the object. The trick lies in knowing what the attributes are and what you can do with them.

A dialogue box consists of a tree – a hierarchy – of OBJECT structures. The root of the tree is the box surrounding the dialogue, and its children are the OBJECTs which lie within that box – buttons, strings, and the rest.

Any of these children can also have children – all the items inside them – and so on. All OBJECTs which lie entirely within another are its children – the grandchildren of that OBJECT's parent.

This can get pretty complicated, and that's why you're using an RCS to build the dialogue box – it takes care of the details, leaving you to concentrate on designing your box.

There are eight different kinds of OBJECTs available for your dialogue box: boxes, boxchars, buttons, strings and TEDINFO structures. For now, we'll ignore the remaining three – icons, images and user-defined objects.

Boxes are just rectangles on the screen, which may or may not be actually drawn as boxes. If you examine the attributes of a box, such as the one encompassing our Othello dialogue, then you'll see an attribute, Thickness, which can be adjusted to set the thickness of the line which outlines your box.

If its thickness is zero, your box will not be drawn on the screen, but simply groups together a lot of other OBJECTs as its children.

A boxchar is a box with a single character displayed at its centre, while a button is a box with an entire string displayed at its centre. And a string, of course, is just a text string displayed in your dialogue box. Finally, a TEDINFO structure. These are used in our dialogue for the player's names, and are a special kind of string which can be drawn in any colour or different fonts, and positioned to the left, the right or centred within a box; the thickness can be set just as with any other box.

If the EDITABLE flag is set on a TEDINFO structure, then the user will be able to edit the text inside it when the dialogue box is in use.

Incidentally, the Template field of a TEDINFO is what is displayed in it when there is no text at that point, while the Validation field is used to set the sort of characters which the user is able to type at that point in the string.

Characters which can be used for this are 9, which allows only a digit from 0 to 9 to be typed at that position; A, which allows only upper-case letters and spaces to be typed (a allows any letters and spaces); N for numbers, upper-case letters and space; n for any letters, numbers or a space; F for all valid filename characters plus ?, * and : ; p for all valid filename and pathname characters plus \ and : ; P for all valid file and pathname characters plus ?, *, \ and : ; and, finally, an X permits anything to be typed at that position.

One word of warning: If the first character is an @ symbol, then the TEDINFO will be displayed as if blank regardless of what comes after it (useful for password entry).

From EDITABLE, we can go on to the rest of the flags which can be associated with any OBJECT. And remember the "any" in that sentence.

If an object is selectable then it will be inverted when the user clicks on it, and have its state set to selected. Clicking on it again will reverse the action.

If the EXIT flag is set then the dialogue box will terminate when the user clicks on that object and the object – if it's a button – will be drawn with a double-thick border. But, remember, the user can only really click on the object if it is also selectable.

The TOUCHEXIT flag also causes the dialogue to terminate when the OBJECT is clicked, but doesn't provide the double-thick border to a button. TOUCHEXIT also offers another feature, which is dealt with later on.

If an OBJECT has its DEFAULT flag set then it's drawn with a treble-thick border. The DEFAULT object is the one activated by pressing the RETURN key, as well as by clicking on it.

To turn to object states: Aside from SELECTED, which I've already mentioned, states available are CROSSED, CHECKED, OUTLINED and SHADOWED.

These are fairly self-explanatory, being concerned with the object's appearance only. The final state, DISABLED, causes the object to be shown greyed out, indicating that it is not available for use. When setting DISABLED, however, remember also to switch off the SELECTABLE flag.

An object's flags are held as a BitMap in an int, ob_flags, in that OBJECT's structure. Its states are held in the same way in the field ob_state, which is also an int. If an OBJECT has no flags set, or to switch off those already set, use the name NONE. The equivalent symbolic ➤

name for states is NORMAL.

We've mentioned all of the states now, and all bar one of the flags. The final flag is called RBUTTON, for Radio Button, and is named for the station-selection buttons on a radio which, when you push one in, all of the others pop out so that only one is switched on at any one time.

Radio buttons are used in three places in our Othello dialogue, and they are set up quite easily – the group of radio buttons are all gathered together as the children of a single box, and each has its RBUTTON flag set. GEM itself takes care of the fact that only one is to be switched on at any one time.

We could talk for hours about OBJECTs, but the best way to learn about them is to play with the different attributes from inside your RCS. For now, we'll move on to how to make use of a dialogue tree once you've saved it out as a .RSC file.

When you save the dialogue, you will notice that a header file with the same name is created. This contains the symbolic names – which you assigned to the objects – to be used to refer to the different items in the box. The first of these we're interested in is the name given to the box itself.

But the first thing to do is to load our .RSC file into our program. We do this by calling rsrc_load() with a single argument – a string containing the name of the file. If there's an error, zero will be returned, otherwise the file loaded OK and we can proceed.

Before our program exits, incidentally, we'll have to make a call to rsrc_free() – no arguments – to free up the memory taken up by the .RSC file. All of this is done, in Othello, in the GRAPH.C file.

When we come to use the dialogue, we need to call rsrc_gaddr() to find out the address of its OBJECT tree. This function takes three arguments. For simplicity's sake, you can always use the symbol R_TREE for the first argument.

The second is the name given to the dialogue box's root object (in this case, OTHELLO), while the third is a pointer to an OBJECT pointer. After the call, the OBJECT pointer will be set to point at our dialogue box's object tree, which is a simple memory block just like any other. This, and all that follows, can be found in DIALOG.C on the CoverDisk.

After all that we've covered, actually executing a dialogue box is a piece of cake. The first thing is to make a form_center() call, like so:

```
form_center ( tree, &rect.g_x,
&rect.g_y, &rect.g_w, &rect.g_h );
```

Where (OBJECT *)tree was set by the rsrc_gaddr() call, and (GRECT)rect is to be set to the screen rectangle of our dialogue box – which has now been centred on the screen.

The next stage is to make one or two form_dial() calls. The first uses the symbol FMD_START and is mandatory. This is used to tell GEM to reserve an area of the screen for our box.

The second – using FMD_GROW – is optional, and simply draws a Zoom Out box from the centre of the screen to where our dialogue box will be.

form_dial() takes nine arguments. The first is the symbolic name mentioned above, the following four are all going to be zero, and the final four ints make up a GRECT for the screen rectangle to affect. So:

```
form_dial ( FMD_START, 0, 0, 0, 0,
rect );
```

will reserve the screen rectangle described in (GRECT)rect, ready for our dialogue box. Once we've finished with our dialogue box, incidentally, we make one or two more form_dial() calls.

The first, this time with the symbol FMD_SHRINK, is optional – drawing a shrinking zoom box. The second – using FMD_FINISH – is mandatory, and restores the rectangle used by the dialogue box for the use of the rest of the GEM system, automatically sending redraw messages to any corrupted windows.

In between the form_dial() calls, we want to first draw our box and then execute it. The first is carried out by an objc_draw() call:

```
objc_draw ( tree, obj_no, MAX_LEVEL,
rect );
```

Here, (OBJECT *)tree and (GRECT)rect are as before and MAX_LEVEL is a standard symbolic name to indicate that the object, and all its descendants, are to be drawn (if you use zero here, only the object itself will be drawn; 1 to draw its children also; 2 to include grandchildren, and so on).

The obj_no value is an int which is the offset of the object to draw – for which you just use the symbolic name from the RCS, which was later saved out in the header file. Since we're initially drawing the entire dialogue box, you would use OTHELLO in place of the (int)obj_no value.

The final thing to do is to actually execute the dialogue box, and this is done using a form_do() call. form_do() takes two argument – the pointer to the OBJECT tree and an offset to the OBJECT which the edit cursor is to initially be within. If there are no EDITABLE OBJECTs, you should use zero for the second value.

GEM will then take care of everything else for you, leaving form_do() only when an object with the EXIT or TOUCHEXIT flags set is selected by the user, and returning an int which is the offset to the object clicked on to exit the dialogue.

If the object was a TOUCHEXIT then the high-bit of the returned value (& 0x8000) will be set if a double-click was used to exit the dialogue box.

And manipulating and examining the array of structures which make up the dialogue box's OBJECT tree can be done as easily as with any other array of structs – examples abound throughout the DIALOG.C file.

● *Next month, in the last column of this series, we'll convert Othello into a desk accessory and tie up a few loose ends.*

Getting to grips with C

Did you miss out on a free copy of HiSoft C, given away with the April issue of *Atari ST User*?

Or maybe you missed one or more parts of this guide to programming in C?

If so you can still get hold of back issues by telephoning your credit card details to 051-357 1275.

Alternatively, send £3.50 for each issue required. Cheques/ Eurocheques should be made payable to Europress Direct and sent to Freepost, Ellesmere Port, South Wirral L65 3EB.

Please state clearly which issue/s you require.

Got anything to say to the ST community? Then this is your soapbox

Write Now

Too much Falcon

Whoa! Stop! Cease! The Falcon is a most wonderful piece of kit, on that we are all agreed. However, at the moment it is far too expensive.

My experience with the ST has taught me that the Falcon will be next to useless without at the very least 4Mb of memory and a hard drive exceeding 100Mb.

At £900 this is out of my price range. I have invested a lot of time and money on software and hardware for my ST, which I am reluctant to give up without good cause.

The point of this letter is not to denigrate the Falcon, but merely to point out that I shall not be buying the machine within the foreseeable future.

As such I am fed up with buying your magazine, which is supposed to be for my ST computer but which appears to be for the Falcon, with an occasional article thrown in for the ST.

Enough is enough, let's get back to the ST, thank you very much.

D. McGeachie, Nottinghamshire

Our readership is split between people who use their Atari computer for games and home productivity software, enthusiasts and professional desktop publishers and musicians.

Some readers fall into more than one category but the single thing that unites them is their interest and enthusiasm for all things Atari.

The Falcon is a step forward in terms of technology, and although it remains financially out of reach of most readers a recent reader survey showed most want to read about it.

Nearly all new software released for Atari computers has been launched because of the Falcon's improved capability but is compatible with older machines.

When it is reviewed we mention which features are not available on STs, ensuring readers can make buying decisions based on what they read. Even after saying this, most editorial space in Atari ST User continues to be given advising readers how to get the most from the ST.

My kids buy porn

I have just discovered that my kids and their friends have been obtaining pornographic disks from New Age PDL advertised in your magazine.

There are quite enough public domain disks to sell and distribute without the above – quite unnecessary in my opinion.

The ads in my house have been thrown in the fire but I had to go round the other parents concerned, which was very embarrassing for all of us.

Some parents were furious with their kids – and with me for providing the magazine which was the source of the advert for these disks.

I am not particularly a prude but to supply disks like this to children – it must have been obvious from their handwriting which is far from adult – is disgusting.

Until you stop supporting this firm I shall stop supporting you. Remember this is my money that supports you, the ST, the hardware and software suppliers. Ignore us at your peril.

We don't need you, you need us. We have always the choice to change to something else. Give serious thought to this.

Mr Jefferson, address not supplied

What is pornographic to one person could be perfectly acceptable to another, and I think it is likely that this is the problem here.

As has been mentioned several times during recent months, Atari ST User has a policy of not printing adverts which contain pornographic material.

We have looked at the disks which New Age claim to be selling through their page, and none contains anything more pornographic than women in bikinis.

Pictures like this – and worse – are printed each day in national tabloids and cause little offence to their readers.

Finding the route

In your Christmas issue you reviewed a program called Route Finder. As much as I tried I could not find the address of the program's supplier.

Would it be possible for you to print the address in your next issue? I think that *Atari ST User* is the best of its kind on the market.

I especially enjoyed the double disk issue – could we possibly have a larger communications section, and how about a regularly updated bulletin board telephone directory?

M. Bailey, Nottinghamshire

Sorry, it appears that the gremlins struck the Christmas Public Sector pages.

Route Finder can be bought from L.A.P.D. at 80 Lee Lane, Langley Heanor DE75 5HN. Alternatively, you can telephone the library on 0773 605010.

Needing support

£25 Prize Letter

Since May I have been the proud owner of a Falcon and enjoy using it very much. I've never before seen such a user-friendly operating system and been able to do whatever I wanted in just a few days.

There is still a problem, however. Most of the games and some of the other software I used on my ST don't work. I wasn't surprised, since I am aware that I am dealing with a computer containing different internal hardware.

What surprises me, however, is that software houses don't get their new ST titles to run on the Falcon as well. This can't be too hard to achieve, I guess. Why, for example, doesn't Zool run on a Falcon? It would be a perfect game for my favourite bird with its blitter and 32-bit processor. And so would other games.

Luckily, I recently got hold of a program called Backward which claims to be an ST emulator. It turns off some chips which are not in the ST, sets the clock speed to 8MHz and does other clever things too. It works fine and now I am able to play about 70 per cent of my games.

Some are even at improved speed. Try, for example, Midwinter 1 and 2, F1 GP, F-19, Populous II and more games that can use speed-improvements. Therefore, I think it's quite a shame to see that some newer titles – like Dogfight and Civilisation – don't work on the Falcon, not even with Backward.

Is there a way to persuade the software houses to write Falcon-compatible software? I think Falcon owners should start writing letters to ask them to give in to our pleas.

That way the Atari market will become more profitable for them and all Atari users will be happier. What more can you wish for? More Falcon-specific software.

Peter Laros, The Netherlands

Most productivity and professional application software is now enhanced for use with the Falcon, although as you say Peter, nearly all games remain incompatible.

Atari say they are planning to launch five Falcon games within the next few weeks, and I believe Daze Marketing have a couple of titles due before summer.

Waiting to hear from you...

To join the ST chat show drop a line to The Editor, Write Now, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

Advice

Picture formats

I am a beginner to assembly programming and am starting to learn about screen and graphics manipulation. I am having difficulty with obtaining information on Neochrome and Degas Elite picture formats.

Please could you help with any information on these particular formats as I am at my wits end?

S Jones, Crewe

No problem. The formats for Neochrome and Degas Elite picture files are as follows:

Neochrome file format (.NEO)

1 word	Flag (always 0).
1 word	Resolution (0=low, 1=medium, 2=high).
16 words	Colour palette.
12 bytes	Filename (usually left blank).
1 word	Colour animation limits. If the colour animation is valid, the high bit is set. The low byte contains the colour animation limits with the most significant bits representing the lower limit and the least significant bits being the upper limit.
1 word	Colour animation direction and speed. The low byte is the number of frames or Vblanks per step of colour shifting. If the value is negative, the colours shift to the left.
1 word	Holds the number of colour steps to display the picture for before proceeding to the next one.
1 word	Image X offset (unused and always set to 0).
1 word	Image Y offset (also unused and set to 0).
1 word	Image width (unused. Set to 320).
1 word	Image height (unused. Set to 200).
33 words	Reserved for future use.
16,000 words	Actual picture data.

Total bytes = 32,128

Degas Elite format (.PI1=lo res, .PI2=med res and .PI3=hi res)

1 word	Picture resolution. 0=low, 1=medium, 2=high).
16 words	Colour palette.
16,000 words	Actual picture data.
4 words	Table of left colour animation limits. This includes the ranges for four animation ranges. The first word in this table and the first word in the table below are the first animation range and so on for the others.
4 words	Table of right colour animation limits.
4 words	Animation direction table. Each word signifies the direction of animation for each range. 0=left, 1=right.
4 words	Animation delay times. Every entry is equal to 128-delay in 1/60ths of a second.

Total bytes = 32,066

Second drive

I am very new to the ST scene and am about to splash out on a second drive. My main reason for buying it is to simplify and speed up file copying.

I am a student and use the ST as a word processor for my subject work. As such, I inevitably end up with lots of files of work on different subjects and of differing versions.

I soon got fed up with the way the ST handles file copying using just the internal drive, so a second drive will be invaluable for that as well as meaning my word processor sessions will benefit.

Can you recommend a suitable drive and give me some tips on what to look for?

L Robinson, Middlesborough

A second drive certainly does simplify and speed up file copying, making the whole process much easier. You could alternatively use a RAM disk to make life easier, but this obviously has its drawbacks such as taking up memory. When looking for a second drive, ensure it has its own built-in power supply as opposed to taking power from the ST itself.

In general, most drives from reputable dealers are as reliable as the next. Some drives however, offer extra features such as digital track readout, which is pretty much useless.

External drives are quite cheap too. Ladbroke Computing's Zydec external drive and Power Computing's PC720P cost a mere £55.

If you have a bit more to spend, Power Computing also have their PC720B which has extras like drive B boot facility and built-in Blitz Turbo backup hardware, all for £5 extra. The drive B boot facility allows you to use the external drive to boot from and the Blitz Turbo feature is an extremely fast disk backup package.

Ladbroke Computing can be contacted on 0772 203166 and Power computing can be contacted on 0234 843388

Technical reference

I have been trying in vain to find get a copy of the technical reference manual from Abacus called *Atari ST Internal*, but I have failed miserably. I would be grateful if you could tell me where to get hold of a copy and also any other reference manuals for the Atari computers.

R Dutton, Surrey

The reason you are having problems finding the Abacus manual is that it has gone out of print. However, fret not as HiSoft have come to the rescue with* The Atari Compendium. *It's a hefty tome and is the most comprehensive "all-in-one" technical reference manual for Atari computers yet. It weighs in at a massive 860 pages and covers such topics as AES, GEMDOS, VDI, BIOS, XBIOS, MultiTOS, SpeedoGDOS, hardware and many other aspects of all Atari computers. Every function of TOS 1.0 through to TOS 4.0 is explained and many of the new features in TOS 5.0 too.

It is a valuable reference manual that no ST, Falcon or TT programmer should be without. The* Compendium *costs £39.95 and is available from HiSoft on 0525 718181.

Bleeping keyboard!

Every so often, when I turn on my ST, a continous beeping sound emenates from the ST and the keyboard locks up.

If I ignore it and load some software, the keyboard still refuses to work.

This doesn't happen all the time and I am beginning to suspect it's a symptom of a virus. Please can you help?

B Williams, Strood

This problem is fairly common. It is due to having an joystick plugged in which has a autofire feature turned on when you boot up. Simply make sure it isn't turned on when you switch on your ST and you should find the problem disappears.

Floppy problems

Having recently bought my Atari 520ST, I am experiencing some problems. I bought the computer second-hand and it works very well in itself.

The problems arise when I try to use my son's disks. He also has an Atari 520ST. Some of the disks work fine but 90 per cent of them won't work at all.

I tried to use the two disks from your December issue but was unable to get my computer to accept them. I kept getting the message that the disks may be damaged.

Could you please explain what could be wrong and if there is anything I can do?

D Siberry, Middlesborough

It sounds as though you may have a single sided internal drive as opposed to a double sided drive, which are fitted as standard on later model STs. Early STs were fitted with single sided drives.

Try formatting a disk to double sided and then check the disk size by highlighting the disk A icon and selecting Show Information from the File menu.

If your disk is single sided, the figure will be in the 300k+ mark whereas double sided drives give a 700k+ figure.

If your drive is single sided, it is not possible to read any disks formatted as double sided.

Your son's computer can format single sided drives and it may be that the few disks from your son's computer which

SERVICE

worked fine just happen to be formatted as single sided.

No supply

Recently, my 1040ST has stopped working and I have been led to believe that the culprit is the power supply. My ST is quite an old model and I was wondering if you could suggest a company who could replace my power supply and possibly give it a good servicing?

K Brannon, Windsor, London

System Solutions (Tel 0753 832212) are the closest to you and are one of the most reputable companies who can repair your ailing ST.

They are officially authorised by Atari so you can be sure of a good job.

More memory

I have been considering upgrading my 1040STE's 1Mb memory for some time now and I would like to ask a couple of questions.

1. What is the maximum memory I can upgrade my STE to?
2. How easy is it to fit the memory? (I don't have too much knowledge of electronics)
3. Who are the best company to approach in terms of price and quality?

J Smith, Essex

Let's get straight to the answers shall we?

1. The maximum amount of memory you could upgrade to used to be 4Mb. However, Marpet Developments (Tel 0423 712600) have recently developed an upgrade board that can add an additional 8Mb to take the maximum up to 12Mb!

2. Fitting upgrades to an STE is much easier than fitting them to a ST. This is because most STEs have SIMM sockets which accept standard SIMM memory boards. Fitting these is just a matter of undoing your computer and plugging the extra memory in.

However, there is the danger of static damage to the SIMMs. So if you have not got a great deal of experience with electronics, take advantage of the fitting services which most dealers offer.

3. It is difficult to suggest one particular dealer as many of them offer equal quality of service. I suggest you flick through this month's issue and check with the various advertisers.

RAM memory has also recently undergone a major increase in price and at the time of writing, prices are fluctuating so check with each dealer for current prices.

You may also like to know that our sister magazine* Atari ST Review *are currently offering a memory upgrade service with 1, 2 and 4Mb upgrades costing £9.99, £49.99 and £99.99 respectively. For more information, call the order hotline on 0480 891171. The lines are open 10am till 8pm Monday to Friday and 10am till 5pm on Saturday.

Faster ST

I am a keen, nay fanatic, fan of the Calamus SL colour DTP package and have reached a critical point in my use of it.

I use Calamus SL on my Mega ST4 and now find myself feeling the need for speed because screen updates are beginning to slow me down. I have already bought NVDI, a software screen accelerator which is very good, but it's still not fast enough.

Is there any hardware which is available that will increase the clock speed of my 8MHz Mega ST to double or more?

J MacFarlane, Yorkshire

System Solutions can provide you with what you need. Their hardware accelerators – the T28 and T36 – can speed up your Mega ST to either 28 or 36MHz respectively.

Both include a 64k cache which can be switched on or off and when combined with your copy of NVDI, you can expect a healthy improvement in performance.

The T28 costs £199 and the T36 costs £299. For more information about them, contact System Solutions on 0753 830344.

FANSI graphics

Can anyone give me the name of a comms package that will let me make use of the ANSI colour displays available on most BBSs these days? I have an Atari 1040STFM with TOS 1.02, double sided drive and external drive.

R Snipperley, Bucks

Freeze Dried Terminal v2.20 or higher is what you need. It's available as a shareware demo which will allow you to try it out and if you find it's the best thing since sliced bread, simply register and you are sent a "key" which will activate all the features. Most PD libraries worth their salt will have this in their collection, so give your favourite library a call and ask them for it.

Suitable DTP

I am looking for a low cost DTP package which will allow me to create personalised greeting cards which can take advantage of the mass of clip art which I have accumulated from various PD libraries. Could you please recommend a decent package which won't make my wallet cringe?

A Matthews, Kent

***Timeworks 2 will fit the bill perfectly and a fully working version for you to try out appeared on the coverdisk of the Christmas 1993 issue of our sister magazine,* Atari ST Review.**

The only restriction is that a manufacturer's "watermark" is printed across any pages printed with the coverdisk version. Other than that, everything else works.

Floppy failure

I am experiencing some very annoying problems with my Atari 1040STE's internal floppy disk drive.

About three weeks ago, whenever I tried to write to a floppy disk, I occasionally got the message "Disk in drive A: is physically write-protected", even though the write protect hole on the disk was closed.

Removing the disk to check it and then inserting it back into the drive and retrying usually cured the problem after a few attempts.

Now though, the write protect problem is permanent and I am unable to write or even format any disks at all.

Will I have to get a new drive or is there something I can do? I'm not bothered about opening up my computer and removing the drive to check it myself, so a few pointers will be helpful.

C Rostock, Gloucester

It seems the write protect mechanism may be faulty. Some drives use a mechanical write protect mechanism while others use an optical method.

It is unlikely you will be able to repair it yourself as there aren't any serviceable parts to it. And it would be far cheaper to buy a new drive than to have it repaired.

Look through the adverts in this month's issue for prices of internal floppy drives – they generally start from as little as £40.

Got a problem?

Are you at the point of taking an axe to your ST? Do you want to pulverise your printer? Well just count to ten and relax. Then, jot down the problems you are having, along with a detailed description of your setup.

Include information on the type of ST you have, the TOS version (if known), what peripherals are attached and any extra hardware that lurks inside your computer (accelerators, graphics cards and so on) and I'll do my very best to come up with a solution.

For those who have had problems and overcome them, chances are that someone somewhere is having the same problems and would benefit from your advice.

So get in print and send any tips or suggestions that other users may find helpful.

Send all tips and cries for help to: Darren Evans, Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

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(We reserve the right to reject machines which, in our opinion, are beyond repair- Normal charge applies)

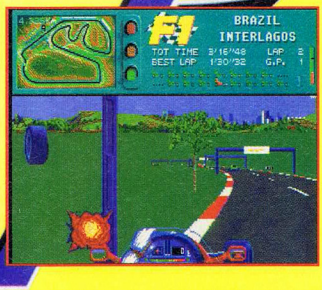
February 1994

ST ACTION

JAGUAR

WHY IT'S GOING TO BE A WINNER

F1



DOMARK'S LATEST TAKES POLE POSITION

REVIEWS... F1 ● JAGUAR ● CYBERMORPH ● SPACE CRUSADE ● SPEEDBALL 2

ALSO... GENESIA PREVIEWED ● COMPLETE GUIDE TO ROBOCOD ● A LOOK AT THE LATEST MANGA VIDEOS ● A REVIEW OF LAST YEAR'S HIT GAMES

ST ACTION review 93

Jonathan Maddock takes a brief a look at STA's favourite games of 1993

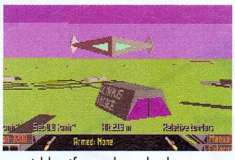
Dynablaster

You may think I'm mad by not putting Elite II at the top spot, but way back in April a game came from France that is the most explosive piece of software you're ever likely to play, literally. Simple format and a simple idea.

You play the part of a bomber against another four opponents, and must make your way through a maze chucking bombs trying to destroy your adversaries and become the last bomber standing. See, it sounds completely rubbish, but that statement couldn't be further from the truth. Thanks to the five-player adaptor you can bring a whole new meaning to staying in at home. Invite a few chums around, bring some tinnies and settle down to the most fun you're ever likely to have playing a computer game.

Dynablaster may not look as impressive graphically as other games, but it beats the crap out of everything else for sheer playability, addiction and more importantly enjoyment. The game received a massive 94 per cent, a Gamer Gold and is an absolute classic.

Elite II



The sequel to the world's biggest and best computer game in the whole wide world ever. You'd think that the original couldn't be better, well how wrong you'd be if you thought that.

The games creator, David Braben, had really gone to town and created a piece of software that contains the universe, well most of it anyway.

You can fly past 200 billion stars and land on anyone of the 30,000 inhabited planets in the game. In the original there were only a handful of missions, but the sequel has literally thousands with over 70 different types. As soon as you take off your destiny is placed in your own hands – where you go and what you do is entirely up to you.

Visually Elite II contains some of the highest detailed polygons and vectors you're ever likely to see on an ST. From space stations to whole cities, it's all there in beautiful light-sourced, techni-coloured detail.

For some people Elite became a way of life and slowly over the years the Elite junkies have given up their habit, but thanks to David Braben and his superb sequel they were able to get addicted all over again. Elite II is unmissable and you will love it.

Zool

Well it was about time. After every computer and console got their version of the world's greatest platformer a year ago, it eventually came to pass that Gremlin's biggest selling piece of software finally made it onto the ST.

The ninja from the nth dimension must jump, bounce and prance around six worlds of fast, frenetic platform fun. Each world has a theme and they range from Sweet world to the final setting in Funfair world. The speed of the game was very impressive, as was the abundance of bright colours.

Zool may look cutesy and suitable for kids, but adults out there won't find a tougher platformer than Gremlin's effort. On his travels Zool faces all manner of bizarre beasties including the huge end of level baddies. The action platform game of the year and nothing else could touch it with a barge pole!

Lemmings 2

Those fiendish green-haired suicidal Lemmings returned in 1993 and this time they're more suicidal than ever before! There is actually a plot this time around!

A magic talisman had been broken into 12 parts and spread throughout Lemsville. There are 12 tribes of lemmings, each inhabiting their own piece of lemming island. Every tribe needs to complete ten levels, upon which they are rewarded a piece of the magic talisman.

If you liked the animation in the first game then you're fall head over heels in love with the sequel. The animators have gone to town and created dozens of new comical situations. In the original, each lemming had eight different attributes, but technology has moved on and the green-haired ones are blessed with a further 46 abilities.

Lemmings 2 is twice as good and twice as fun as the original and is worthy of a place in everyone's software collection. Psygnosis have created yet another classic.

Chaos Engine

As a rule there's no-one better for producing high-class, top-quality computer games that the Bitmap Brothers and this two-player shoot-'em-up was no exception to the rule. The two players (either a chum or the computer) must battle through four worlds of hot shooting action.

You had to choose between six mercenaries from all walks of life including a preacher, a navvy, a gentleman and a thug. Each has its own different attributes and special powers.

The graphics are absolutely flawless and you can tell that it is a Bitmap Brothers product just by glancing at the screen.

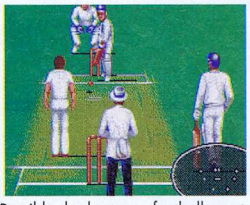
As with most Bitmap games there is a awesome soundtrack to boot with a smattering of sound effects. Addictive and as playable as hell itself, the Chaos Engine is one of the classiest products that your money can buy. Stylish, cool and a totally excellent shoot-'em-up.

Ishar 2

The sequel to the all-conquering, critically acclaimed RPG adventure from Silmarils was like a breath of fresh air to ST gamers this year. After being disappointed by inadequate adventures, Ishar 2 came on the scene and kicked ass.

Strapping on your sword and clutching your spell book, you must head for a set of islands with an all-new team of heroes as you try to defeat the evil Krogh and his citadel of evil. Ishar 2 is a must-buy and should of be at the top of every gamer's shopping list. The graphics are luscious and put most other adventures in the shade. Some of the later levels are a sight to behold. The music is quite atmospheric and there is no way I could fault the game on the playability and addiction fronts. Despite being a very old and tired format Ishar 2 shone like bright star in the darkened sky.

Graham Gooch's World Class Cricket



Possibly the best non-football sports simulation I've seen in a long time. Cricket as, to some people, isn't that exciting, but Audiogenic have produced a highly enjoyable piece of software that will appeal to cricket and non-cricket fans alike. One of the main plus points of Gooch's World Class Cricket is the fact that it is so easy to play. In the past cricket games have only appealed to fanatics of the sport and this factor unfortunately made them highly unplayable and very tedious.

The graphics are excellent and well presented and even the sound, a Caribbean calypso kinda tune, is quite good. There is plenty of joystick waggling going on and this system of control makes batting and bowling very easy to do. Incredibly addictive, highly playable and well presented, Graham Gooch's is the ultimate cricket game.

Championship Manager '93

It was as a bit sparse on the football game front last year what with Goal arriving in 94 and Sensible capturing the hearts of ST gamers in 1992. No decent arcade soccer games, but one management simulation shone out from the rest of the pack and this was Domark's Championship Manager '93.

Interlek's creation beat the pants off everything else for realism and accuracy. Graphics and sound weren't its strongest points, but it was just about as close as you're going to get to become a football league manager, unless you're one already!

Everything you think should be in a management game is in Championship Manager '93. Internationals, transfers, scouts, penalties, actual English and foreign player names are all in there which will please dedicated football fans and hopefully other games players as well!

Sleepwalker

Ocean do a lot of work for charidee, but they don't like to talk about it, instead they produce a brain-bashing platform adventure. Comic Relief returned to ask for some money for the needy and loads of you happy punters ran out to buy Sleepwalker.

Giving cash to those less fortunate than yourselves plus you got one hell of a platform game chucked in for good measure.

The game featured the talents of Lenny Henry, who was the voice behind the star of the game, Ralph the dog. His master Lee is a Sleepwalker and as man's best friend it's Ralph's duty to stop Lee from being zapped, bashed, clobbered, pummelled and squashed while he walks around with his eyes closed.

Sleepwalker is packed full of brilliant cartoon-style graphics, plays like an absolute demon and is so addictive that you won't be able to put your joystick down. A truly great platformer packed full of puzzles and action, plus you'll be doing you're bit for charidee.

The Secret of Monkey Island

Undoubtedly the bargain game of the year and the most magnificent budget that you're ever likely to clamp your mitts on. Thanks to US Gold's Kixx XL budget label you got the world's best adventure for a measly price of £16.99.

The adventure of Guybrush Threepwood is presented in loving technicolour, contains a unique sense of humour and is so playable you won't want to put it down until you've completed it.

I suppose there aren't a lot of people out there who haven't got the game, but for those unfortunates who missed out first time there hasn't been a better opportunity to splash your cash on a piece of software.

Monkey Island received a humungous 94 per cent, one of the highest scores of the year, and a morale boosting gold award as well.

OVER THE PAGE

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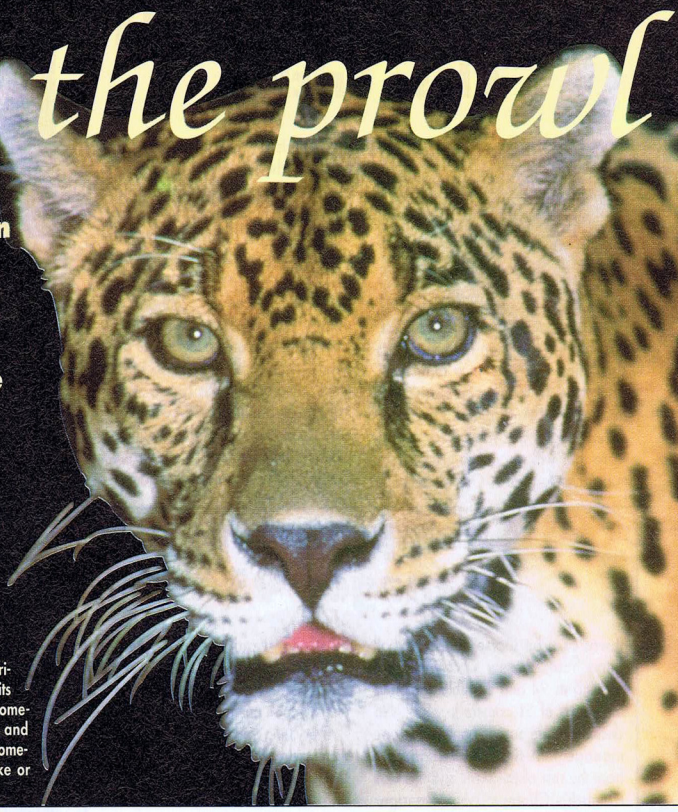
A full set of hints and tips to the first five levels of Millennium's classic platformer

On the prowl

Stealthily sneaking up on Sega and Nintendo, Atari's new Jaguar console looks set to take a giant leap into the limelight. Simon Clays takes a look



After years of being considered by some as offering a poor alternative to both the Japanese consoles and the Commodore Amiga, Atari are about to strike back.

OK, so the Amiga out-gunned the ST in many departments and really did kick its printer port right up the rump. But what the Japanese marketing machine did to the Lynx was nigh-on murderous.

It was a far superior machine to the Sega Game Gear in every department, but lacked the support of high power advertising and fell like a lamb to the slaughter.

However, what the majority of us thought could hardly occur might actually become reality. As far as its technical merits are concerned, Jaguar outguns practically everything on the planet.

Add the Jaguar's highly favourable price point and it seems that Atari have an enviable combination. But, as we've all learned since the evolution of the console, it takes more than an impressive set of chips to make a console a world beater.

There are a great many aesthetic factors to be taken into consideration, some of which may seem a little far-fetched to the layman, but which are of prime importance in the evolution of a machine.

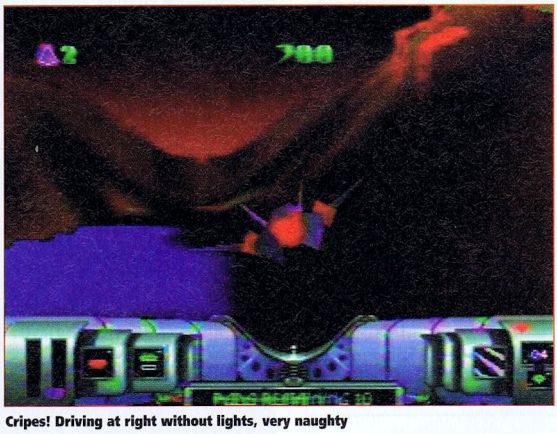
Indeed, corporations invest phenomenal amounts of money to research the correct recipe for things as far removed as colour. What's even more surprising is that with this level of market research and investment, companies still manage to release machines that don't have the level of appeal needed to make them winners. One only has to look at Commodore's latest 32-bit CD-driven machine, to realise that despite its relatively advanced technology, something stinks when you pick it up and attempt to use it. Unfortunately, something so benign can actually make or

GAME REVIEW

Behold, after what seems like an eternity in the waiting, it's finally here. Get ready for the first exclusive look at the game that comes bundled with the Jaguar pack, Cybermorph

CYBERMORPH

ACTION GOLD



Cripes! Driving at right without lights, very naughty

At last my dear Atari owners, after what seems like a lifetime in the wilderness spent wandering around a relatively empty void while Amiga and PC owners soaked up the limelight, we're back. And, we're back with such a vengeance that even the mighty PC owners are going to be left quaking in their 486-sized boots.

I have to admit that until I saw what Jaguar is capable of, I too was highly sceptical. But it really is ridiculously good for the money you're going to have to pay for it.

If the early software releases are a gauge of what things are going to be like, then we're going to see a revolution that sees Jaguar as the crown prince of the console empire.

When I first saw Cybermorph in its finished splendour I was literally gob-smacked. One goes from day to day in the computer software industry seeing a great deal of games some of which do make you sit up and think "that's rather nifty".

However, I've never been overcome in quite the manner I was when I saw Cybermorph. More than anything it demon-

break a product. However, I seriously believe that this time Atari have got it totally right in this department as well. The moment you even cast an eye on the packaging that Jaguar is caged in, you get a sense of something special and powerful.

The machine itself is a sleek, black animal, using a clever combination of high-tech space age technology and a softly moulded look that is popular in car interiors.

Although it's compact in size and height, Jaguar feels heavy and sturdy when you handle it. This strength leaves you with a feeling of security, and a sense that if you were to drop your precious machine it might possibly survive the blow.

Cartridges are inserted to the top of the machine and sit rather snugly next to a rounded undulation which will seat the CD drive when it's released later this year.

Forward of the CD housing is the power switch and a rather handy indicator light, which both speak for themselves.

Perhaps the most important part of any console is the feel and user friendliness of the control system. Atari have plumped for the increasingly popular joypad.

Those of us who have always steered clear of the Japanese consoles invariably find these alienating on first use, and struggle to ever find harmony with them.

When Jaguar first emerged, though, because the Jag-pad feels far superior to any of the aforementioned.

The most impressive thing I noticed was its cleverly crafted shape which feels completely ergonomic, and doesn't leave you with cramped up hands like so many

some criticism was made of the look of its joypad. However, having spent some time using this system I would beg to differ.

The pad is quite large in comparison to the CD32, Nintendo and Sega control pads. This shouldn't be seen as anything bad of Jaguar's inferior counterparts. It also feels more solidly built than the other joypads and is less likely to break when it's inevitably dropped on a surface.

On the button front, Jaguar is more than adequately catered for. It boasts a total of 17 buttons and a four-way directional pad, which will render Atari's machine capable of the most complex of flight sims and adventure games.

In terms of layout, the Jaguar has a 12-button keypad reminiscent of the way a telephone is displayed, with the clever facility to slot in an overlay for keypad recognition.

Above the keypad sits the four-way directional controller, the pause and option buttons and A, B and C buttons. The amazing thing I found when playing was that although it sounds a hellishly dextrous feat, the Jag-pad is remarkably easy to use.

Using two hands the pad is easily accessible to all your fingers and thumbs, remaining incredibly comfortable without causing any stress or cramp – although it remains to be seen how a small child might cope.

Overall what we have in Jaguar is incredibly exciting. It looks better than any of its counterparts, it feels more durable than them, it's more practical and natural to use than them and most importantly the hardware and software potentially kick Commodore, Sega, Nintendo, Philips and 3DO into the gutter. Nice one Atari, I think eight out of ten owners are going to prefer this cat.

strated the sheer power of the machine and its immediate superiority to anything else you'll see.

I really could enthuse over the power and future of the Jaguar for all the space I'm allowed, but I can't so we'll move on to the plot of Cybermorph.

Far off in the future a galactic war has broken out. Both sides are technologically equal thanks to robotic assistance. However, the evil Empire has captured the majority of your weaponry, supplies and information and has them locked securely in pods throughout various planetary systems.

UNIQUE FIGHTER

Even some of your top designers have been placed in cryogenic suspension and encased in the aforementioned pods. Fortunately, your forces have a secret weapon tucked neatly up their neoprene sleeves. The Cybermorph Transmogriffin or T-Griffin is a unique prototype attack fighter.

As the name suggests, the T-Griffin is capable of morphing itself into various shapes to render it more aerodynamic or better protected from enemy fire.

Though restricted to planetary atmospheres, it is capable of hugging terrain at incredibly high speed and can also hover and fly backwards. This sounds remarkably like a helicopter, but rest assured it's a whole lot more.

I mean, how many choppers do you know that can take a severe battering and then regenerate the damaged parts? Or have an onboard holographic agent to keep you up to date with battle data, enemy locations and planetary activity? Not many I'll bet...

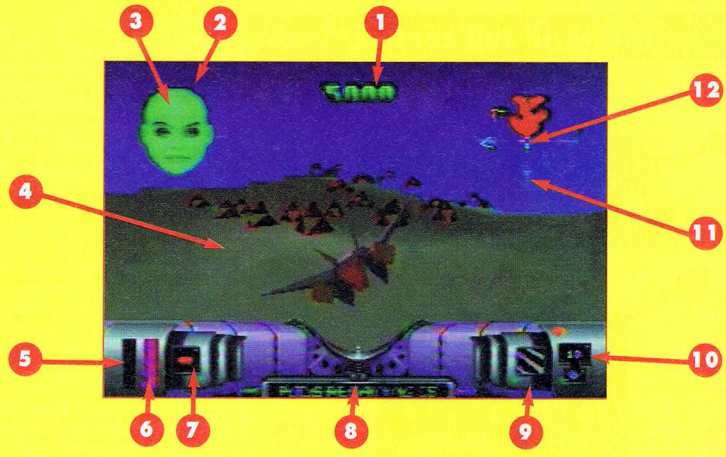
So, with all this hi-tech equipment, your simple task is to collect these vital pods from the surface of planets, thus revitalising the beleaguered resistance forces.

Having collected the necessary number of pods from the planet surface Skylar (the hologram) activates the retrieval code and opens a beam portal which transports you to the next sector. I've read with some interest various comparisons and references to Cybermorph being a 3D defender-type game.

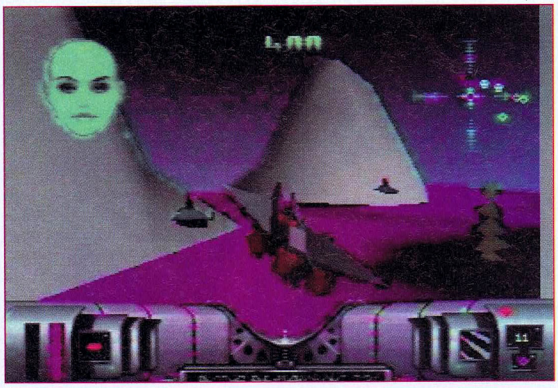
In some respects I understand why this comparison has been made, because in its simplest essence Cybermorph is that way inclined, but I must stress it looks nothing like a Defender clone and has substantially more about it.

The game totals a massive 50 levels and is divided into what are best described as systems. In each system you must clear five ➤

At a monitor near you...



1. Score
2. Number of ships
3. Skylar
4. Crosshair
5. Speed
6. Shield meter
7. Twin shot, three-way, cruise bomb, mine and incinerator
8. Message window
9. Super weapon
10. Pod counter
11. Altimeter
12. Scanner



That bald bird at the top's a dead ringer for Sinead O'Connor

It's a funny old game – one minute driving along minding my own business, next second I'm attacked by a massive Demon's head

➤ planets, find one secret world, access another through a bonus ring and tackle a world which contains an end-of-level guardian.

If you are successful in freeing a system then the resistance has a stronghold on which to base itself and you are able to move on to the next set of zones.

To really gauge the vastness of Cybermorph, it's best to examine the graphical worlds which go to make up the play area. Each planet is rendered in glorious technicoloured 3D fractals and features an effect known as garaud shading.

What this does is sits an artificial sun in the sky and shades all areas which are not in direct sunlight to varying degrees. The overall effect is amazing and has to be seen to be believed. It brings a whole new level of realism to the landscape and brings a refreshing breath of fresh air into the 3D genre as you've seen it before.

What's also amazing is the pace at which the T-Griffin speeds across this complicated alien environment, it looks and feels truly magnificent as you swoop around the side of a fractal mountainside.

Unfortunately you can't spend all day gazing at the scenery and there's a job to do. However, the aim of your mission is disrupted as much as possible by the many different types of Empire craft that inhabit the planets. These do their utmost to destroy both the T-Griffin and the pods you are trying to rescue. Some alien craft transport the pods to special areas much as a goods vehicle would.

These special areas are close by to Vortex towers, which emit a pollutant causing mass genocide of your pods by infecting them.

There are a vast array of enemies to pit your wits against. There are Kamikaze craft which throw themselves at your ship in the hope of damaging it and Pirates which fire missiles and then flee.

You also get crabs which bury themselves in the ground and then pop up, worms which camouflage themselves as the terrain and biospheres which cling to the ship and drain your energy.

Worst of all are the infamous level guardians like the Headhunter which apart from being intelligent can sink into the ground and re-emerge on the other side of you and attack.

PUZZLE

This really is the tip of the iceberg though, as there are at about 30 different aliens to defeat. As if that wasn't enough there are also Needles which thrust themselves out of the ground in an attempt to bring you down, prisons which ensnare your pods and forcefields which stop you entering various areas.

This is the puzzle aspect to Cybermorph as you must find the power supply to these systems and destroy them to proceed further.

Inside the T-Griffin there's a whole host of goodies awaiting your grubby mitts. For one, you have the ever helpful Skylar who operates a host of portals and equipment and generally gives you encouragement by way of some beautifully sampled speech.

You also have a rather nifty scanner which directs you to the pods, exits and also tells you where the nasties are hanging out. The display also features everything else you'd expect of a quality spacecraft like speed, optional targeting crosshair, altitude and many more.

What you're itching for me to tell you about though is the impressive array of firepower available to you. You start with a fairly mundane single shot and most of the others are generated through having collected the pods that litter the planet surface, rather like power-ups.

There really are some pretty awesome weapons of destruction available to you. These can either build up your present weapon giving it rapid fire or double shot, or you are given extra weapons.

For example, the Incinerator shoots a deadly ball of flame, whereas Cruise Bombs hug the terrain before wreaking havoc on their target.

If that wasn't enough, Cybermorph also features three super weapons: Thunderquakers which act like a smart bomb, Detonators which destroy all buildings in a vacinity and nitros which grant you a moments increase in speed and a high intensity shield for protection.

Cybermorph not only looks beautiful, it really plays superbly as well. The control through the joypad is a treat to use and doesn't take to long to get used to.

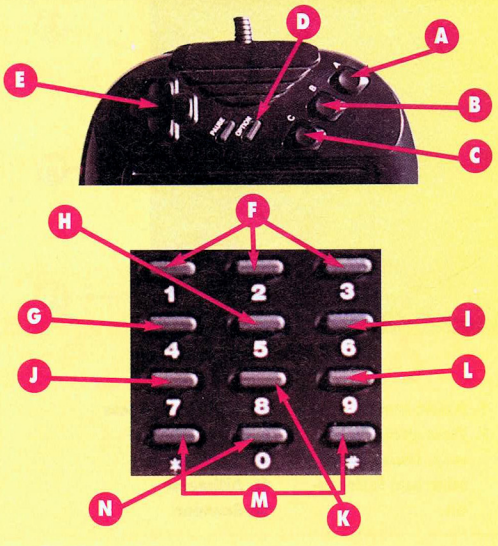
WAY AHEAD

Play is varied enough to keep you coming back for more, a taste of success will have you addicted in no time at all. I only wish there was more space for me to write more because I've not spoken about the fact that you can reconfigure the controls to suit yourself or the external views which make it possible to see the T-Griffin morph as it speeds up and slows down.

Cybermorph is a superb title to launch Jaguar with, it outstrips any other console package by light years. It looks great, sounds great and plays exceedingly well. Well done to ADT who've done a great job and roll on Battlemorph, the sequel.

SIMON CLAYS

You're in full control



A. Forward thrust
B. Fire weapon
C. Brake/backward thrust
D. Toggle main weapon ordinance
E. T-Griffin control
F. Super weapons
G. Toggle crosshairs
H. Forward view
I. Cockpit view
J. Left view
K. Rear view
L. Right view
M. Game reset
N. Music toggle

VISION ★★★★★★★★★★

AUDIO ★★★★★★★★★★

DIFFICULTY ★★★★★★★★★★

LASTABILITY ★★★★★★★★★★

95%

Being the fist Jaguar title it's very difficult to mark Cybermorph against anything but other platforms, and so immediately outguns everything we normally review within these pages. Super slick 3D and engrossing play make Morph an absolute treat.

Publisher ➤ Atari
Developer ➤ ADT
Price ➤ Bundled in Jaguar package

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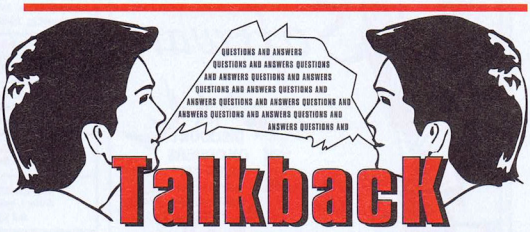
Welcome to the page which is to taste and intellect what Bobby Davro is to comedy and music. Dave Cusick is your host...

If you've something to say, put pen to paper and write to the Techmeister himself...



Send you post to : Mr TalkbacK, ST Action, Europa House, Adlington Park, Macclesfield SK10 4NP

Mail order crooks?

About three months ago I sent away for Zool for my 1040STE from a mail order company.

I'd seen their advert in another ST magazine for several months and I thought they must be reasonably reliable, so I gave my dad the money and he wrote out a cheque for me and I sent it off.

About two weeks later the cheque was cashed, but so far I've still seen nothing of Zool. About a month after I ordered it I wrote again to the company, but they didn't reply.

They didn't give a telephone number in the advert so I haven't been able to ring up and pester them about it. What should I do?

They've got my money, which took ages to save up, and I've not got my game yet.

Graeme West, Aberdeen

In situations like this it's very difficult to know what to do. Since they've cashed your cheque they should indeed have sent the game and since they haven't they are breaking the law.

Try writing again and if you don't hear anything back within a week or two, I would try contacting the local trading standards office to see if they can help.

There's a lesson to be learned from this story. Always try and use companies that friends have found reliable or that you've used yourself in the past.

You don't say which magazine you saw the advert in; you should always make sure that the magazine has a policy of not allowing adverts from just any old company.

For extra help and advice turn to the special Mail Ordering feature in this issue.

How do we do it?

First of all, well done to everybody involved in *STA*. I like the new writers and style and I'd just like to say keep up the good work.

The other thing I was meaning to ask is about how you actually put the magazine together. Do you write all the reviews on an ST? And how do you get the pictures of the games as well?

Daniel Roberts, Manchester

We're all so chuffed with your compliments, Daniel, that we shall indeed enlighten you as to the intricacies of our production process. Obviously we play the games on an ST, but we have to write the reviews and lay out t he pages on Apple Macintosh computers because these are the industry standard machines.

We "grab" the screen pictures using a hardware device which connects the ST to the Mac. When we flick a switch on this device and press a key on the Mac the picture which is on the ST's screen is "grabbed" into memory and appears on the Mac's screen. This can then be saved and imported into the publishing software on the Mac for incorporation in the layout of the pages.

Since freelance work is done at home, however, it is often written on the humble ST and saved in a format readable by the Mac publishing package.

Golden oldies

I've noticed something of a trend in the public domain recently. People are resurrecting old games, adding smarter graphics and so forth. In the last few months I've seen Galaxian (brilliant space invaders clone), Rayoid (great asteroids clone), Pacman and many more.

Quite frankly, I'm happy as larry to see these classics given a new lease of life, especially since they only cost a couple of quid. I'm just waiting for a PD or shareware version of Frogger, because I had a version of it for my Acorn Electron which was brilliant and I'm sure my STE would make a great job of it. Maybe the blokes who came up with that lovely STE-only version of Pacman are listening?

R Felton, Derby

I agree, it is nice to see such classics doing the rounds again and reaching a whole new audience of younger gamesplayers. It's surprising just how many good games have started appearing in the public domain, so you'd be well advised to monitor the PD pages carefully for the latest developments. Some of the games are better than commercial efforts, and they cost about a tenth of the price.

The Poor Corner

Disk Ditty

There's Sony disks and Agfa disks
and Select disks and more besides
There's TDK and 3M disks
and even ones with double sides
There's cheapy disks and branded disks
and HD disks with holes both sides
And 5 inch disks and 3 inch disks
and 3.5 for ST drives
There's silver disks and orange disks
and bluey disks and black ones too
There's greyish disks and reddish disks
and yellow ones and green for you
There's floppy disks and hard drive disks and optical types on sale too
But one thing that still baffles me
is why they break when smeared with glue

Ulrika Jenkins, London

Dodgy Salesperson Jobby

As I went wand'ring through the woods
I met a man selling shoddy goods
His table was filled with machines
Obtained from sources by dubious means
He grinned and winked and smiled at me
And asked a fiver for an Atari ST
I could not believe my eyes
I leapt with joy and some surprise
I dug down deep and found the dough
And raced off home, my friends to show
I wanged a disk into the slot
And all at once I was besott ...ed.

Ray Stinson, Lancashire

Sad Ode to the ST

Gloria Gaynor said she'd survive
But she wasn't as pretty as that 3.5 drive
Rod Stewart sung of Sailing 'cross seas
But he ain't a patch on springy grey keys
Gollum asked about Bilbo's pockets
But he's not as cute as those Midi sockets
And as for those holes where jo sticks dock
Into those I thrust my Quickshot 2 Python.
Why, what what else would I stick in there?

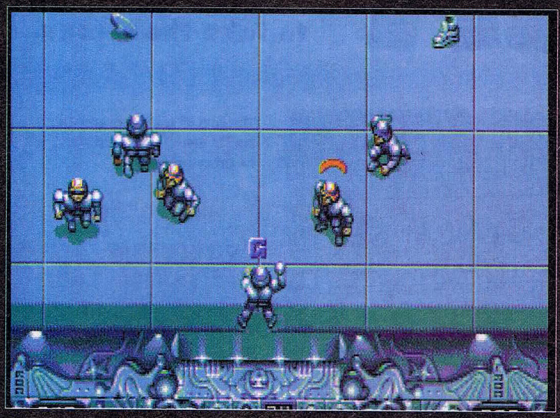
Steven Crays, High Wycombe

They really do get sadder each month, don't they? Ray and Ulrika's efforts were poor enough, but I can honestly say I don't think we've yet had a poem as dire as Steven's little ditty. If you think you can do better (and let's face it, it's not difficult), drop us a line here at STA towers.

"Champions, Champions!" Drunken revelry with the boys

BUDGET ACTION

Take control of Brutal Deluxe, attempt to hit a metal ball into a goal and punch the living daylights out of your opponent — or be a right big girl's blouse!



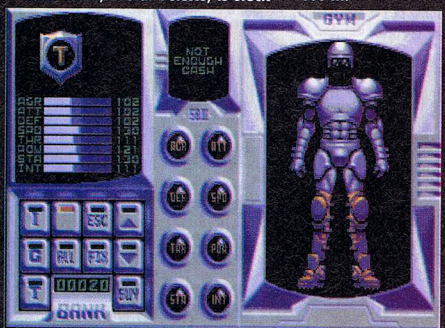
Metal-plate head Grobbelaar makes a great save. Funky moustache not included

SPEEDBALL 2

Welcome to the year 2100, and Speedball 2 is back. Five years of being forced underground it returns, thanks to the creation of the Speedball Players' Association and the newly formed 16-team World Speedball League. But still it remains as violent as ever.

Your team, Brutal Deluxe, is stuck at the bottom of the WSL's Division 2, but now you're in charge and it's your chance to make them great. Dare you take up the challenge?

The object of the game is to score points by lobbing a metal ball into your opponent's goal by any means possible. This includes beating the pulp out of your rival if you see fit.



The Gym Screen, and there's not enough cash to buy those cool Bitmap shades. Aah, shame!

Simple huh? Well, this is not to mention all the bonuses you need to acquire, crucial to the outcome of the game, or that you need to build up your team with the many attributes available and create a strategy.

You can choose between Knoc-kout, League or Cup matches, or practice mode if you feel your team need some training. The games are played over two halves, each one lasting 90 seconds. Points can be gained by scoring a goal (ten points), injuring an opposing player (ten points), or through the score multiplier; this can increase your score by up to 100 per cent by simply throwing the ball up a ramp, but can be cancelled out by the other team.

You can also increase your points by throwing the ball against Bounce Domes or lighting the stars located on the stadium wall.

Bonuses can be collected on the pitch and fall into two categories: tokens and armour/weaponry.

Tokens effect the entire team and most of them are fixed by a time limit of six seconds. These can help you in a variety of ways. For example, Freeze Team will freeze opponents for a limited period, and Manic will increase both teams' attributes to a maximum. Armour and weaponry can also be picked up to increase individual player's attributes. A Chestplate will increase defensive ability, Bitmap Shades will enhance aggression, a Glove will increase power and so on.

Through the management side of Speedball 2 you can build up your squad of 12. Buying and selling your players while increasing their attributes can prove vital to your success.

The Gym screen will allow you to train individual players or the whole team. A player's attributes determine their individual strengths during a match and can be changed through this screen.

Players attributes are rated in eight ways. Aggression defines whether players will attack or avoid their opponent and Defence determines how hard it is for someone to take the ball from you, for instance.

The moves are easy to master and the simple joystick controls make controlling your players easy. A certain amount of aftertouch can be applied to direct the ball in the direction you want.

The rapid gameplay makes for an exciting sports game. There is plenty to keep you amused for quite a while. If you manage to complete the League, there are always the cup matches - knockout tournaments consisting of four rounds played over two legs, and if all this gets too much you can always grab a friend and play a two-player match.

The futuristic theme is taken up in the attractive appearance of the game. The metallic-looking sports arena is clearly set out and so none of the action is missed.

The sound track is good and it's a shame that the music could not be continued throughout the game instead of rather sparse sound effects.

All in all though, it's a great game with plenty of action and the management side of having to develop a strategy and build your team adds variety.

TINA HACKETT

VISION	★★★★★★★★★★
AUDIO	★★★★★★★★★★
DIFFICULTY	★★★★★★★★★★
LASTABILITY	★★★★★★★★★★

Fast, furious, futuristic sports action, with a management strategy angle to it. Great stuff!

85%

Publisher ➤	Kixx
Developer ➤	The Bitmap Brothers
Disks ➤	1
Price ➤	£9.99
HD Install ➤	N/A
Size ➤	½ meg

GENESIA

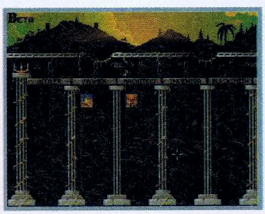
Populous and Civilization may have reigned for a long time now, but there's a new kid in town called Genesia and he's here to take the throne...

Over the years the God game has become more and more popular. There haven't been many of this type made simply because of the amount of programming and knowledge that it takes to produce the piece of software.

Populous 1 and 2, Powermonger, Civilization and Sim City have all been tremendous successes on the ST, but why has the genre become so popular? Well for starters you get to play God. What other reason do you need!

You rule a piece of land or even a whole world and get to control everything including

The map of world one and the land is there to be conquered, so get conquering!



Before your adventure gets underway you must select trades for all your inhabitants

Fire! Somebody call 999. Oh damn, telephones haven't been invented yet!

messing and enhancing people's lives. Does this mean that God is sitting somewhere at a ST with mouse in one hand and copy of Populous in the other?

Then again this means God must have created the people to make Populous and therefore is the life we're leading in fact just a small insignificant part of a very huge and complicated computer game? If God created us then who created God and do we actually exist anyway and why am I losing track of what I was going on about?

Ah yes, why has this genre become so popular? Another reason could be that older players are getting into these super-intelligent God games. Kids leaving their computer on may well find out that Mum or Dad could be controlling whole worlds having given up on trying to control their kids.

This is due to the universal appeal of the God game. I personally don't know anyone who doesn't like Populous. They are very intelligent, strategy-based games, but this doesn't make them boring, they are perhaps more rewarding than other types of software.

In most God products you get to control people, you must combat natural and unnatural disasters and so the whole point of the software is to survive. The ability to say that you survived is a pretty awesome achievement.

One of my personal favourite God games is Sim City. This is due to the fact that you have a choice on how to play. You can build up your city and try to complete an objective or you can just sit down at your monitor screen and fiddle endlessly with your city at your own leisure.

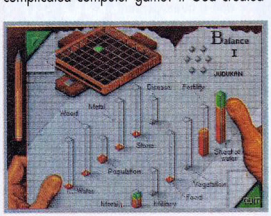
These games all seem to transport you to another world where you can easily lose track of time plus you don't have a set time in which to complete the game. By saving your position you can come back to your world or city whenever you like. All in all each God game provides a welcome and relaxing break away from some of the monotonous platformers and shoot 'em-ups.

Populous and Civilization have dominated the field for a couple of years now, but coming to your power-crazy clutches in the first part of 1994 is Genesia.

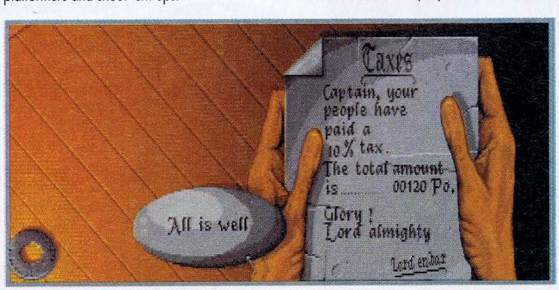
Genesia is being published by Mindscape and you play the part of leader of your own small land, the slight problem being that the small is way too small for your liking and ambition. You must expand your land and populace in tune with nature, paying attention to the climate and managing resources such as water and timber.

There is an objective to Genesia and that is that you must recover seven missing jewels as quickly as possible. The strength of your economy, army and technology will enable you to fulfil your goal.

It's not going to be easy though because you are up against two opponents who are just as intent on recovering the jewels as you are. The other two players can either be



One of the nice and helpful balance sheets to keep you informed on how you are doing in your quest for the seven jewels



Yes even in computer games you have to pay your taxes. I'd blame the Tories and hey who wouldn't!

The work has begun on the land. Three houses are already built and the farmer has started on his field

The warehouse has been built and I can now store all my supplies there

played by the computer or by your human friends.

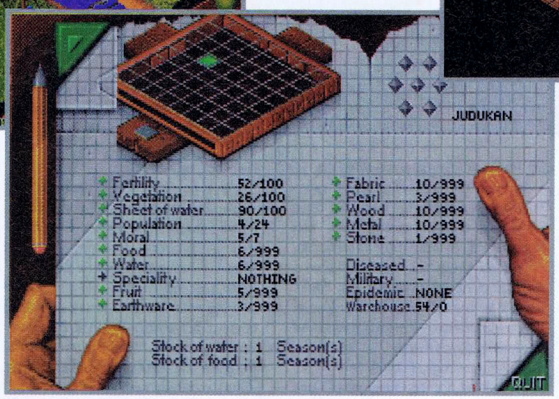
Once found, the jewels can also be subsequently lost, so your task is not as straightforward as it seems. You win by being the first to recover all the jewels or if you're the only player left standing.

Before the action starts you have to choose between five different worlds. Depending on the one you choose, the computer will apply a specific policy plus the game's configuration will be different and have its own strategy.

You begin the quest with four inhabitants. Each owns a house and must be given a trade. These range from farmers to inventors to blacksmiths. Every job to build a living populace is in there.

The choice of trade must be made wisely at first. For instance it's not worth choosing a carpenter if you haven't chosen a woodsman to cut down the trees. The inventors play a particularly crucial role in helping you fulfil your mission because they invent machines to help you win, but first you must build them a workshop. This means that you need a woodsman, a carpenter and an architect before you can even begin to think about achieving your final objective.

Buildings are important in the game, but useless if you don't keep the surrounding land in order. You must have good water supplies, which means wells must be built. Fields must be sown to enable farmers to grow crops to feed your workforce and so it goes on.



The second balance sheet which is similar to the first, but uses figures and words rather than the bar graphs

The first aim is to build a small village, so that you can attract enough people to live there and then hopefully use them as your army, so that you can wander the land to find the jewels and defeat your opponents.

To lure people onto your land certain factors must exist. This next bit might sound like a Blue Peter cookery lesson, but you will need a vacant house, enough food and water, a morale rating over 5, no epidemics and no battles should be in progress on your land.

Genesia has so many factors and decisions to be made that I could spend ages detailing them all, but lack of space prevents that. It is so in-depth that it will keep gamers entertained for a long time to come.

Genesia is based on a "turn" format. You must make all your decisions and then end your turn, so that your opponents can have their go. Each turn represents one of the fours seasons (spring, summer, autumn and winter).

Not only does this allow for some quite brilliant graphics in the game it also casts up another range of options and decisions to consider. For instance in summer fires will start, land will be scorched and water supplies will be low. In winter all outdoor activities such as farming, lumber and carpentry must automatically come to an end due to the harshness of the weather.

Genesia, although similar in style to Populous, has some nice little features. One of these is the balance sheet which provides all manner of information on how you are doing in your quest. Not highly original, but it's quite often these little touches that improve a game from being mediocre to excellent.

It seems to combine two elements of gamesplay which have been previously featured in its competitors. The first is the ability to sit back and slowly build up your settlement from nothing while the second is the objective which must be achieved to complete your quest.

These two elements, combined with its amazing graphics could well see Genesia becoming one of the strategy/God games of 1994 and maybe even surpassing its predecessors.

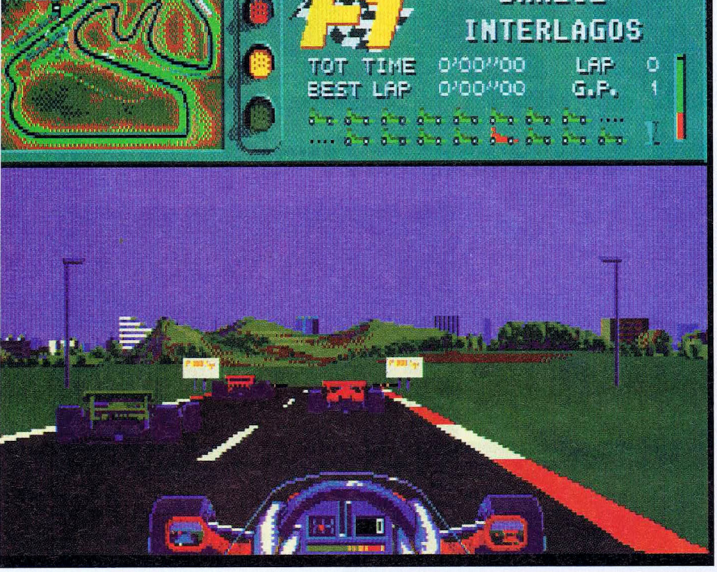
Sleigh bells ring... are you listening! Snow falls over the land and the inhabitants have built some snowmen!

This menu allows you to build. I've decided to construct a warehouse

Project: Genesia
Publisher: Mindscape
Programmer: Thomas Zighem
Graphics: Thomas Zighem, Antoine Rodelet
Sound: Jean Alexis Montignies
Initiated: 1993

INFORMATION · FILE

Release: Early 1994



On yer marks, get set, oh, go on then wiggle that joystick

At long last it's the green The ideal opportunity to ta on the mantle of Mr Mansell! Just blame everybody for everything, including all own mistakes, and generally suffer from a strange accent...

It's a strange old world isn't it? How many times punters, have you had *déjà vu*? I'd guess probably a few times, but not as many as yours truly, who sees replicas of the same game ideas repeated several times a week.

Oddly enough, the most common clone of all is the car racing game. After all if you make a bog-standard platformer, at least the character can look slightly different from the last you saw.

But in the racing circuit, there's only one definitive set of tracks, one set of cars with the same markings and one set of named drivers.

As a rule, car races are the type of game I've always revelled in, but there does come a time when a genre becomes "tyred" and the proverbial "exhaust" becomes exhausted.

This is not to say that there hasn't been a boot-load of classics along the way. You've only got to take a little look at the likes of Formula 1 Grand Prix or Vroom to appreciate what a dassy racing game's driving at.

Uncannily enough, the link here is that Domark's latest offering to the games world is programmed by non other than Lankhor, the people behind Vroom.

I don't know how many of you remember Vroom, but let me tell you it was a classic. French software house Lankhor worked wonders and probably produced the fastest Formula 1 racing game ever for the ST.

Well, now they're back with their second offering with the full and unadulterated approval of the motor racing sports governing body, the FIA. What this means is that the game can feature all the official tracks, drivers, constructors and advertisers.

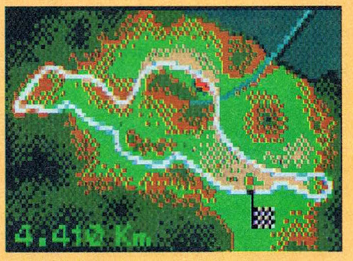
Someone please correct me, but bar the odd name, everyone's used all of the above without the official recognition of their product, so I don't think it means that much. However, it's a nice touch I suppose, and will no doubt help F-1 to sell a tad more easily.

That said, the proof is in the pudding and it's the play and look that will determine the success of this release. So with this in mind let's don our overalls, walk gingerly over to

TRACKS OF MY TEARS

BRAZIL – Interlagos
A demanding but rewarding circuit with two top speed straights. Spend too long having tyre changes and you'll be surprised how quickly your opponents catch up

SPAIN – Barcelona
This is a really hard course with corners that appear to rush up on you from nowhere. An important track to keep your eye on the circuit map at the top of the screen



CANADA – Montreal
This Grand Prix will put a tremendous amount of pressure on both your tyres and brakes. Try to remember your braking points so you're not caught out by some of the slower corners

SAN MARINO – Imola
Here's a track that will having you driving to your limit. The course is very fast, but try to remember where the chicanes are as they'll require some hectic braking

MONOCO – Monte Carlo
Probably the most famous circuit in the world. Raced on the streets, you'll find qualification as important as the race since overtaking is really tricky

FRANCE – Castelet
Situated between Toulon and Marseille, Castelet has one of the most spectacular chicane sections of any motor racing circuit, that has to be experienced to be believed

ght.
e

the pits and find out whether F-1 is a blow out on the first lap, or a model snogging, champagne-spurting winner.

Playwise everything begins in the Options menu, where you determine the type of race you want to run. You can decide to train on any of the 12 tracks that form the world championship, to familiarise yourself.

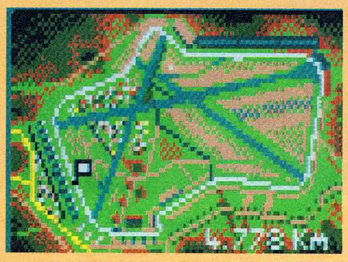
You can also select an arcade version of F-1 which puts you on the self same tracks, but asks you to overtake an increasingly larger number of cars to qualify for the next circuit. Last, but by no means least, is the full blown World Championship mode. This puts you up against all the top drivers vying for points over all the world's top circuits, or allows you to choose an individual track to compete on.

Success, as usual, means points for prizes, with a win giving you ten points towards the drivers' championship and the same number going to the constructors in their battle to be the best.

As usual in this style of title you can adjust the skill level to render it playable in the early stages and to give you some challenge once you've mastered the control and courses.

Skill levels can be adjusted between the indestructible cars that the novice drives, right through to the hyper-sensitive, lightning fast cars of the experts.

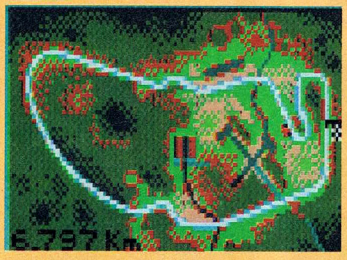
You also have the option to alter the wings of your hot rod, and much of this depends on the track on which you are competing. For example, setting your wings in a low position gives you less drag giving you a higher top speed, whereas a high setting operates in reverse and makes you stick glue. You also have the opportunity to



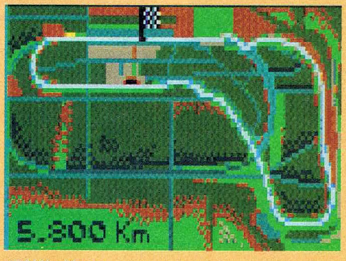
BRITAIN – Silverstone
Silverstone has been recently revised because it's just too fast. Now the circuit is one of the one of the most challenging around with fast sixth gear straights leading to tight second gear corners

BELGIUM – Spa
A popular circuit for drivers due to the precision required to hit fast lap times. However, it does contain a particularly dangerous first bend as the cars rush away from the grid

PORTUGAL – Estoril
A circuit comprised of long sweeping bends. Overtaking isn't too difficult as long as you are prepared to leave the racing line and drive around the outside of other cars



GERMANY – Hockenheim
A dangerous forested circuit which is mainly made up of straights. Your car should be aligned to a low downforce setting, and don't forget to watch out for some pretty sharp bends



ITALY – Monza
The most incredible part of this track is the top gear Parabolica corner which leads onto the start-finish straight. Getting this corner correct and you will reach fantastic speeds

AUSTRALIA – Adelaide
A street circuit which may have you wishing you selected an auto gearbox. Setting the car is a difficult task on this course as it contains both long straights and extremely twisty sections

The two-player option gives you the chance to battle it out against a pal

Err, I'll have a packet of crisps, a box of matches and a paper, please

change your tyres, the gearbox and just about everything else conceivable. In fact, one of the only things you can't change is your underwear after you've careered into an ad hoarding.

Once you're on the grid you can elect to qualify or go straight into the actual race. Attempting to qualify is probably the best policy as you have a chance to improve your position on the starting grid, rather than the default position to the rear of the grid. After all the preparation work, it's finally time to test your skill and nerve in the race. Graphically, F-1 is very similar to its older brother Vroom, and has the same feel as it.

This is by no means a bad thing, as Vroom not only looked good, but moved at a tremendous rate of knots. If you'd like proof of the speed of F-1, just select the Turbo mode and watch your car fly around the track.

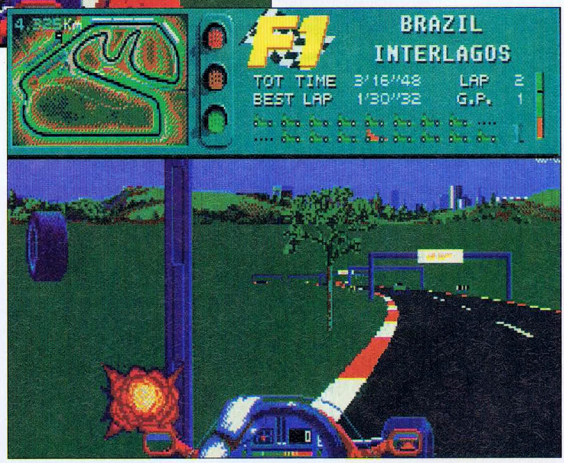
If you have any trouble during the course of the race then you can enter the good old pit lane. Here you can get your mechanics to break into a sweat, changing your tyres or refuelling your sporty motor.

However, time being of the utmost importance in the hi-tech world of motor racing, you've no time to get yourself a nice munchy bar or glance at the over-priced tapes, it's straight back into the race.

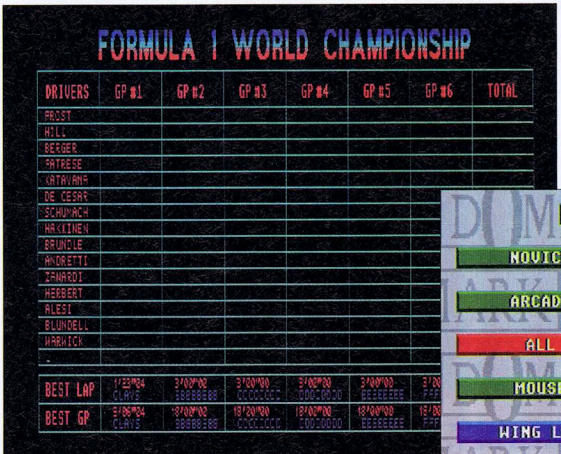
Perhaps the best option of all is the two-player split screen game. This allows you to race against not only the other competitors, but also one of your mates.

To a large extent F-1 is very similar to its older brother Vroom with a few alterations. This said, it's a quality product and runs extremely smoothly on the Atari. In fact, I'd go as far to as to say that F-1 could become the definitive arcade racer on the ST.

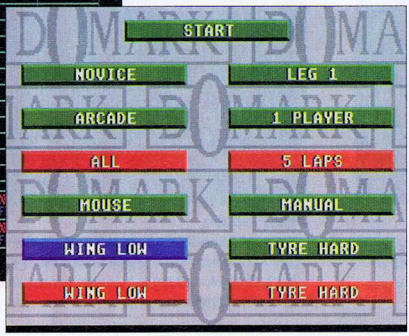
SIMON CLAYS



Well, at least you can't clamp my front wheel now



Here's the bit of paper that Murrey Walker reads from on a Sunday afternoon



This is the options screen which is almost as interesting as that top Brummy whinge-bag Nigel Mansell

VISION ★★★★★★★★★★

AUDIO ★★★★★★★★★★

DIFFICULTY ★★★★★★★★★★

LASTABILITY ★★★★★★★★★★

Nice graphics coupled up with brilliant play, make F-1 a must for all lovers of a quality arcade racing title

88%

Publisher ➤ Domark
Developer ➤ Lankhor
Disks ➤ 1
Price ➤ £25.99
HD Install ➤ No
Size ➤ 1 meg

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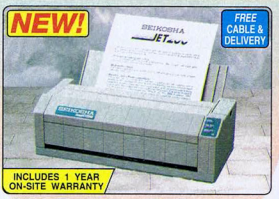

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300 CPS 80 COLUMN

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MANGA

Time once more to turn into Barry Norman and review the latest batch of Mangas, and why not? Jonathan "Square Eyes" Maddock settles down with his popcorn for a feast of Japanese animation entertainment

Tetsuo 2: Body Hammer

Despite the "2", *Tetsuo 2* isn't a sequel to *Tetsuo: The Iron Man*, but is more a re-invention and re-make. For those not aware, the Tetsuo series of film were made by a young and highly acclaimed Japanese film-maker called Shinya Tsukamoto.

Shinya has been compared to David Lynch (*Eraserhead, Twin Peaks, Blue Velvet*), David Cronenberg (*Videodrome, Naked Lunch, The Fly*) and Ridley Scott (*Alien, Blade Runner*).

This is probably down to the fact that his films are so weird, but he does have wild and original visions all of his own. *Body Hammer* starts with the abduction of a happy family man's child by a deadly group of skinheads. In the struggle the man (Tomoroh Taguchi, star of *Tetsuo*) is injected with metal.

Haunted by violent nightmares and experimented on by the gang's vicious leader, the man finds himself turning into a ferocious cyber-gun. Full mutation follows and a savage battle ensues between Taguchi and the gang's leader. *Body Hammer* is quite brutal and disturbing at times, but because the film is so bizarre you can't stop yourself watching it. The camera work is unusual and you get odd angles and view-points, but it does work surprisingly well, especially the energetic and often dizzying chase sequences.

The special effects are excellent and very effective. You could compare *Body Hammer* to films like *Blade Runner* and *Terminator*, but *Tetsuo 2* is just that bit more dark and bizarre than its western counterparts. It's incredibly weird and not for people with weak stomachs, but *Body Hammer* will become a cult classic. A must buy for fans of the original.

Certificate: 18
Year: 1991
Running Time: 83 mins
Price: £12.99
Action Rating: 9/10

Judge

Certificate: 15
Year: 1993
Running Time: 50 mins
Price: £8.99
Action Rating: 7/10

The star of *Judge* is a quiet office worker called Ohma. Ohma looks like a bit of wimp, what with his mop-top hair-cut, geeky glasses and weird pet parrot, but he is in fact the all-powerful Judge of Darkness.

The wrongful dead continually seek retribution from within the spirit world for the crimes committed against them. The justice they seek cannot be decided by ordinary law, but instead is contested via the Law of Darkness.

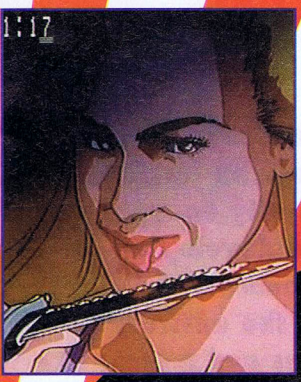
Their pleas are communicated through the Statute Book, a living, breathing collection of judicial precedents recorded on human skin and is controlled by the merciless Judge of Darkness. The Judge hands out his sentence in various gruesome ways via the pages of the book.

The living have one defence against this powerful system and his name is Shimon, a man who is a sort of religious attorney entirely motivated by money. Ohma's boss, Kawamata is accused of killing his best friend, Yamanobe.

Yamanobe is also a major threat to Kawamata and could become the head of the company. What ensues is a court room battle held in the Supreme Court of Darkness between the Judge of Darkness and Shimon and in fact you could be forgiven for thinking that this could become a Manga version of *LA Law*.

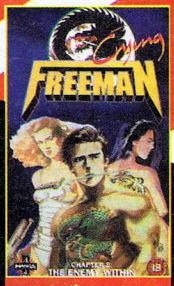
Judge is a sinister thriller and very entertaining. Unlike other Mangas it's not too violent, but it is still animated to perfection. The only thing I found wrong with it was that it's a bit too short. By the time I'd got really into it it was just about ready to end.

Judge is a good Manga and highly watchable, but lacks that something to make it a classic.



Crying Freeman

Chapter Two: The Enemy Within



Certificate: 18
Year: 1992
Running Time: 50 mins
Price: £8.99
Action Rating: 9/10

Part two of the Crying Freeman saga. The beautiful Emu and Freeman Yoh have now been joined in holy matrimony and have been chosen to lead the 108 dragons. The dragons are an elite fraternity within the Chinese Mafia and are constantly moving into a new era of bloodshed, extortion and vice.

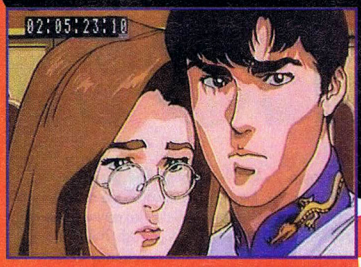
Mysteriously the new regime of the 108 dragons comes under attack and questions are immediately asked to whether there could be a traitor within the fraternity.

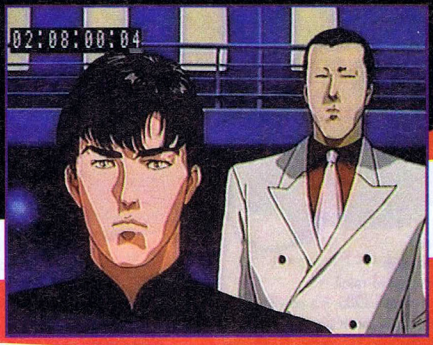
Freeman Yoh and Emu, who now sports a fancy all over body tattoo of a tiger, are up against the might of a rival gang called the Kamora. *Chapter Two: The Enemy Within* is basically more of the same that was seen in part one.

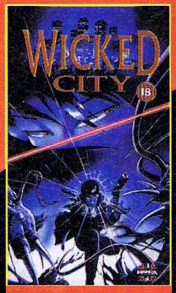
The first part may have been slightly better because all the characters were new, but part two is just as good in terms of content and leaves you thirsting for the third part.

Crying Freeman, the Tom Cruise lookalike, is still out and about on the killing front, but he comes up against some trouble via a mysterious woman. The violence is still as brutal and there is an abundance of nudity plus one scene I'd rather forget featuring a very large woman in the nude. Not pleasant!

Part two still retains that mixture of suspense, martial arts and bone-crushing violence. Owners of the first episode will want this desperately and if you haven't bought the first video yet, you'd better get a move on. *Crying Freeman* is top class entertainment and one of my favourite Manga films so far.







Certificate: 18
Year: 1993
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Action Rating 9/10

Wicked City

For centuries, a non-aggression treaty has existed between the human world and the realm of the demons. Without it humanity would be a terrifying and foul chaos of depravity and destruction. This pact is upheld by a group of undercover operatives known as the Black Guard, but at the end of the 20th Century the treaty is up for renewal.

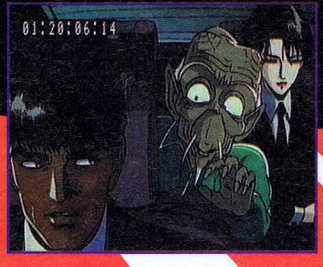
Terrorists from either side seize on this time of uncertainty to step up their efforts to sabotage any agreement. Their target is the legendary Dr Joseppe Malyart who is the only one who can sign the treaty.

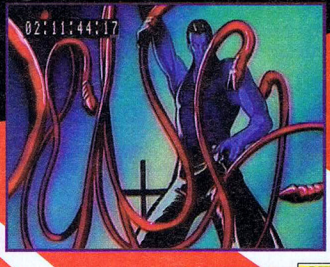
The signing will take place in Tokyo and the Doctor is put under the protection of two prime operatives from the Black Guard. Renzaboro Taki is a human while his partner is a beautiful woman called Maki from the realm of the demons. Taki sounds a lot like Clint Eastwood while his supernatural partner has a nifty line in dangerous fingernails.

They both get upstaged though by the delightfully perverted Doctor Malyart who is the real star of the film and will have you holding your sides through laughing too much. Although *Crying Freeman* and *Tetsuo 2* were good, *Wicked City* just has to be the best Manga film this month.

It is probably best described as Dirty Harry meets James Bond meets a *Nightmare on Elm Street*. It could even be described as a love story that gets invaded by all manner of horrible and terrifying monstrosities from beyond.

The animation casts a tense dark atmosphere over the whole adventure and is absolutely first-rate. There are copious amounts of sex, violence and swearing, but all these elements combine to make a truly wicked Manga film. Buy it now or be laughed at by small children for rest of your natural life.





Will Atari's new Jaguar succeed where the Lynx failed? Is technical superiority enough? And what's it like developing games for the machine? Phil Morse found the answers to these questions and more when he visited two firms at the cutting edge of Jaguar development

A new

In order to succeed, Atari's new Jaguar games console needs more than just a good spec. It has to compete with the assembled might of the Japanese, and with Commodore's new CD32 console, as well as the curiously titled yet menacingly threatening 3DO.

That it is the best specified of all of these is beyond question. Its 64-bit technology is unsurpassed in the games world, its four (yes, four) CPUs (set against the ST's one) mean that it is, in many ways, four powerful computers in one!

When taken along with its recommended retail price of a meagre £200, it is easy to see the potential; its games are better than the very best efforts on PCs costing £1,500 and upward, and anyone who's seen, say, Doom on the PC will know that some of its best games are very impressive and would take something really special to better.

QUALITY GAMES

Perhaps more vital to the success of the Jaguar than anything else is the number and quality of games produced for the machine. Nobody will buy even the best specified machine in the world if the software support isn't there. The Japanese giants have got this right, and Atari must ensure that the Jaguar gets the same chance.

Two firms currently developing software for the console are Rebellion and Attention to Detail. Who better to tell us what it is like to program and what its potential is than the very people who have been, for the best part of the last year, hibernating and beavering away at the first games we will see?

Situated on a science park on the outskirts of Oxford, Rebellion are in a suitably hi-tech setting environment, mirroring the status they currently enjoy as one of the star developers in the Jaguar's third-party programming club.

Rebellion's Alien vs Predator is a mammoth, seven-level 3D spectacular, and guaranteed to bowl you over first time you see it.

So what of the new console? What will its incredible technical spec and potential mean for those developing software such as Alien vs Predator for it? Rebellion's Jason Kingsley:

"At the moment we're pushing the Jaguar as much as we can, but we think it can be pushed even further. We don't think it's even sweating with AVP."

When the ST first came out, people were amazed at the initial games which became available for it. But, as with every other platform, as the programmers began to get to know the machine a little better, to work out the special tricks of the trade, short-cuts and "undocumented" features (read: bugs) in its operating system, the scope and quality of the software released got steadily better and better, to the point where we now see complex games such as Zool converted across to the ST with very little change from the originals.

For the Jaguar, all of this means a very exciting period ahead. You don't believe me? Well it's time to look a little more closely at what is involved already in producing a game for the console. Remember, the example we're about to look at is one of the first games made for the machine – and in the words of the song, things can only get better...

Obviously before programming Alien vs Predator, Rebellion had to sort out the anomalies of the machine, to get a grip on the best way to go about doing things. As it is such a new console, however, they soon found that programming for it involved a little more patience than with tried-and-tested technology. Jason:

"When you've got a beta [test] machine, and something goes wrong in a program, you don't know what to blame – your code, their tools, their hardware – it's quite challenging but can be a major pain."

> *"We don't think the Jaguar is even sweating with AVP..."*
>
> **– Jason Kingsley, Rebellion**

However, this dipping of feet into new waters has its rewards too. To throw some specifications at you: With special programming techniques, Rebellion reckon they can squeeze 16 million still or 65,000 moving 16-bit images onto the screen, in 65,000 colours along with full stereo sound. Such power calls for extreme techniques of game development...

"Different processors can be used for graphics, sound and gameplay with the Jaguar," says Jason. "Some companies have got scared and decided not to use them all!"

Not Rebellion, though. Their dedication to achieving the best results possible is obvious from the start. Their route to developing game characters is a case in hand, as highlighted in the box-out.

The Jaguar may well be a machine poised at the beginning of a new age for computer software. With stereo, CD-quality sound, true colour graphics, and awesome raw processing power, the whole structure and scope of any software house developing for the console will change.

"There are going to be fewer people programming for the Jaguar," says Jason, "and in much larger teams. People will specialise in graphics or sound. But the value in the end product will be much better."

With a dedicated team making the soundtrack, another handling characterisations (already actors are being used in some games in the industry to "play" the characters in a game) and more teams for all the various aspects of game production, the finished products will begin to look more like full-blown films, with the difference being a

Rebellion Software

Formed over a year ago by scandalously young creative director Jason Kingsley, Rebellion specialise in 3D work, making them an ideal firm to be developing for the Jaguar, with its awesome graphics handling potential.

As well as Jason, the company's numbers are bolstered by Justin, Toby and Mike, who between them handle all programming, model-making, photography and general game design.

As well as working on Alien vs Predator, which has taken ten months to complete, Rebellion have three more projects in development.

One, Chequered Flag, looks to be the racing game which will wipe the floor with all others, and another four are currently awaiting confirmation. And the firm are not exclusively Jaguar-based, either, with interests in PC game development, too.

full degree of user-interaction with the "script" as it unfolds. "It's becoming quite awesome," says Jason. "We're being thrust into movie production – it's scary, but exciting. We're waiting for Spielberg to get in touch..." So will the Jaguar see off the competition? With the Sega and Nintendo systems beginning to show obvious signs of ageing, many see Commodore's new CD32 console, with its Amiga pedigree, as the nearest rival.

But, as Jason points out, people are porting old, unimpressive software straight from the Amiga across to the CD32, leaving the user unimpressed and hammering nails into the machine's coffin at the same time.

We also discovered from Rebellion that the Jaguar cartridges are capable of handling up to 16Mb of game information, currently limited to 2Mb only by the cost of production. So with the prospect of "games" (if we'll still be calling them that) in the future containing eight times the information of something like Alien vs Predator, the potential to see off everything bar the VHS video recorder for realism is hard to question.

About an hour's slightly more-than-leisurely drive away from Rebellion, in a farm barn just outside Warwick, reside Attention to Detail, who can lay claim to being the developers of the very first Jaguar game, Cybermorph, which comes packaged with the machine. Attention To Detail advised Atari on some of the hardware specifications of the machine when it was being designed.

It's such tweaks, and the fact that Atari listened to the advice from those in the know, that seem to suggest that both the degree of Atari's commitment to the Jaguar as well as the technology itself are up to scratch.

"Atari were very helpful, incorporating a couple of new instructions at our request," says director Chris Gibbs. It does indeed seem that the machine is well suited to the programming needs of those who have been charged with getting the games written and released – as well of those of the people who play the games in the end.

The follow up to Cybermorph is a similar-concepted game, Battlemorph, in which ATD hope to incorporated all of the things they wanted to put into Cybermorph had they had the time!

Of course, ATD are being paid for developing Jaguar games and so from the business point of view, the degree of confidence held by the firm in Atari's commitment to the Jaguar is by the by.

CONFIDENT

But for the record, ATD's cautiously sceptical opinion of Atari's degree of commitment changed markedly for the better after attending the Jaguar's launch, and they are confident that the product at least has a good chance of being a runaway success.

As they are very much a technology-oriented firm, with their expertise lying in exploiting new hardware and pushing technical boundaries, they make a great contrast to Rebellion.

Indeed, the bits that Rebellion take so seriously sometimes even get farmed out (no pun intended) of the building, leaving ATD to get on with the numbers!

"We have a guy called Dave Lowe who is tried and tested who does all the samples and music for us," says Chris. But, no doubt in recognition of the fact that software development in the future is going to require the large range of skills discussed earlier, they are currently in the process of setting up their own in-house graphics department.

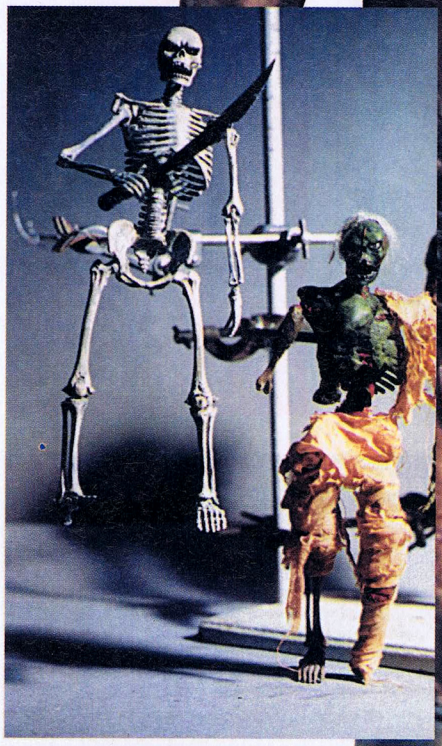
I was bombarded with ream after potential ream of technical information at ATD – stuff like the fact that in Cybermorph all the landscapes are generated using fractals from a random seed (to me and this means that the potential for variety in the landscapes is immense) – but perhaps more important is the level of co-operation between ATD and Atari.

Atari's own design team were on-hand to test and advise on the levels in Cybermorph, for instance, and contact between Atari and the firm is frequent.

This impression I got – one of Atari stay-

➤

breed



Three of Rebellion's models. From left to right: Skeleton and Zombie, from a new game working-titled Dungeon; and Predator from Alien vs Predator

ing in touch with their developers, and always striving to be helpful, was one which grew stronger as research for this article progressed.

Rebellion's Jason, for instance, had a breakfast meeting with Sam Tramiel (Atari's big man) just the morning before we came; and when Atari found out that we were doing this article, they briefed the companies first – some may say paranoid behaviour, but taking this views belies the obvious care and attention which Atari are bestowing upon making the Jaguar's launch a success.

Of course, if the Jaguar bore a Sega or Nintendo badge, the world would be poised for complete domination within months by the little wonder box; with Atari the predictions have been markedly more cautious.

'We're waiting for Spielberg to get into touch!'

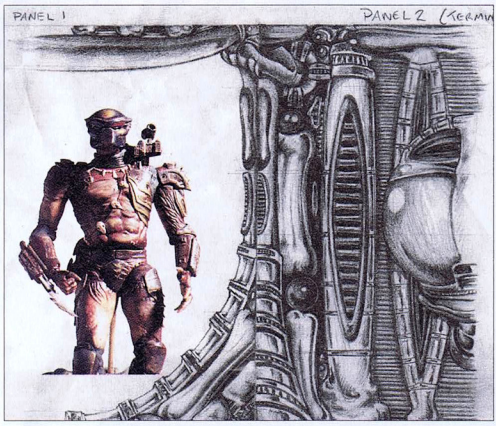
– Jason Kingsley, Rebellion

But with the ST range, Atari were, time and time again, accused of releasing a superior set of products, but falling short in the marketing and support departments to the extent that their apathy, arguably, led the ST to never reach the kind of market share it deserved. The Lynx – again, technically superior by murdered on its feet by the Japanese crew – is another case to point.

So to the Jaguar. Technically superior, and from the company that invented the games console as we know it, it deserves to do extremely well.

This time, with the commitment shown by Atari to the machine, it just might put Atari back in a world-beating position in the market console.

The fun-loving, happy-go-lucky Rebellion posse. From left to right: Mike Beaton, Stuart Wilson, Toby Harrison-Banfield, Justin Rae



Drawn in pencil onto tracing paper, this is an example of some of the detail that goes into a game such as Alien vs Predator; this is part of one of Toby's panels form the terminal section of the game

Attention to Detail

Fourteen-people strong and headed by Chris Gibbs, Attention To Detail are far more openly technology-oriented than Rebellion, and so provide an interesting contrast.

Their offices are the epitome of laid-back, with real wooden beams criss-crossing the place, plants everywhere, and practically everyone presiding over a pile of their favourite CDs as well as the usual stationery and computer stuff. There's even a sign pinned up on the notice board politely banning swearing...

As well as software development, ATD are also active in the world of hardware and design, and in coin-op development, and even advised Atari on last-minute tweaks to the Jaguar's design, getting things altered. Now, for instance, it is possible to detail shading on objects more easily as you move towards and away from them (a device used to great effect by Rebellion in Alien vs Predator).

You make me feel so real

Rebellion's approach to 3D sprites is a great example of their commitment to realism. They start by ditching all things silicon and electronic, and making detailed, proper 3D models of the characters. These may take an exceedingly large amount of time and effort to complete. Justin:

"Zombie took about three days, made out of jointed, snap-together kits. To these are added plaster, tea-bags – anything to hand that works."

Getting the models exactly right is paramount, because the next, innovative step is the key to achieving convincing sprites on-screen.

On arriving at Rebellion we were curious to see a photographic backdrop, camera and lighting equipment set up alongside the usual assorted disarray of computer equipment. It turns out that the first stage of a character getting on-screen is its model having its photograph taken!

By adjusting the characters ever so slightly and taking picture after picture, and with a lot of patience (and film), it is possible to create convincing character movements by scanning the pictures thus obtained directly into a development computer. This results in an exceeding realistic character with equally realistic movements on the computer screen.

In this way, the technology in the Jaguar is liberating for the programmer, as it allows the creativity of real-life modelling and movement to be incorporated into computer software in a far more natural way. It is actually, believe it or not, time-saving too.

"It takes about half the time to scratch-build a model; than to draw in 24-bit." says Justin.

As and when you get a chance to look at a copy of Alien vs Predator, the best way to see the advances in realism that the use of such methods afford the programmer is to get to (or get someone who knows the game to get you to!) the room where the eggs, *à la* Alien, are situated.

Get nearer to them and they open menacingly, just like in the film. And all it took was a wad of latex, some skilful modelling and the ubiquitous 35mm camera. "There's no way the Amiga could cope with AVP!" Jason states, somewhat unnecessarily...

SPACE CRUSADE

Choose your chapter please. Hmmm, not the one that looks like Gary Glitter, that's for sure

Get spaced out on this mega-affordable board game conversion

Aah, Gretchin attack. Let's hope those dice are on your side

Scan those aliens. That Medikit isn't going to help you now

OK, being known as "Tina cutesy platformer Hackett" for obvious reasons, I was a tad daunted to say the least when confronted with this budget science fiction RPG board conversion from Gremlin.

"What?" I asked with rising horror as my mind clouded over with images of greasy youths getting over-excited in Games Workshop, hideously thick manuals, lots of complicated rules, and tonnes of mind-boggling icons to control.

Well, five panic-stricken coffees later, I gathered up all my courage and, after flicking through the manual, started to play the game. And how pleasantly surprised I was.

The story behind the game goes something like this...(dramatic voice over, star trek style please). Warp Space, the parallel universe, the domain of Chaos, an ancient evil. War lasting over five thousand years wracked mankind. Aliens plundered, planet fought planet.

The Age of Strife as it was known, the greatest time of peril ever known to man, brought forth a brave warrior. A brilliant soldier, he reclaimed the worlds lost to Chaos and created the most powerful fighting force in the Imperium, the space marines.

Right, dramatic bit over, this is where you come in. The space marines are organised into self-contained chapters, each with its own fleet.

A chapter's fleet provides accommodation, training facilities, machine shops, armouries, shuttle silos and every other facility the chapter requires.

The fleet roams through the galaxy in the pursuit of the enemies of mankind. Task forces break away from it for individual missions or campaigns, and rejoin when their mission is accomplished.

To start off you will need to choose which mission you want to try and accomplish, and which chapter of marines you want (there are three, the Blood Angels, Imperial Fists and the Ultra Marines, so up to three players can play).

The computer plays the part of the aliens and you then take turns to move, fire or fight each other in hand to hand combat.

"And the Reds go marching on, on, on." and, err, beat each other up.

Points are awarded for eliminating opponents and completing the missions. Missions vary from "Seek and destroy" aliens have blocked corridors with rubble, so you must clear a way through and destroy the dreadnought (a fearsome war machine, developed by the alien followers of Chaos) to "Purge and withdraw"- Intelligence reports that the alien vessel has three outer hull doors. Open an outer hull door and withdraw from the vacuum that will spread to the rest of the ship.

Success in combat is decided by a roll of the dice, so even if you launch a missile at an enemy at point blank range it is still possible to miss which may prove a little annoying.

The game can be viewed from a 2D view so strategy can be planned (it is also possible to scroll around to see the entire area) or a 3D isometric view to enable you to see a nice, grisly close up of completely obliterating your enemy.

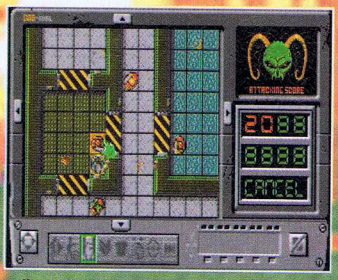
A user-friendly icon system makes the game easy to control and is the main way of moving your marine around. Click on Scanner to reveal aliens or Equipment to view any equipment you possess, for instance.

There are many other details of the game which I could go into, but to really appreciate it all buy the game and see for yourself.

This is a darn fine budget release, RPG fan or not (admittedly I wasn't one before I played this). The graphics and music create a great space/science fiction type atmosphere.

Gremlin have also released another set of missions to complete so the game should last you a fair while.

TINA HACKETT



Yeikes! It's a Soulsucker, sounds very painful

VISION	★★★★★★★★★★
AUDIO	★★★★★★★★★★
DIFFICULTY	★★★★★★★★★★
LASTABILITY	★★★★★★★★★★

Classic science fiction RPG without the boring bits! Easy to control, no tediously long rules to learn, and great graphics and sound.

87%

Publisher ➤	GBH Gold
Developer ➤	Gremlin
Disks ➤	1
Price ➤	£9.99
HD Install ➤	No
Size ➤	1/2 Meg

cheat mode

ROBOCOD

It's recently been released on budget, so for gamers having trouble with Millennium's classic platformer, here is a complete set of hints and tips to the first five levels

Level 1.1

This first world teaches you how to do basic elements of the game such as jumping over pits, collecting bonuses, bouncing on enemies, moving platforms and head-banging blocks.

It also teaches you that you must collect every penguin to complete a level-an important lesson if you want to get anywhere in the game. To the left of the start is a battery and an exit from the whole world.

From the last bonus block it is possible to jump into the edge of the roof above the exit where to your delight you will find two extra lives.

Level 1.2

Similar to the first level. Near the exit pole there is a penguin which cannot be obtained until the bonus block to the right of the exit is hit and you've collected the wings. This enables Robocod to fly and you can swoop up to collect that elusive penguin.

Walk left from the start onto the top tennis ball and jump. You will find that there are two extra lives hidden in the roof.

About four screens from the right-hand corner of the world there are some bonuses. These are in a small room at the top of the screen but cannot be reached.

Just to the right of them is a plunger which, if jumped on, will drop the bonuses below the platform and you'll then be able to collect them.

Level 1.3

A penguin can be seen in the room above. The way to get to it is to travel to the top room at the right-hand edge of this world-head-butt the bonus block-you'll find an aeroplane.

In the room above is an extra exit which takes you to a bonus section. It is also possible to reach the top room by bouncing on the bird in the room next door.

To the left of the exit pole, immediately above the starting point, is an extra life cunningly placed behind the left boxing glove. In the wall immediately to the left of the two penguins are two batteries which you'll need to jump up to to obtain.

Level 2.1

Travel up and left on the moving platforms for bonuses. Go right from the exit pole for extra bonuses.

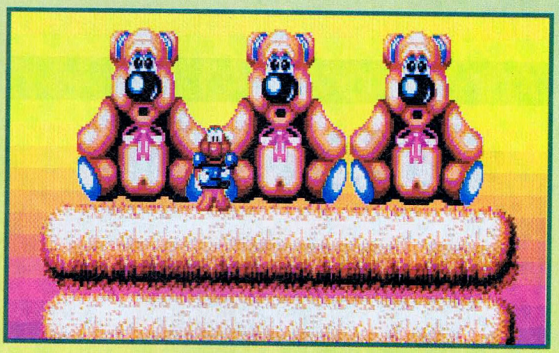
Level 2.2

Above your starting position there are a pair of wings. To collect them you must enter the second room along in the roof. Travel left as far as you can possibly go and then jump on the bird to go left a little bit further.

Once you have got the wings there is a bonus exit at the top-right of this room and more bonuses if you fly through the wall under the exit pole. There are also some batteries behind a solid wall. Travel to the top of the wall where you'll be able to pass through it.

Level 2.3

This world has no hidden bonuses contained in it.



Bonus World 1

Jump up and right to get past the poles, then jump into the cannon. After you have been fired, push up to gain extra height, then move left to land on the higher platform. Collect the bonuses and leap into the second cannon to reach the exit pole.

If you want extra bonuses (let's face it who doesn't!), jump around the roof above the exit pole and through a hidden hole in the upright. Finally, jump over the exit pole to obtain a hidden extra life.

Level 3.1

Travel along the floor for the easy route. Towards the end of this world, loads of bonuses can be seen on the plates above. These are there to tempt you into taking on the birds but this will end up in you losing a life. Another exit can also be seen above the normal exit.

There are also some wings hidden among the many bonuses on the plates, so take on the birds because there is an extra battery up there anyway, then head for the bonus world exit. The normal exit will take you to level 3.2.

Level 3.2

There is a secret room above the first Bertie Bassett that you will face. Jump onto the vat of icing to drop into it. When you return you'll be back in the vat. There is another secret room in the roof just to the right of the icing, It's quite similar to the first one, but the chocolate border is unwrapped so you can walk straight through it.

This leads to the exit pole. All the other routes are dead ends, but are worth exploring if you fancy collecting an extra life and bonuses.

Level 3.3

From the first moving platform you can see a hidden room. In this small room is a Penguin bar which can be jumped into to gain invulnerability. The first exit pole, placed at the bottom of the screen, is unfortunately a dummy! If you do go over by accident it will return you to the start of this world.

Above the exit pole is an arrow pointing upwards. Jump up, above the arrow, to land on an invisible elevator. This handy elevator will take you up to a new cavern and here you will find the way out.

Before you enter it though, jump up again where another invisible elevator will take you up to a hidden room and you'll find an extra life in there.

Level 3.4

Possibly one of the most difficult and frustrating levels in the game, so at this point try and gain the patience of a saint. At the bottom of the level there is a pair of wings hidden in the right-hand edge of the right-hand cake. This will make your life slightly easier, but remember to keep an eye out for the birds at the top of the level.

Level 3.5

A bit of a sneaky one this level because all the exits restart this section. The intelligent gamesplayer will notice a hole in the floor. Drop down the hole to enter the next level.

Level 3.6

The is perhaps one of the easiest levels to complete in Robocod and one of the most obvious. It's upside down which does confuse you at first, but it's easy once your eyes have adjusted themselves. Alternatively you could just turn your monitor upside down! One last thing is the fact that four batteries are on top of the top sweet.

Level 4.1

Relatively simple this level; use the enemies to bounce up to the bonus blocks and the rest of the level is straightforward.

Level 4.2

The first scrolling section and it involves bouncing along a runaway train. There aren't many enemies to kill. To complete the level all you have to do is avoid being trapped.

Level 4.3

Quite a difficult level this one. Near the middle of the world are three red jumping adversaries. Above the middle one is a hole in the roof. Bounce on the middle jumper to get in the hole. This hole will take you to the second bonus level.

Bonus World 2

Jump on the nasties to make your way up the screen. It's a difficult manoeuvre, but essential if you want to complete the level, so it's worth persevering with.

Luckily there is an abundance of extra lives and batteries at the top to make all your perseverance worthwhile. It's worth remembering that when you leave this level through the hole in the floor, you will go back to level 4.3 exactly where you left it.

Level 4.4

Quite complicated so keep alert! From the beginning of the level walk right and enter the small cavern. Walk through the right-hand wall of this cavern for a bunch of bonuses.

Retrace your fishy steps and then start walking right. Collect the bells from the next cavern that you drop into. In the next cavern you will find two penguin bonuses which have been placed in the roof.

Walk past these into the left-hand wall for the bonus of an extra life. Continue along the tunnels until you reach the central junction. There are four tunnels leading off from this point. The top left one is where you came from.

The top right one goes absolutely nowhere! Walk down the bottom right tunnel towards the wall, this will place you into a new room. The obvious exit is into the wall on the left, but this takes you back to the central junction.

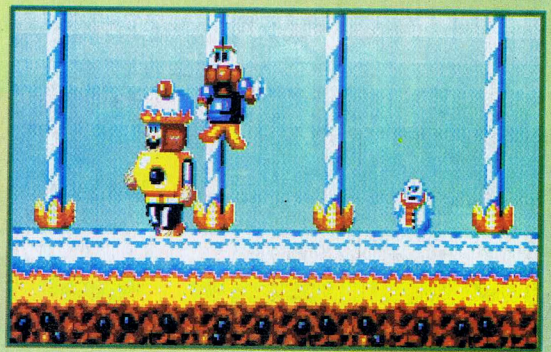
Instead of that route it's possible to walk through the right-hand wall into a tunnel. There are some bonuses dotted about and you'll end up a little way back from the central junction.

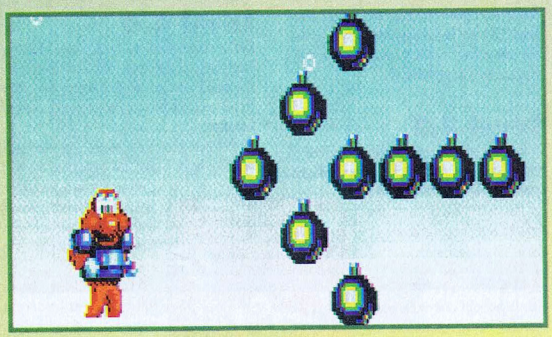
There are two objectives you must achieve from the central junction. First of all, take the bottom left tunnel to collect the penguins. Secondly, you have to run down the bottom right tunnel at top speed to break through the wall!

When you've gone down the bottom left tunnel, you will come to a long drop on the left-hand side of the screen with an elevator placed at the bottom. There are several rooms on the right of this lift-shaft, in each one there is a penguin.

When you've completed this little task, drop onto the elevator platform and, as you rise, jump into the first ledge in the wall and wait until the elevator has gone by. Next drop down the empty lift-shaft before the elevator comes back.

Walk right and you can either walk into the elevator wall to get back to the central junction or walk up the slopes and come running down to crash into the sealed bonus rooms.





Which way you choose doesn't matter. The top room is more difficult to get to, but has much better bonuses. When you've collected all your penguins run down the bottom right tunnel from central junction to crash through the wall.

Walk right to collect the umbrellas and drop into the bonus room. Collect all the bonuses you can, stand on the up arrows and extend to the exit pole.

Level 4.5

There are loads of curvy tunnels in this world which seem to serve no purpose except to allow a bit of fun by running around them. At the bottom of each tunnel there's a hole in the roof containing a bonus.

The first two tunnels lead to Bonus Worlds and the next three contain coins, lives and batteries. To the right of the exit pole is an extra tunnel. To hit it run from half-way down the last slope.

If you manage to get into the exit tunnel, at the very right-hand end of the world are 200,000 points hidden in the roof.

Level 4.6

Travel right from the start, up the incline and knock a train out of the bonus block. Jump on it to reach the tunnel placed at the top-left of the screen.

In here you can obtain a car and kill everything in the section. Also in the small room, there are two extra lives hidden in the higher side walls. At the top of the second slope from the starting point there is a room below you which you cannot enter.

Go to the bottom right of the section and jump on the plunger and this will open the door for you. Make sure you kill all the nasties with the car before entering because you'll lose it here otherwise.

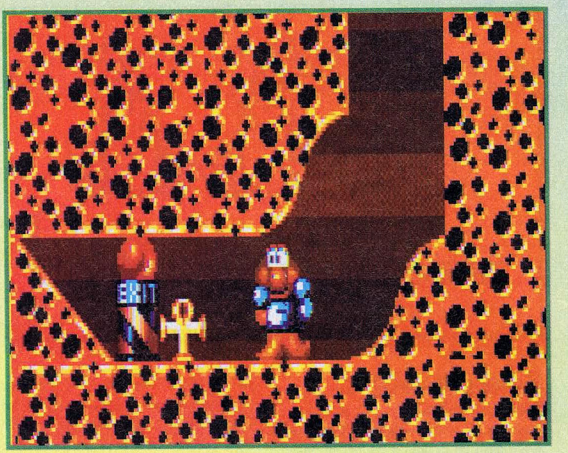
Level 5.1

This level is fairly straightforward. There are four exit poles at the end, numbered one to four from top to bottom. Pole one returns you to this world again. Poles two and three take you to world two. Pole four takes you to a bonus world.

About two screens from the start there are some bonus blocks hidden in the floor. Don't kill the second and third birds as there are some more bonus blocks above them. Hit the blocks to knock out two batteries which you'll need to be able to jump on the back of the birds to reach the other bonus blocks

Bonus World 3

You have a choice to go either left or



right from the start, but unfortunately you cannot do both. To the right there are three bonus blocks containing poison while to the left there are three good bonus blocks containing extra lives.

There are also two exit poles, both of which take you to Bonus World 4.

Bonus World 4

This stage appears identical to the last world. The good and bad bonus blocks have now been reversed. Make your way to the right and you'll find that the exit poles take you to Level 5.2.

Level 5.2

This basic section starts with domino caverns, progressing to playing cards and ending with yet more dominoes. From the start a penguin can be seen in each cavern and must be collected.

Towards the end, the caverns appear again. One contains a penguin, one contains absolutely nothing and the last one has the exit pole to take you to the next level.

In the empty cavern there's the only double-blank domino in the entire stage. There's a secret exit in the blank domino which takes you to Bonus World Five. Above the cards towards the end of the section there is also an extra room. This is hard to enter and contains bonuses, a secret exit to Bonus World 5 and a bonus block containing a plane.

Bonus World 5

This bonus world comprises a mini-maze containing a few domino spots and a number of invisible walls.

Level 5.3

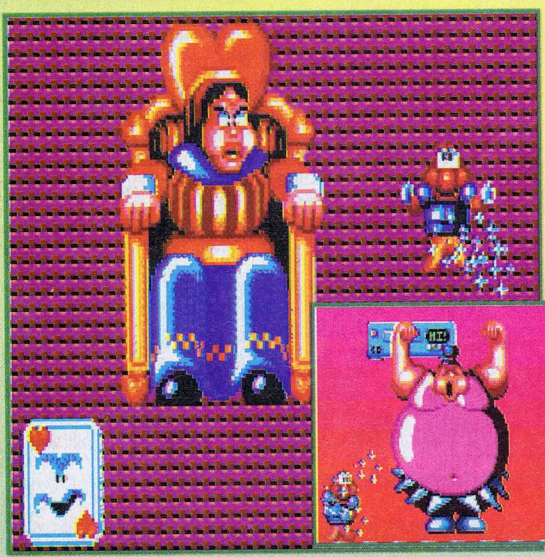
There is nothing special about this level, all you have to do is complete it.

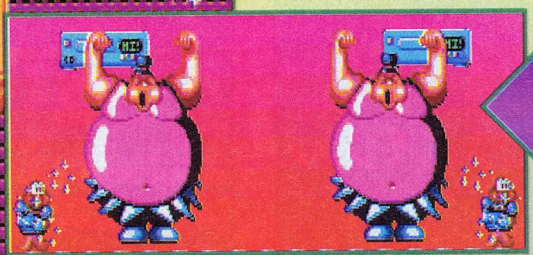
Level 5.4

Things have gone a bit dull because just like the level before there is nothing here except the exit to the next stage.

Level 5.5

Go past the exit pole at the right-hand edge of the map and off the end of the map to Bonus World Six.



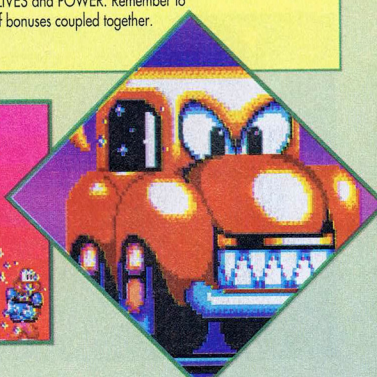


Oo now that's cheatin'!

As soon as the game starts, send Pond jumping up to the top of the first roof where you'll find an Apple, Earth, Cake, Hammer and Tap. Take the first letter of each item and you'll get AECHT which is an anagram of CHEAT.

Collect the objects in the right letter order to gain invincibility. If you then enter the first room and exit immediately via the left-hand point, all the game's doors will be unlocked.

Throughout the game you'll notice more of these cheat anagrams. The three words which you can spell are CHEAT, LIVES and POWER. Remember to keep your eyes openfor clusters of bonuses coupled together.



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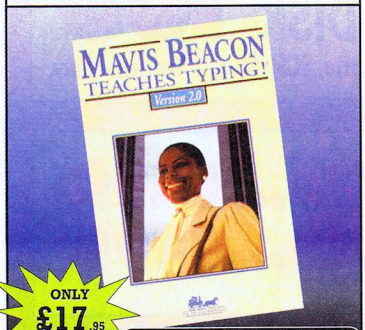

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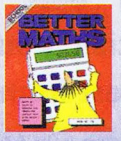

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STU FEB

Call me!

Ian Waugh on a new musician' s bulletin board, and why a previous effort floundered. Plus all the latest from the ST music world

There has been a lot of talk in the music industry over recent years about communication with the customer. Believe it or not, the music companies do want to talk to you, they do want to tell you about their new products and they do want you to have software updates.

What they're not so keen on is tying up several man-hours every day answering phone calls and mailing out new product information and floppy disks. It's not very cost effective for them but they do it because it's the only way to reach the customer.

One alternative to this approach is to use a BBS (bulletin board system). This has been tried in the past although not by any one company. There was a BBS called The Music Network which may or may not still be in existence, but never really took off.

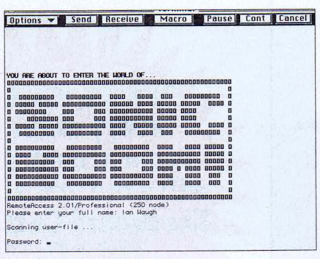
It tried to pull together all the major music companies and offered a one-stop shop for musicians who could log on to the board, leave messages for the companies, download software and catch up on the news – which was much more up-to-date than a magazine can present it. Its failure, I believe, was due to two main reasons. First of all, it cost money, something most musos usually find in short supply. It didn't just have a subscription charge but an online charge, too. It certainly stopped me joining – my phone bill is far too high without that.

Secondly, not many musicians have modems. I'm sure many more have them now than had them five years ago but the number is still small. Shame, because comms has a lot to offer.

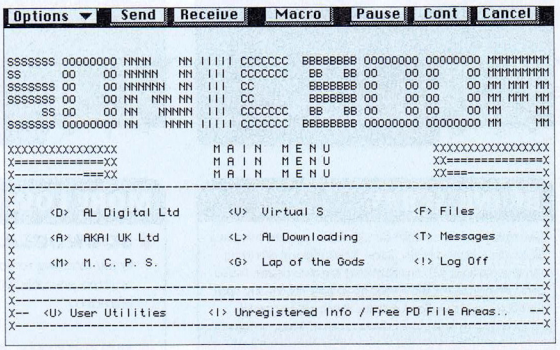
As a musician, comms keeps you in touch with your fellow artists however far away they may be. You can post messages in conference areas and ask for help with software or musical instruments.

You can download software updates – providing the suppliers put them there! – which may be bug fixes or program updates which companies would usually mail free to registered users.

Also, for a computer user, comms gives you access to an enormous range of PD and shareware programs. Many of these are music-related, especially for the ST, while others are utilities and applications to make life with your computer a little easier.



Welcome to Sonic Boom, the Akai support BBS



You navigate your way around Sonic Boom with an easy-to-use single-key menu system

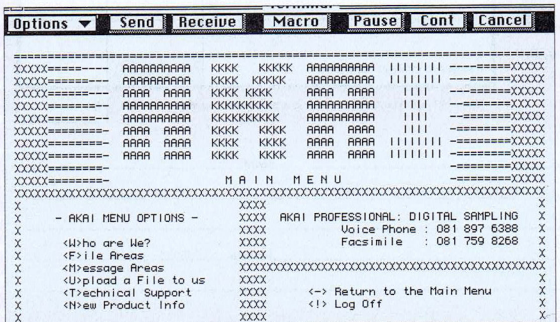
The reason for this preamble is to do with an announcement which appeared in the last column's News section – Akai have set up a BBS called Sonic Boom. It's actually being run by a company called A L Digital which handle some tech support for Akai and are taking over distribution of the Akai sample libraries.

The BBS was in the process of being set up when I logged on and many areas were still under construction. They include the Akai area, of course, one for Virtual S which will be about virtual reality, and one for the MCPS. There will also be a MUG called Lap of the Gods.

The only major software area at the time was some 4,500 PC files but the sysop, Dominic Hawken, is looking for some good ST material and with any luck there will be something for you to download by the time you read this.

The BBS will have a Questions & Answers section, a Members Notice Board, supply product news, hold details of software updates and let you download samples directly into your computer.

But the most important thing is – it's free! At least for the time being. Well done to Akai. Let's



The Akai conference area promises lots of product news, technical support – and software!

The Kyle Appeal

No, it's not Kylie Minogue. The Kyle in question is musician Kyle Harris who has contracted multiple sclerosis. He's trying to raise money for the MS Society and is being sponsored to achieve various objectives. One is to get as many mentions in the press as he can!

Another is to collect autographed photos of celebrities in the music, sport or media business. Kyle released a cassette of his own music last year and Heavenly Blue Studios of Skelmersdale helped by taking gear to his house now that he's chair-bound.

Another project is to create a studio for similarly disabled people and to that end donations of suitable equipment would be appreciated. If any manufacturers, retailers or individuals think they can help in any way, contact Kyle on 0695 27709.

hope the BBS is a success and encourages other companies to follow suit. I do know that a music area on another BBS is trying to get off the ground so more news if and when this happens. Meanwhile, if you know of any BBS with good support for musicians or, indeed, if you have discovered a good PD music program, drop me a line.

Sonic Boom is on 081-994 9119. Use the usual 8N1 setting in your comms software. It supports speeds up to 14000 band. A L Digital's voice number is 081-742 0755.

Spaced out

It seems that rarely a month goes by without something from Heavenly Music dropping on my desk. This latest disk is Holst's Planets Suite – very appropriate, don't you think? It contains seven files – one for each planet – plus the usual excellent HM documentation.

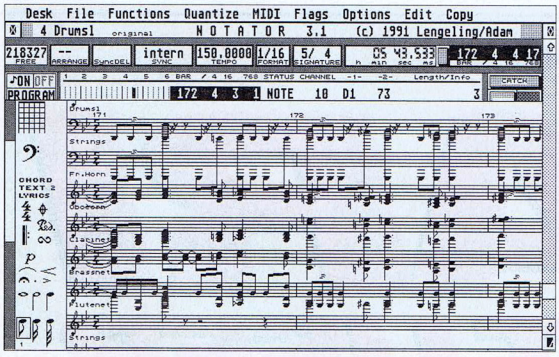
The original work was written by Holst between 1914 and 1917 and was composed for a very large orchestra. The programmer, Nick Ruggles, spent five and a half months poring over the score in order to reduce it to a size suitable for a GM instrument.

I did find that the files sounded slightly better when played on a Roland Sound Canvas than a Yamaha CBX-T3 which seemed to produce a rather harder sound. Although all GM instruments sound approximately the same, there are differences which can show up if you customise a file to a particular instrument too much.

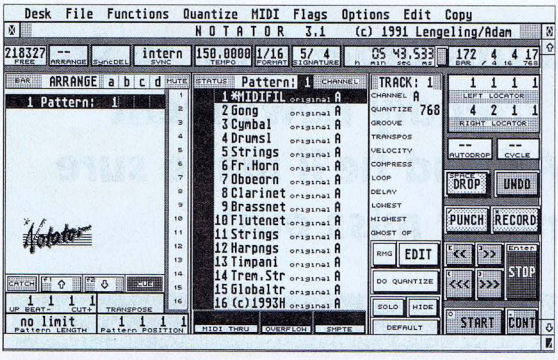
However, the Suite is something of a *tour de force*. You can see how much work has gone into its production when you examine the files. The velocities have been carefully adjusted to create the vast volume ranges in the work.

But if you're not in an investigative mood you can just sit back and listen. Very impressive indeed.

Holst's Planets Suite is £19.95 plus £1.50 p&p from: Heavenly Music, 39 Garden Road, Jaywick Village, Clacton on Sea CO15 2RT. Tel: 0255 434217.



One of the more quiet sections in Mars from Holst's Planets Suite



The programmer has convincingly condensed The Planets' massive orchestral score into a GM format

Music Update

● Got a Roland D50/550? Sounds OK are now distributing Sound Support's Classic Synthesizer Collection, a set of 84 sounds programmed to emulate old analogue synths using only analogue waveforms. It's available on an ST downloader disk and costs £28 plus £1 p&p. More from Sounds OK on 0276 22946.

● Rave. Not only a type of music but the name of a new ST sequencer. Well, it's not brand new, actually. It's an updated version of the Rave sequencer which was developed a couple of years ago by The Digital Muse who developed Virtuoso and Prodigy. The Muse have now had a name change to Muse Marketing and Rave now includes notation and event editing, support for Standard Midi Files and the ability to playback samples. It costs a very nominal £49.99. More from The Software Business on 0480 496497.

● How's your knowledge of Sys Ex? Fancy writing your own synth editor? Then CP-Gen is for you. You use different types of controller icons to transmit the various Midi messages and you arrange them on a control panel of your own design. There are three types of receiving devices which let you design your own Midi monitor to look at Midi activity in your system. We'll have a full review for you very soon but if you can't wait you can send £3 for a comprehensive demo pack which is refundable if you order the full program. CP-Gen costs £79.95 and is the first product from GRI Soft, who you can contact on 0494 443266.

● Yamaha, those bastions of PD support software, have commissioned the German Y-Not team to write an editor for the TG500. Take 500 has librarian and edit facilities for all sections of the module including voices, performances and multi-timbral setups. Unfortunately, it's not really compatible with the SY85. It handles certain aspects of the instrument but frequently reports a Midi Checksum Error. Still, that was not its purpose in life and TG500 users will be delighted. Contact Yamaha for your free copy: 0908 366700.

● Last April we reviewed a disk from Westec Services which set up a Roland MT32/CM-32/CM-64/D-110/10/20 with GM-type voices. The company have now added three other disks to their range. Get Dumps saves patch settings directly to your sequencer. There's a disk of Cubase Midi Manager files which let you control just about everything from within Cubase, and there's a Replacement Sounds disk which presents the 64 preset sounds with "improved" versions. All disks are £7.95 fully inclusive. More from Westec on 0621 88466.

● AudioCalc is a Professional Audio Calculator for the ST which performs five types of calculation frequently required in audio engineering: sound (delays, distances and frequencies), tape (various play time calculations), Music (tempo, note and echo sums), analogue (decibel conversions) and Digital (storage sizes, sample rates and so on). It looks like a very sophisticated piece of software. May have a closer look next month if I can get my maths head on. Meanwhile, it's yours for £39.95 from Hinton Instruments who can be reached on 0373 451927.

● The keyboard is far and away the most popular instrument used for Midi input although there are Midi version of guitars and many string and wind instruments. Now an enterprising fellow has designed a Midi Melodeon which was demonstrated at the Edinburgh Festival. However, it's still in the prototype stage while he seeks assistance from instrument manufacturers. For more info contact Steve Simpson on 031-555 2477.

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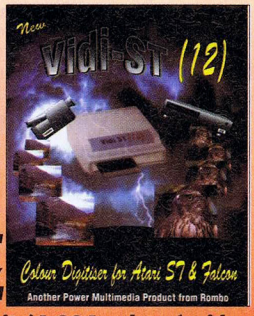

This great package includes a superb mult-media digitiser, comprehensive manual and phono cable. The Vidi ST 12-bit (4,096 colours) video digitiser can be used to produce colour or mono images or animations in almost any resolution and colour mode.

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A brace of hardware disasters forced Günter Minnerup into some pretty desperate measures this month

When the chips are down

Computers are a bit like cars; you tend to take them for granted but when they break down your whole daily routine gets badly upset. Everything suddenly has to be done the hard way.

Just like walking or waiting in bus queues seems to be so much harder now than it used to be before you first got a car, suffering the indignity of having to write letters manually or doing without your daily on-line fix seems hardly bearable.

For a computer journalist, hardware breakdown is even more than an inconvenience – it's a disaster of the same order as an engine failure is for a taxi driver.

I recently suffered not just one but two of these disasters when first my Mega ST and then its external hard disk played dead. In the case of the Mega, it was nothing more serious than the power supply unit (easily though expensively replaced), but with the hard drive just about everything seemed to have gone wrong at the same time: the drive and the power supply.

TRICKY

By the time you read this, everything will hopefully be back to normal but the successive failures of computer and hard drive just when the deadline for this column was looming raised a number of tricky issues with regard to the Mac and PC emulators.

I was not, after all, completely computerless at any time since I am lucky enough to have an Atari TT030 sitting on my desk next to the Mega ST. So why not use that instead, it's a lot faster after all?

Now as far as PC emulation is concerned, the TT is definitely a no-go area, if only because it is physically impossible to install the hardware emulation cards.

That didn't stop me, however, from making a desperate attempt to get the ancient PC-Ditto software emulator to work, with predictably unimpressive results.

Translating Intel into Motorola code "on the fly" and achieving a very high degree of PC compatibility in an ST environment was some achievement for the PC-Ditto team – even though it had to be paid for, of course, with very sluggish performance – but it is just too much to expect it to work on a 68030 processor run at 32MHz in a box that the developers of this emulator could never even had dreamed of at the time.

I even tried the shareware "ST emulator" Backward, but although this is concerned precisely with making stroppy old ST software run on a 68030, it is Falcon-specific and doesn't want to know about the TT at all.

A shame really, since I vaguely remember the good old days when Atari launched the TT with much fanfare as the new supercomputer of the decade, and how it would be bundled with a software PC emulator achieving unheard-of Norton speed ratings...

A shame also for the PC-Ditto developers, I guess, who may have done better out of writing such a 68030 software emulator than their ill-fated PC-Ditto II hardware board which never worked reliably and finally caused the company's downfall.

I then tackled Spectre GCR, encouraged by the 68030-related options in the configuration menu and the optimistic talk in the documentation of speed-of-light Mac emulation on the TT.

Since this was just before the Mega's hard drive gave up its ghost, and I knew that Spectre didn't like either the TT's built-in SCSI drive, I plugged in the hard disk on the ACSI (DMA) port. No luck. It hung every time I quit the configuration menu to enter Spectre proper.

And since the TT, despite its high performance, was Atari's worst marketing flop in recent history, Spectre's developer Dave Small never bothered to iron out the problems either.

BEAVERING

Rumour has it that he is now beavering away on a Falcon 030 upgrade and I retain some hope that this may also sort out the TT, but I'll believe it when I see it. Meanwhile, Falcon owners can at least get PC emulation – and very nicely too, with a colour VGA screen – by investing in Compo's FalconSpeed.

Then, as soon as the Mega's PSU was fixed, the hard disk conked out. Now I had a computer that would run the emulators but was reduced to floppy disks as a storage medium – 720k double density disks at that (memo: must upgrade to high density floppies one of these days). What is more, only one drive; most hard drive owners do not bother with second floppy drives, and I am no exception.

Now if you have never done this I would like you to try out Mac emulation with just one single floppy disk drive: it's an extremely frustrating experience indeed and you begin to understand immediately why Apple have not sold floppy-only systems for a very long time.

For a start, floppy disk access under the Mac operating system is even slower than under TOS, but the real headaches are caused by the Mac's need for frequent access to the System files.

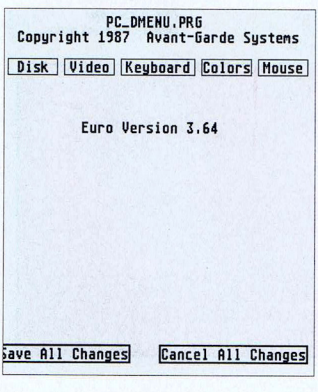
With most of the more substantial Macintosh applications, it is just about impossible to fit everything you need (system files, fonts, program files, data, not to mention desk accessories and CDEVs) onto a double-density disk so my advice is to forget the whole idea of floppy-only Mac emulation unless you have two drives and saintly patience.

Matters are only marginally better with PC emulation. The DOS operating system is more manageable from a single floppy, and enough of it memory- resident to require only very occasional access to a system disk after boot-up.

But you are certainly back in the command prompt stone age again because Windows is, of course, totally out of the question – my normal, fairly modest, Windows setup demands over 6Mb of hard disk space!

It is after such trials, of course, that you suddenly begin to appreciate the merits of Atari's decision to install the entire TOS/GEM operating system and user interface in a ROM chip. Whatever the difficulties of distributing bug fixes and upgrades, it certainly makes for an eminently usable single-floppy setup.

There is, of course, a way of at least slightly alleviating the difficulties of single-floppy-only operation, provided you have enough memory – a RAM disk. Even if you do have two floppies or even a (functioning) hard drive, RAM disks can be quite useful. The installation and benefits of RAM disks in the PC and Mac environments will be the subject of next month's Emulation Aspects.



The venerable PC-Ditto software PC emulator: this configuration screen is about all that will show up on the TT

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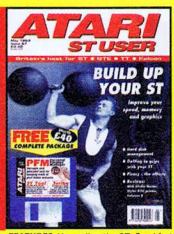

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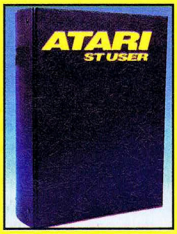

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Get into the net

André Willey takes a look at Ed Krol's comprehensive guide to the cyberspace world of Internet

The problem with the worldwide network of computer systems that is Internet is that it is so huge. It can be extremely daunting for newcomers to dip their toes into – especially if such toe-dipping explorations have to be accomplished from one end of a long-distance telephone line.

Of course, there are online help facilities, assuming you know how to use them. There have even been Internet training courses which took place on Internet.

What was really needed was a good manual covering the basic techniques and ground rules – preferably in layman's terms! This fact was not lost on author Ed Krol, and was the inspiration for his excellent work *The Whole Internet, A User's Guide & Catalog.*

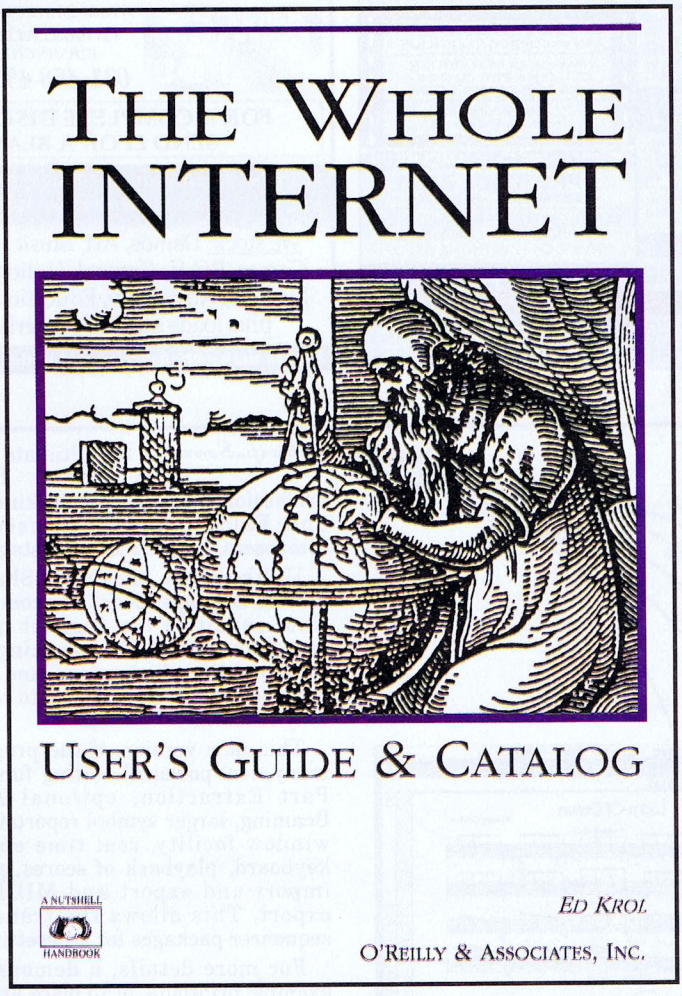
The book starts off assuming that the user has little or no knowledge of Internet – either what it is, or how it works. The first few chapters discuss the network and its history, also going into some detail on the courtesies and protocols of using such a far-reaching system.

The rest of the book is divided into sections covering such black arts as finding software and then accomplishing the necessary file transfers, electronic mail, remote logins, reading news on the network, and a variety of other areas.

The style is chatty but informative, and there is a comprehensive index to help you navigate your way around some of the more complex issues. A useful pull-put Quick Reference Card bookmark is also provided, which short-lists the most common commands.

The Whole Internet can act both as a reference work and as a tutorial, allowing you to either read chapter by chapter or dip in to learn more about a particular function – although the later sections do tend to assume an understanding of the basic terminology, mainly that associated with the Unix system upon which so much of the Net depends.

The final section of the book deals with the resources available on Internet. One of the most frequently asked questions is not "how do I use Internet?" but "what is available there?". In fact, the answer to the first question is often a lot simpler than the second.



There are literally thousands of information sources scattered among hundreds of thousands of sites around the world. It's rather like going into a library and asking the librarian "which books should I read?"

Krol devotes nearly 50 pages to a listing of some of the larger resources available on the network – from Agriculture to Zymurgy – taking in such diverse subjects as Finance, Medicine, Music, Oceanography, Religion, Science fiction, Sports, Travel and Weather Forecasting *en route*. Listings are given for the major usenet newsgroups in each subject area, plus associated file storage (FTP) sites and even online research facilities which can be contacted via the Telnet system.

As importantly, the book also tells you the various ways to use Internet to acquire more about itself. The gopher system is probably the most common, and can be used to find and access resources without necessarily knowing the full routing complexities that the system has undertaken on your behalf.

Krol also goes on to cover WAIS and the World Wide Web – a hypertext-based system which allows you to quickly cross-reference textual information to find out more details on a variety of subjects.

In fact, the book itself is a case study in using Internet. In his introduction, Ed Krol tells us that he first "met" his editor via electronic mail, and the entire contents of this 376 page book were transferred between author and publisher on a regular basis via Internet.

At the time of completing the work, Krol had not actually met in person anyone from the publishing house.

It's only possible to scratch the surface of such a book in this short space, but this is an indispensable work for anyone contemplating serious use of Internet – whether that be via a large business or university computer, or through an Atari ST and one of the UK service providers such as CIX or Demon Internet Services.

Title: The Whole Internet, User's Guide & Catalog
Author: Ed Krol
Publisher: O'Reilly & Associates, Inc.
ISBN: 1-56592-025-2
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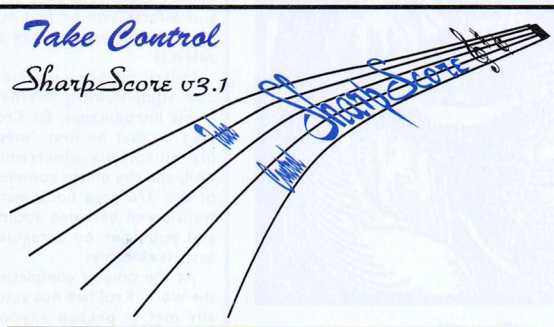

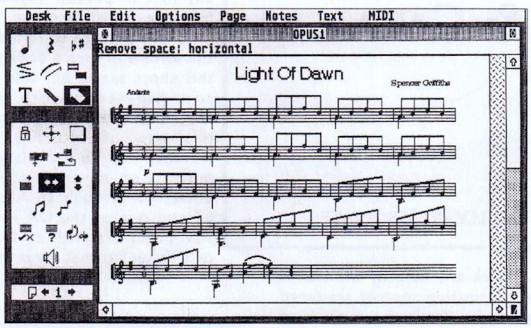

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Really good enough to eat

Andrew Wright starts a new series on practical document design. This month it's the turn of menus...

No, not the drop-down kind, rather the menus you find yourself staring at blankly in restaurants wondering whether you can afford that delicious sounding French concoction with the unpronounceable name, as well as a starter, or whether you should pretend not to be hungry...

Choose the right font and graphic – this is PageStream's Artistik font

It's surprising how many restaurants can cook up a wonderful meal but let themselves down badly with poorly presented written material such as adverts, wine lists and menus.

I know of two upmarket places locally that use an old typewriter with scrawled corrections in biro - not the best way to encourage window shopping customers to wander inside or those drinking in the bar to stay and dine. I don't suppose many of you will actually own restaurants but if you have an enterprising nature, local caterers present an opportunity to put your DTP talents to good use.

With a little application and the right approach, designing and producing menus can make you some money.

Once you have a selection of ten or 20 standard designs, put them together into a portfolio and show them to your prospective "clients" as you visit them.

You'll be surprised how many restaurants are looking for a low cost, reliable service and if you've got ready-made designs that need a minimum of alteration, you can do a quick, professional looking job.

In terms of actual design, the typeface is very important. Script typefaces tend to work best but they can sacrifice legibility if used at smaller point sizes.

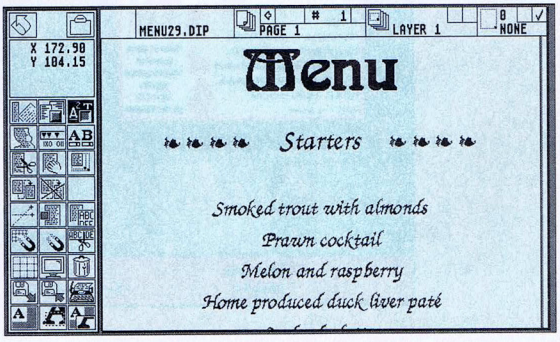
If you're having to cram a lot on a page, go for an old style or transitional serif typeface or perhaps an italic instead. Garamond Antiqua is a good choice for PageStream users while the ST Club's Derwent is worth considering for Timeworks users.

Small logos and relevant graphics can be used artistically to liven up the menu page and borders can also be a good idea – try a border made up of bunches of grapes or wine glasses for a wine list and perhaps knives and forks, plates or something like candlesticks for the menu itself.

Size is important too. While A4 is perfectly acceptable, many restaurants prefer A3 sized or even larger menus that open a bit like newspapers and while you can create large menus by tiling your output, reproduction will probably require a large commercial photocopier. Other places – particularly Indian and Chinese takeaway restaurants – use A4 pages folded twice to create a small booklet.

Consider the use of tab leaders (lines of dots or dashes automatically inserted when you insert a tab) to ensure that the price and the product can be correctly linked.

This is particularly important in wine lists which tend to be quite densely packed with information. Don't forget all the other things that restaurant customers will need to know such as whether service and VAT are included.



A full page menu being designed using PageStream

Only ten months to Christmas

Monotype have launched a Christmas font pack but as they only told us about it in December, it was a little late to review it in time for Christmas!

However, the pack is such good value that it's well worth a quick look. For £49 you get 15 PostScript Type 1 fonts but the interesting thing is that they're also very good for documents such as menus.

One is a picture font called Xmas Icons, but the other 14 are ideal for all sorts of occasions. Secondly there are two very pleasing serif fonts for body text – Ellington and Horley Old Style, each in Roman, italic, bold and bold italic.

Thirdly there are three script faces, Commercial Script, Engravers Old English and French Script, and two display faces, Colonna and Falstaff Festival.

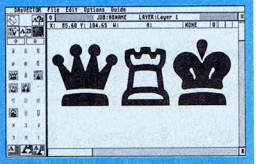
And finally there is Centaur Festive Italic, an exciting italic face with some interesting swash characters. For more information call Monotype on 0737 765959.

FONT OF THE MONTH

This month's font answers (rather belatedly) at least half a dozen queries from readers over the past couple of years. Yes, there is a chess piece font and yes, it's freely available!

The font in question is an Adobe original in PostScript Type 1 format suitable for use with PageStream or Didot or converted using Fonty for Calamus, and is freeware, being available on both CIX and Compuserve and probably one or two of the font-oriented PD libraries such as ST Club and Image Art.

Cheq consists of all the black and white pieces with or without a diagonally shaded background. It is ideal for chess buffs who want to produce club magazines or pass around complex problems, not to mention those of you who can see the attraction of incorporating chess pieces into graphics designs and logos.



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Making it legal

"How do I know what I'm doing is legal?" is a common question asked by people starting a business. Richard Williams brushes up on business law for the first of a new series

Starting up a small business is unlikely to result in a spell behind bars unless you deliberately set out to deceive or deal in stolen or otherwise illegal commodities.

However, there are many pitfalls for the unwary, and failure to comply with requirements can result in major problems.

Learning what the law says about business and taking steps to comply will mean you are sufficiently well organised to meet not only every requirement of the law, but many of the requirements of successful business management too.

Where does the ST fit in to all this? It can take the tedium out of the work involved and help you stay on top of figures, correspondence and other tasks involved (see "The ST and the law").

One of the major questions any business must answer at the outset is: What legal form should the business take?

There are four main options:

1. Sole trader
2. Partnership
3. Limited company
4. Co-operative

If you are starting up entirely on your own, the most likely form for your business is that of sole trader.

For businesses involving two or more people, the options are partnership, limited company or co-operative.

Sole traders can trade under their own name, or under a business name and despite the title, can employ staff.

The major disadvantage is that if business does not take off the way the business plan (remember that?) indicated, personal belongings can be seized by creditors or their agents seeking recovery of money.

If you opt to use a business name rather than your own name, ownership of your business will not be immediately apparent to others. The law says you must take action to rectify this.

The name and address should appear on all invoices, orders, receipts, written demands for payments and business letters. It should also be displayed prominently at the place(s) where business is conducted, and you must divulge ownership of the business and its address on demand.

Successful sole trader businesses often change their status to limited company to take advantage of limited liability protection.

Similar statutory rules apply to a partnership, but there are major differences in other areas. For a start, you are not on your own if you have a partner, or partners, with equal or varying stakes in the business. If your partner builds up debts, you can be held totally responsible, as any of the partners can be pursued.

This applies whether or not you knew the debt was being incurred. Partners should have an agreement drawn up by solicitors to prevent problems arising from possible future break-up.

It is usually easier to draw money, as a direct loan, from a sole trader or partnership business. If you go into businesses either as a sole trader or a partnership, statutory benefits for the self-employed are considerably less than for the employed.

LIABILITY

With limited liability companies, the directors are not personally liable for debts incurred by the company, apart from non-payment of National Insurance contributions. This limited liability factor is one of the major differences between trading as a sole trader or partnership, and as a company.

A company is a legal entity in its own right, whereas a sole trader or a partnership is all about individuals whose personal assets can be seized if debts arise.

There must be at least two shareholders in a company, and at least one of these must be a director. There must be a company secretary who could be your accountant, your solicitor, one of the directors or a shareholder.

Apart from the limited liability status, which means directors and shareholders lose only their share capital if the company fails, advantages include being able to raise larger sums of money more easily, and the ease with which outside investors can be accommodated.

But there are disadvantages, too, like more expensive annual accounting charges, possibly greater overall taxation, public disclosure of some information and inability to offset losses against tax paid in previous years.

A workers' co-operative is owned by everyone who works for it. Decisions are made democratically. However, that does not prevent there being managers and supervisors, just like in any other business.

Co-operatives are still quite rare in Britain. Detailed information is available from: The National Federation of Worker's Co-operatives, Vassalli House, 20 Central Road, Leeds LS1 6DE, Tel: 0532 461738.

Those in Scotland should contact: The Scottish Co-operative Development Committee, Tel: 041-554 3797. In Wales, the information is available from: The Co-operative Development and Training Centre, Tel: 0222 554955

The ST and the law

So how can your ST help you to stay on the right side of the law? In lots of ways. There could be lots of correspondence between you and Customs & Excise, the Tax Inspector, the Department of Social Security, pension and insurance companies and potentially dozens of others.

Be prepared – is that word processor that came with your new or second-hand ST really up to the challenge? Have you looked at Protext 6 yet (contact Arnor, 0733 68909), or one of its leading challengers, Redacteur 3.15 (contact The ST Club, 0602 410241)? The speed, power and features may amaze you.

The curse of the small business is working out VAT (if you're registered) and income tax returns. But they are legal requirements and you will have to face them.

Would a 3D spreadsheet like Microdeal's 3D Calc (0726 68020) – which features integrated editor, programming language, graphics and extended statistical functions – make the going easier? A well-modelled worksheet will literally save you hours of valuable time.

Keep track of all things financial, as and when they happen, with The Biz Plus. This is truly professional accounting software on a budget, and it's easy to use!

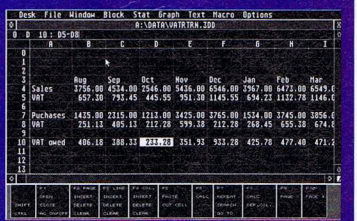
Details from Orpheus Systems (0424 436674). There's also the excellent Double Sentry – details from Graham R Hutcheon at Finansoft, 45 Connaught Street, London W2 2BB.

Whether limited company, sole trader or partnership, your business needs a logo that people will remember, which you can use on letterheads, statements, invoices and a whole host of other printed material.

And don't forget those notices you need to place in your premises to comply with the law. There's plenty of scope here for those great all-rounders, Timeworks (contact Electric Distribution, 0480 496666), or Calamus (contact JCA Europe, 0734 452415).

Planning the work of starting and running a small business, meeting deadlines and keeping appointments is a full-time job in itself.

An organiser like Day By Day can help enormously. More info-rmation from Digita International (0395 270273).



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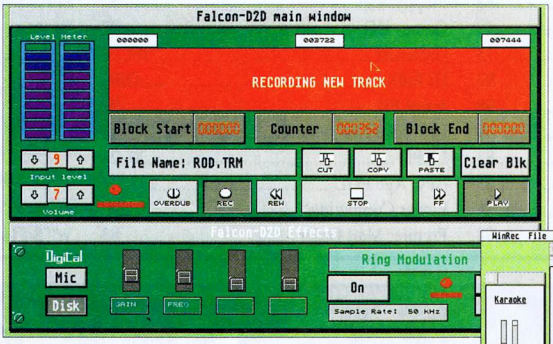
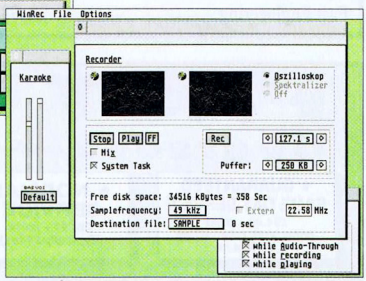
Direct to disk

John Hetherington turns his Falcon into a hi-fi as he takes a look at some direct-to-disk recording programs



Falcon D2D has a pretty interface and good effects



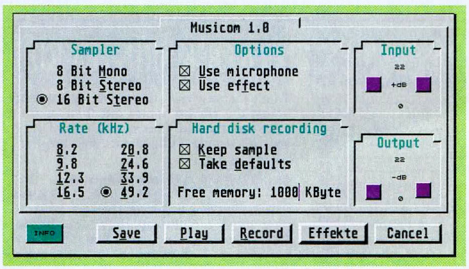
The best Karaoke of all – and registration is only £13!

tal information and store it on disk.

You can also convert it back to analogue sound and play it through headphones or speakers. In other words, you can use your Falcon very much like a tape recorder.

On the downside, good quality sound samples take up a lot of disk space – a four-minute stereo track recorded at 50kHz will take up around 45Mb on a hard drive. That doesn't leave a lot of room if you're using the internal 60 or 80Mb model.

If you're a real music junkie, the Midi Aspects pages are the place to be but for those of you looking to get into direct-to-disk recording and real time special effects just for fun, there are some budget programs well worth looking at.



Compo's Musicom works very well and offers good value

To set them up, all you need is a set of leads to connect your music source up to the Falcon's microphone socket.

Most off-the-shelf microphones will plug straight in and let you record your own voice, in either mono or stereo according to the type of microphone, but if you're using a CD player or cassette recorder you will need to connect the line out jack or phono sockets to the Falcon.

For best results you'll also need some active speakers (battery or mains-driven) plugged into the Falcon's headphone socket, rather than the tinny internal speaker which you'll have to turn off via the control panel.

A word of warning here – don't connect speaker outputs from any device like a hi-fi to the Falcon's microphone inputs.

Highly amplified signals will almost certainly damage the machine and cost you a lot of money!

MUSICOM

Musicom was one of the first programs to arrive for the Falcon and it is still one of the best and easiest to use. It saves samples in its own SMP format but you can choose from 8-bit mono or stereo samples, as well as 16 bit stereo, and one of eight different sampling rates from 8.2 to 49.2 kHz.

Special effects include delay, flanger, graphic equaliser, harmoniser and the dreaded – but undoubtedly popular – Karaoke. Musicom isn't much to look at but it's cheap, cheerful and it works. An enhanced version, Musicom 2, is due for release soon which offers dozens of new features like sample editing.

FALCON D2D

Falcon D2D is part of the software bundle from Atari we looked at last month and works in much the same way as Musicom.

It offers six sampling rates from 8 to 50KHz and some clever special effects ranging from echo, flanger and chorus to several different reverb effects corresponding to various types of rooms and halls.

It won't run on an SM124 monitor and the sound samples are saved in yet another proprietary format, TRM.

It does have an interesting overdub option that lets you add new information on to an existing track provided it was recorded at 33KHz or less.

WINREC

The third budget direct-to-disk sampler is a shareware offering that earns itself the honourable accolade of Falcon PD of the Month.

It is a fairly basic program that saves its own format files using one of eight sample rates, again from 8 to 49KHz, but the files can be packed to save space. The loss in quality is only small but higher sampling rates are really only practicable on a fast hard disk.

The two main advantages are the excellent Karaoke module and the supplied utility that lets you convert the proprietary sound samples into AVR files for use with other programs. What's more, Winrec will also use the LOD effects files from Falcon D2D, giving you an even wider range of special effects.

Karaoke comes home

You've seen it in the pubs and clubs – now why not try it on your Falcon? The Karaoke effect works on most popular vocal music and takes advantage of the stereophonic nature of the sound.

In most cases, particularly with solo artists, the vocals occur on both right and left channels so that the singer seems to be standing in the centre of the stage.

When the sound is being processed with the Karaoke effect on, the right and left channels are compared and anything common to both sides is removed.

The result is muted vocals rather than none at all but nonetheless it is great entertainment. Such a crude method has its disadvantages in that some instruments can be removed too but in general it works well for all kinds of tracks.

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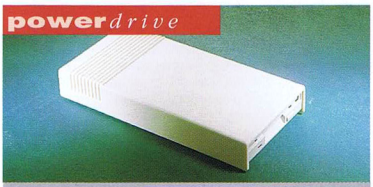

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Ultimate Cartridge **£25**
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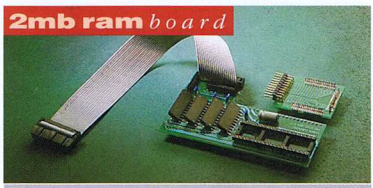

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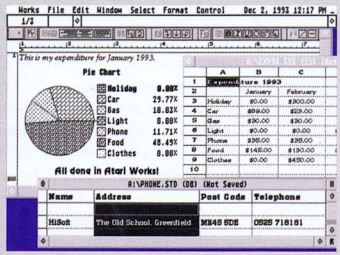

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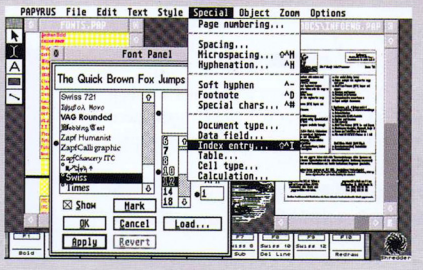
All modules support the new SpeedoGDOS and are fully integrated - Atari Works is probably the most powerful integrated package yet seen on the Atari computers.



Papyrus

If you need a high-end word processor with many desktop publishing features then Papyrus is the new package for you.

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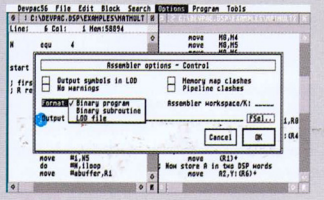

DevpacDSP

Another new programming package joins the HiSoft family of languages for the Atari 680x0 computers. DevpacDSP is a complete development system for the Motorola 56001 digital signal processor used in the Falcon030.

Remember that we've also updated our other programming languages for the Falcon. Devpac 3.10, Lattice C 5.60 and HiSoft BASIC 2.10 all contain extra libraries/include files for the Falcon, an extended debugger that works in all Falcon resolutions and much more. The *Modern Atari System Software* book (free with Lattice C 5.60) gives full Falcon developer documentation.

DevpacDSP consists of a fast 56001 assembler, fully integrated with our friendly GEM editor, which supports macros, conditional assembly, include files and direct production of .LOD files or Falcon binary plus an easy-to-use GEM-based debugger for disassembling and stepping through your code, modifying registers, setting breakpoints etc.

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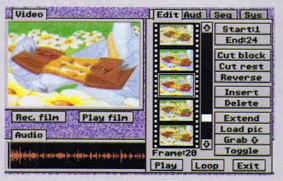

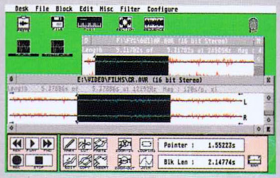

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