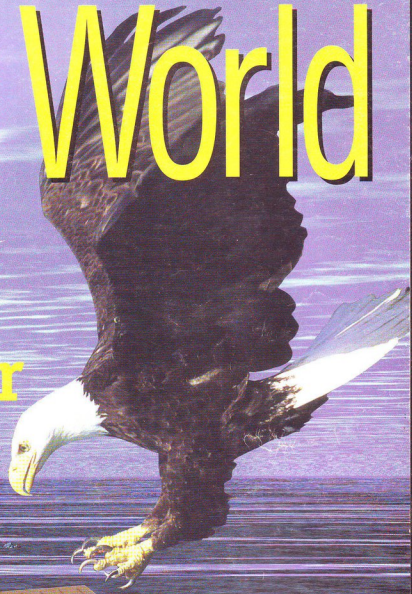


Issue 2 June 1995

ATARI World



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GE-Soft's Eagle comes in to land

MagiC 3.0

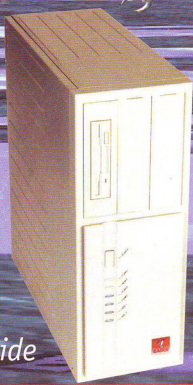
Exclusive preview

Substation

At last - Doom on the Atari STe!

Split Decision

STEM or STe? Find out the pros and cons - *inside*



Music Master

An insight into MIDI and the pro musician

Reviews

InShape 2 • DeskJet 540 • AudioTracker • MagiC 3.0 preview
TUS hard drive • Substation preview • MagiMac • Llamazap





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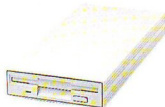


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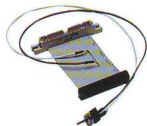
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new

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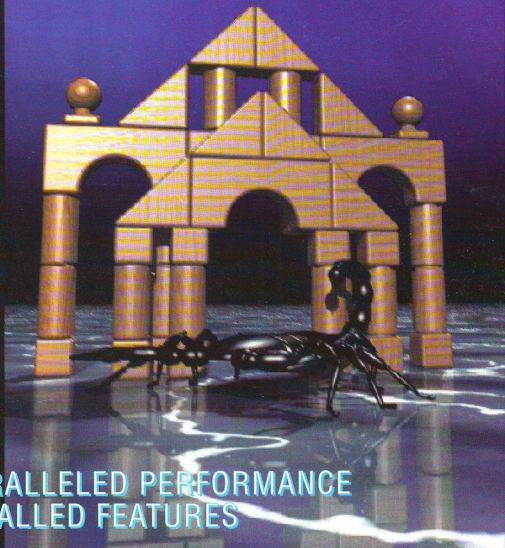
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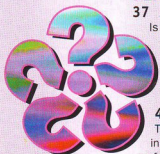
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Get the Atari
World Reader
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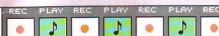
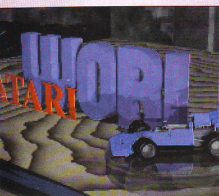
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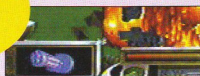
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26 MagiC 3 preview

Details on the latest incarnation's new features.

29 AudioTracker

Eight tracks of direct to disk recording for your Falcon.



Reasons to be cheerful

This issue of *Atari World* shows that there are a number of reasons for Atari enthusiasts to be optimistic about the future. First, there continue to be various well-supported shows around the world; Canada and France each played host to Atari-specific exhibitions in March and April. Second, Atari is still the computer of choice for many professionals as our feature on musician Ian Boddy shows. While this is often in the domain of MIDI, such support maintains the profile of our machines. Third, manufacturers persist in pushing back the boundaries by releasing new machines, in the form of GE-Soft's Eagle, or substantial enhancements, such as the forthcoming 68040 boards from Wizztronics and GE-Soft.

Perhaps the best reason of all has been your response to *Atari World*. At the time of writing this editorial over 1,100 surveys had been returned, and there is every chance that the final count will rise to over 2,000. I can only thank all of you for taking the time to sit down and fill in the two-pager. It is doubtful whether any Atari-based survey in recent years has received a better response; the results will be truly indicative of today's Atari market and we shall react by listening to your comments and acting on them.

Thanks must also go out to the dozens of readers who have written to me personally. I'm deeply touched that so many of you have found the time to thank me and the Atari World team for putting together what you believe to be the best Atari magazine ever. Some of your comments have been included on page 36. We've also extended the survey deadline to May 31 - if you have issue 1 and haven't filled in the form yet, please do. Tell us what you want and we'll do our level best to provide the kind of editorial that will keep you loyal to Atari computers - and *Atari World*.

Vic Lennard
Editor

Don't miss the
July issue -
out June 16

76 Clubbin'

The Cheshunt Computer Club enters this month's spotlight on the UK's Atari user groups.

77 Q&A

Four pages of answers to your questions.

82 TalkBack

Mike Goodman in the hot seat this month with four searching questions from Vic Lennard.

Don't forget to read this
month's FREE magazines...

ATARI Pro

STSource

SNIPPETS

● Don't miss Gasteiner's Spotlight 1995 show. Atari and Amiga specific, companies including HiSoft, 16/32 Systems, Digital Awareness, Compo Software and Power Computing have already booked into the show which takes place at the Novotel, West London on June 10/11. More information from Gasteiner Technologies on 0181 345 6000.

● Time Warner recently announced a plan to sell off all or part of its 24.5% shareholding in Atari Corporation. The film and multimedia giant is also selling off other interests that "do not contribute directly" to its bottom line.

● Merlin PD has recently moved premises and has a new telephone number although the P.O. Box address remains as before. Contact Merlin, P.O. Box 77, Stroud, Glos, GL6 9YD. Tel: 01452 770135.

● Gasteiner (0181 345 6000) has just taken delivery of the first batch of GE-Soft's Eagle (see page 42 for review). Retailing at £1,999, the Eagle is a high spec TT clone that outperforms the Atari TT and is aimed primarily at the professional music and graphics markets. Gasteiner has also been appointed UK distributor for GE-Soft's Afterburner processor accelerator board. The basic board will have a full spec 68040 clocked at 32MHz and will include 4Mb of on-board RAM. There will be separate versions for the ST/e and Falcon, and the ST version will yield performance of between 10 and 20 times that of a normal ST. The price is expected to be £699 for the populated board. Release date TBA.

● It is now much easier to obtain convictions against software pirates following the recent introduction of the Trademarks Act. Piracy of products that display a registered trademark on title screens and product packaging now carries a maximum jail term of ten years, but only if the trademark has been registered. The procedure for registering company logos has also been simplified by the Act. For more information contact ELSPA on 01386 830642.

News

Games Galore

Three new games hit the Atari market...

Hollywood schemes

Desert Star's (01482 871210) much talked about game Hollywood Hustler has just been released on the ST. After losing your job, girlfriend and car, you find yourself alone on the streets of Hollywood with nothing else to lose and everything to play for!

Hollywood Hustler is a "live action" poker game where you play against Joe, Chuck and Montana Slim, the meanest poker players in town. The game features excellent digitised graphics and over a megabyte of interactive sampled speech and effects. Desert Star's specially developed artificial intelligence has been put to use to ensure a totally compelling and



Bad dudes - and you'd better pray that the only green thing at the table is the baize...

wholly authentic game of poker. During the game, you visit real Hollywood venues, meet a colourful cast of actors (all filmed on location in Hollywood) and experience the thrill of a truly interactive game of poker which, depending on how you play, can result in one of three possible endings.

Hollywood Poker runs on any ST or STe with 1Mb of memory and a colour TV or monitor. It costs £24.95 and is available directly from Desert Star Software, 120 Burden Road, Beverley, North Humberside, HU17 9LH, or from a

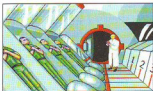
number of third-party retailers. Check out the full review in next month's Atari World.

Alien eats Predator!

Alien Thing, another game destined to come out on the IDS label, looked to have been lost forever. We recently contacted the programmers and were pleased to hear they have formed their own company, 999 Software (0378 494931), and that the game is in its final stages of development and beta testing.

Alien Thing is a fast-action multi-directional scrolling shoot-'em'-up. Your mission is to infiltrate and destroy a large alien spacecraft that has been set on a collision course with Earth. Just to make life a bit more interesting, the ship is infested with a bunch of rather unfriendly aliens, lethal slime and several other unpleasant, er, "things". Merely shooting the aliens would be too easy - you are also set a mission for each of the 11 levels by ground control, and must complete your task before being allowed to progress to the next level. Your missions vary from repairing control terminals to closing off air ducts, so preventing the spread of aliens throughout the ship.

To assist you on your quest, you come across a number of



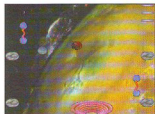
Wakey, wakey - time to climb into those rockets and kill!

equipment lockers which you can plunder for ammunition and security pass cards (for opening doors). Random bonuses and extra lives can also be found lurking inside these if you're lucky.

Alien Thing runs on any ST, STe or Falcon with 1Mb of memory. It is hard disk installable but may also be run directly from floppy. On the STe and Falcon, DMA sound is used to full effect. It is due for release in June or July and will cost £15. Contact 999 Software, 1 Portland Avenue, Burton on Trent, Staffs, DE14 3GD.

Ping pong '95

And just to prove that the Atari games scene isn't dead, Merlin (01452 770133) has recently tied



Ping 2000 - three games in one including this futuristic version.

up the UK distribution rights to yet another potential blockbuster by the name of Ping 2000, a futuristic version of the classic bat and ball game that started it all. Ping 2000 comes from Holland Games Design and is effectively three games in one. The main game is a fast, modern day implementation with improved sound and graphics - highly unpredictable, with the ball bouncing off planets and meteors. Ping Duel is a highly competitive two player variant, while Ping Classic is a complete rendition of the original game from yesteryear.

Ping 2000 runs on any Falcon with a hard drive. It is out now at a cost of £19.90.

The CyberStrider files

Denesh Bhabuta brings you up-to-the-minute news on PD and shareware titles from one of the UK's best-known sites, HENSA.

Many PD and shareware authors are now appearing on the Internet which can only be a good thing. If you have Internet access, it's a lot easier to contact the authors regarding any bug reports, or



Never lose track of your friends, relatives and business contacts with Da Capo.

features you want to see in the program. In addition, latest releases are immediately uploaded to software sites on the Internet. These then find their way into PD libraries in the following weeks. In this column, I will bring you news of the latest PD software that comes my way, to complement the mini-reviews in Public Arena.

A couple of updates this month. Speed Of Light, reviewed in this issue in Public Arena, is up to version 3.8, fixing a few bugs that crept into version 3.7. The program also has a UK registration scheme. The



Soon it will be easy to send encrypted messages to your friends!

other program to be updated is GEMBench: now at Version 4.03, it works happily with MagiC 2.

Address managers seem to be in fashion, the latest one being the shareware Da Capo. Text is still in German but this doesn't hold the program back as it features an intuitive interface. It'll give the alternatives a run for their money.

Another program worth mentioning is the demo version of Twilight, a screensaver that'll leave you drooling. It comes with a range of

modules, many of which also feature sound effects. The full version is available from JCA Europe (01734 452416).

And finally, a new shell for PGP (the encryption package) is in the works. Named "Easy-PGP-Shell", the latest beta version features a slick interface and ST-Guide on-line help. Currently in German, an English version is promised for the public release. Watch out for a review in Public Arena soon...



Twilight, the modular screen saver. Yep - you too can be the envy of your PC and Mac owning pals...

JAGUAR UPDATE

It's happened! Atari has finally admitted publicly that it is working on Alien V Predator 2! What's more, the game will be CD-only which means that it's bound to include many of the extra features demanded by fans of the original game.

Of course, this jollity must be tempered by the fact that the company still hasn't managed to get the CD unit itself out of the door. "Real soon now" remains the official word and Blue Lightning is the current favourite

for a bundled title but, once again, no firm decision has been made.

Software is still trickling through at a steady rate and you should find Sensible Soccer (hooray!), Double Dragon 5 (triumph...), Theme Park, Syndicate and perhaps even Pinball Fantasies or Zyxorxx 2 in the shops by the time you read this. It is rumoured that Fight For Life has been delayed to add some extra texture-mapping following comments made at the

European Computer Trade Show. With the first wave of "big" games on the market and the summer well upon us, all eyes are

Present - Zyxorxx 2 looks set to trounce all over Crescent Galaxy...



Past - Double Dragon 5 is based on a jaded game-style, but the graphics look rather neat.

once again focussed on the second half of the year. The line-up is looking quite good; Hover Hunter, BattleSphere and several others should be out well before the autumn. Bullfrog's highly acclaimed Magic

Future - Mortal Kombat III will grace the Jaguar at the start of next year.

Carpet will also be with us by Christmas (if all goes according to plan) and Defender 2000 is racing along. Mortal Kombat III will follow at the beginning of '96.

And in conclusion, Fuji fans might like to check out Tom Clancy's latest novel,

Op-Centre, in which two college buddies are said to hold the highest scores on "Jaguar's Trevor McFurr game". Proving, one assumes, that they are completely mad... **Nial Grimes**



SNIPPETS

Richard Karsmakers, author of the *Ultimate Virus Killer*, is about to publish a book of the same name. It will look at the history of computer viruses on the ST, Mac and PC, give advice on how to guard against them and hopefully dispel the various myths about what a virus can and can't do. The book will also include a list of all known Atari viruses and their symptoms, as well as an extended version of the *Ultimate Virus Killer* manual. The *Ultimate Virus Killer* Book is expected to run to around 250 pages and will be available in July at a cost of £11.95. It will be a limited edition publication and will only be available until December 31, 1995. Payment should be made by UK cheque and sent directly to Richard Karsmakers, P.O. Box 67, NL-3500 AB Utrecht, The Netherlands.

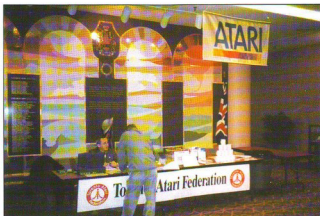
Time Slips is the name of a new game under development by H.E.R.O. authors Tony Greenwood and Bob Goodfellow. Details are sketchy at the moment but it will be viewed from a first-person perspective and players will have the ability to walk around objects within the game. A new STOS extension has been written to accommodate several unique features of the game and we are talking about a late summer release. More news as it appears.

zzSoft (01254 386192), publisher of the Easy Text range of Desktop Publishing packages, is doing a special promotion on its programming tutorial, *Introducing Atari ST Machine Code*. The 405-page book and disk set teaches a complete novice the basics of 68000 assembly programming and is currently on offer at £9.99 plus £1.40 p&p (RRP: £14.99).

MINA is yet another multi-tasking AES replacement similar to MINT. It is currently being developed by Martin Oseika, author of Gemram, Shbuf, WinX and others. It will be "highly compatible" with the MultiTOS AES and include all WinX's GEM enhancements. MINA will require a replacement desktop such as NeoDesk, Ease, Gemini or Teradesk. The package is in the early stages of development and we'll keep you posted as it progresses.

An ACE Show...

There's life in the market yet as Rob Perry finds out in Canada.



Canadians and Americans alike enjoyed the first major Atari show to be held in Toronto, Canada, in recent years. ACE '95 boasted over 30 exhibitors, with even a few making an appearance from the UK.

Howard Carson, secretary of the Toronto Atari Federation, did a good job of organising the show - exhibitors filled three interconnecting halls and over 1,200 visitors attended, confirming that Canada and the USA still have a strong Atari presence.

Wizztronics boasted the most exciting product at the show - the Barracuda 040 accelerator. Unfortunately there were technical difficulties with the demo machine due to damage in transport, so visitors had to be content with just seeing the board. This seemed to be enough, as people were placing their names on the reservation list. On sale was the re-designed Falcon Rack, showing that professional music equipment deserves to have a professional, hard-wearing case to match.

DMC was there in force with Calamus SL and the rather unknown graphics package, Invision Elite, while Cybercube Research showed off its Cyrel Sunrise card for the MegaSTe and TT range. There was even an open TT displaying the CaTamaran 48MHz accelerator.

ABC Solutions proved that Multimedia CDs are possible on the Atari. With SARA, you can use

Well organised - the Toronto Atari Federation ran a smooth operation.

some of the more interesting PC multimedia CDs such as Family Doctor, Grolier Encyclopedia and Video Movie Guide - all you need is that CD-ROM drive!

Compo had the first showing of a powerful new rendering graphics package, NeoN Graphics. Its impressive editor, with comprehensive textures, colours and bump mapping capabilities wowed everyone - people just could not believe what a humble Falcon could achieve. Compo also had the first issue of *Atari World* for all to see, even before it was out in the UK!

Computer Direct headed up the MagiCMac seminar with a hands-on demonstration of the package running programs such as Calamus SL, and DA's Picture and

Have show, will travel - Brad Koda of Best Electronics made his usual appearance.

Layout, all at speeds only previously dreamed of.

Version 4 of GEMulator from Branch Always software was being previewed. This now runs under Windows '95, giving your Atari emulation the same graphics capabilities as a PC multi-tasking with Windows programs. New features include MIDI support, STe digital sound, Blitter emulation, PC joystick support and improved modem and hard disk support.

SKWare One had a new graphics program in *Seurat*, a kind of *Degas Elite '95* for the ST and Falcon. The programmer had apparently spent more than five years developing this program!

The multi-tasking war was apparent with Gribnif showing Geneva and NeoDesk 4 in one corner, and System Solutions demonstrating MagiC and Ease in the other. The jury's still out!

Overall, people left the show thoroughly encouraged with their choice of staying with Atari computers. Thanks go out to the members of the Toronto Atari Federation for putting on a friendly and memorable show. Now let's get 'em over here for a UK exhibition...



Fifteen all - Gribnif sported Geneva and NeoDesk 4 while System Solutions demonstrated MagiC and Ease...



The Battle for Earth has begun...



ZERO-5

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Atari ST User June 1994

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the pants off us..."**

ST Format August 1994

**"...one hell of a programming
achievement..."**

Atari ST Review December 1994

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Money Talks

Slowly, but surely, Jaguar sales are beginning to make a difference to Atari's financial problems. The company recently posted its financial results for 1994 and there was a marked improvement over the previous year. World-wide net income was \$9.4 million, compared with a loss of \$48.9 million the previous year. However, although the year end results showed a significant improvement, Atari did incur an operating loss of \$12.6 million in the fourth quarter, attributed primarily to increased spending on advertising and a stock evaluation adjustment. A one-off net payment of \$29.8 million from Sega (in respect of the purchase of 4.7 million Atari shares and the settlement of a patents dispute) put Atari back in profit. Commenting on the above figures, Atari President Sam Tramiel said: "We are very pleased to offer Jaguar for \$159.99, thereby making new 64-bit technology competitively priced against older 16-bit systems. Although we are disappointed that our expectations for Jaguar were not met in the fourth quarter due to delayed game software, we believe we have taken corrective actions to ensure an ongoing stream of software through 1995 and beyond".

Last month's European Computer Trade Show (ECTS) saw the launch of the Jaguar CD at £149 and a drop in the price of the stand-alone console to £149. As a result of this fiercely competitive pricing, Atari are now predicting its share of the consoles market could reach as high as 60% by the end of 1995. Atari UK's marketing manager, Darryl Still said: "The £149 price point is very important for the Jaguar – it's the same price as the consoles were in 1992". Meanwhile, high street chains John Lewis and Virgin have joined Game and HMV in adding the Jaguar to their line up. All 35 of Virgin's Megastores are stocking the Jaguar and its forthcoming CD-ROM add-on as well as the full software catalogue. John Lewis started selling the Jaguar from 20 of its 22 outlets as we went to print. Thornley Distribution, one of the UK's first Jaguar distributors has re-entered the game after being bought out of receivership in January. It has purchased Rumblelows' remaining stock and will be supplying the Jaguar to Future Zone as well as numerous independent dealers. Argos, Comet, Beatties, Toys 'R Us and Dixons have also been mentioned as possible future stockists.

TALES FROM THE INTERNET

Have you ever wanted to go to University? Graeme Rutt takes the shortcut...

When you hang around the comp.sys.atari.st Usenet newsgroup you start to notice a definite pattern. It goes something like this: "Where can I get such-and-such a file?", "Oh, take a look on the Atari Archive. It'll be there." Such is the faith in this slab-like denizen of the Great 'Net that you don't even have to know if a file's there. It just has to be.

The University of Michigan is the host of this huge software archive and the present organiser is the extremely knowledgeable Mickey Boyd. You can log in via FTP: the address is [atari.archive.umich.edu](ftp://atari.archive.umich.edu). When you get in you'll find one of the most impressive arrays of data ever to cross an Atarian's eyes. It's not only the amount, the organisation is pretty excellent too. The files are split up into their various types: applications, fonts, falcon and so on, and, if necessary, there are sub-sections within these areas. There are plenty of indexes and even a list of every file in the archive. Mickey also regularly posts a list of new software on the comp.sys.atari.st newsgroup.

The one problem with the archive is availability. The University of Michigan site is very popular and there are very tight time restrictions. To be quite honest I can't remember the last time I could get in. So why am I waxing so lyrical about a site I can't use? Simple. The whole thing is mirrored at the Imperial College, London – the FTP address is [src.doc.ic.ac.uk](ftp://src.doc.ic.ac.uk) and the path is `/computing/systems/atari/umich`.

Until next time, have fun at the Archive. If you want to get in touch, e-mail me at sabbath@cix.compulink.co.uk.

In Seine...

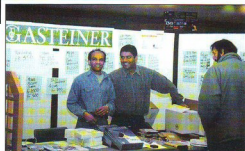
... or how Vic Lennard ended up with a seriously scrunched up face at the Paris Atari Show!



Jens Stutte of Neon Grafik spent most of the two-day exhibition extolling the virtues of the excellent Neon program.



Lexicor France had David Enclitt demo'ing Apex Media. Vic Lennard happened to walk into the firing line and...



I dunno - you come all the way to Paris and you still find some well dodgy geezers...

... this was the result - a definite improvement!

TEAM



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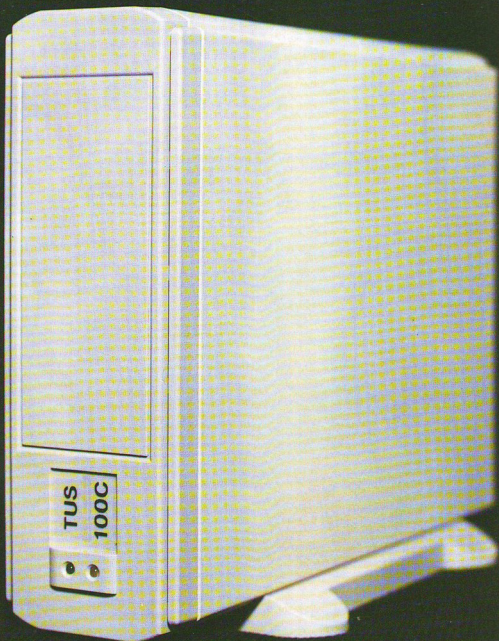
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THIS GAME IS SERIOUSLY ADDICTIVE

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Reader Disk

OK, it's a fair cop – we don't have a cover disk. But we do have Reader disks and that way YOU can choose. Read on for more details...

A cover disk increases the price of a mag – and many readers never even look at the software! There has to be a better solution which is why we've opted for an entirely new concept: the Reader Disk. You want one? Just order it. You don't? Then leave the money in your pocket!

Isn't it a cover disk in disguise?

No! Each Reader Disk directly supports the software covered in the magazine. We'll also include any program listings or related support

files on the disk. This month, there's a complete database guide to Issue 1 – this will build into an invaluable reference source.

The Reader Disks also create a vital link between you and the software author. *Atari World* supports and encourages software authors; you can do your bit by supporting them. We're in constant contact with the best Atari programmers around – we can keep your finger on the pulse with the latest versions, many of which are exclusive to this magazine!

A single Reader Disk costs £2.50 inclusive of postage and packing – the same price as a typical PD disk. Some issues will offer two or more Reader Disks with each additional disk costing £1. For example, a three disk issue would cost £4.50 inclusive of postage and packing. This month two Reader Disks are on offer for £3.50. If you've subscribed for both the mag and the disk you get the extra disk FREE! So the choice is yours but don't forget to check out the special subscriber deals on pages 34-35.

This month's Reader Disks



Two disks this month. Disk A includes a selection of software covered inside the magazine (and Duet which was covered last month). The three character folder extension points you to the relevant page in the magazine; (A) Atari World or the (S)ource or (P)ro supplements. The numbers denote the page number. For example, WRDLCLK.A59 means World Clock is covered on page 59 in the main magazine. Reader Disk B offers an exclusive opportunity to try Thing, a replacement desktop complete with a range of useful external utilities.

To back up your Reader Disks, simply run AWBAKUP.TOS and follow the on-screen instructions; the program even formats the disk for you.

Disk A

Speed of Light v3.8 (Atari World p57)
Shareware • Stuart Denman

An Atari World beating image viewer and manipulator. v3.8 was rushed out due to a couple of nasty bugs in our review version. European registration now available.

Bootsie v1.74 (Atari World p59)

Freeware • Stefan Krey

Writes a custom boot sector to your boot disk. Set the boot delay, sound, cache and message.

World Clock v1.0a (Atari World p59)

Chocolateware • Dan Wilga

A new way to clockwatch, point and click around a graphical map of the world.

GDOS-Check v2.0 (Atari World p62)

Freeware • Christoph Bartholme

Check your GDOS fonts and test your printer's margins.

Maus-Window v1.32 (Atari World p62)

Freeware • Thomas Binder

Activates the window under the cursor.

Duet v1.0e (Atari World Issue one p62)

Shareware • Andreas Alich

Share your drives between machines, networking via the MIDI, serial or LAN ports.

Vericard v1.0 (Atari World p63)

Postcardware • Mark Brinkworth

This small desktop accessory checks the validity of some 16-digit credit card numbers.

Disk B

Thing v0.31e (ST Source p12)

Exclusive • Shareware • Arno Welzel

Complements the introduction to Thing in ST Source. Configured to autoboot from floppy into medium resolution on most machines (TOS 1.04 or later and a minimum of 1Mb memory). Can also be run manually from the desktop.

Thing utilities (ST Source p12)

ST-Guide • Firmware • Holger Weets
ThingICN • Freeware • Holger Weets
TOS2GEM • Freeware • Thomas Binder
FSearch • Freeware • Mark Davidson

ST-Guide provides context sensitive help; ThingICN edits Thing icon assignments; TOS2GEM provides the Console window; FSearch helps locate files.

All four utilities include on-line ST-Guide format hypertext documentation for ease-of-use.

Atari World Profile

Exclusive • Joe Connor

ST-Guide doubles up as the front end for the Atari World Profile which covers issue one and profiles of most regular contributors.

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Reader Disk problems

In the unlikely event that a Reader Disk won't load or gives you any other problems, disconnect all peripherals, switch off your computer for at least 20 seconds and try again. If this doesn't solve the problem, return the disk to the Atari World Disk Sales address, including a stamped self-addressed envelope, clearly labelled "Atari World faulty disk". Your disk will be replaced as quickly as possible.

Should you require technical help, call the Atari World disk helpline (01206 852602) on any Wednesday evening between 7pm and 9.30pm. Please don't call outside these hours as we won't be able to help you.



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At Floppieshop we only stock the very best software. All our ST disks are double-sided and are formatted **FAT**. In addition, our catalogue disks are the most detailed in the UK and cost just 41p. Please note ST software. Some day depends on contents. Cards can either be welcome. Unless otherwise stated, ST disks cost £2 each and 3.5 inch disks (HD) cost £2.50 each. All disks sold on a standard machine with 3.5 inch 20Mb capacity 3 Meg of 5.25 inch floppy, unless otherwise stated.

COLOUR OR MONO - Disk numbers ending 'C' are BUDICO or COLOUR MONITORS OR TV'S only. Disk numbers ending 'M' are: A610M are for MONO MONITORS ONLY.

RGB or VGA - Indicates the type of monitor required to run a specific Floppy program.

ART & GRAPHICS

AEL388 BRAINSTORM'S FLIP FLIP FLAYER - Run Hand-drawn Animator/Animator. Put animations on ST. FT or FAX - Run Animator.
ART292 GREYSKALE IMAGE PROCESSOR - Image processing at its best. Extensive range of filters, everything you need to work on those scanned images.
S-ART 4314 & S-ART 4415 & S-ART 4100 POW RAYTRACE V2.1 - The complete ray-tracing program. Required most to run. Contains hundreds of example scenes for the user. Please see Price £25 for three disks.
ART3585 IMAGEGLAY V2.1 - Powerful graphics image processor packed with features. English version of Top German package. Most extensive and graphic requirement. Use on ST or NeXT. Needs 1 Meg.

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EDUCATION

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EDUMAC HCTS TO PARLIAMENT PART 5 - This concluding educational game for Elizabeth II by Guy Fawkes. Use on 5.25 inch floppy. Contains text but features in presentation. Part 1 & 4 also available.

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PWGIC Sprite Tools by OCL - 30 new graphics for GFA Beta '93 and new GFA icons for performing numerous tasks used if you don't own a set, you get a powerful set of graphics with which to design your graphics. A GFA programmer's delight. Comes on two disks. £2.99

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PWGIC TALK OVER THE RUBBISH by John Foxworth - A magic magazine that simulates the RAF's night-time bombing operations against Germany during 1943-44. £2.50

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PWGIC LEXICON WORD HANDLER by Peter Legge - A 4000 word list with a

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PWGIC CRAZY LETTERS by Queens Cup Software - An original and addictive word game, specially DCS set version to date. Great fun for ages 8 to 18. £2.00

PWGIC THE CURSE OF BOLDA by Inland - The ultimate multi-level platform and hidden game program over two disks. As well as collecting objects and avoiding 'traps' you have to puzzle out the workings of buttons and switches and avoid traps. Better than most commercial versions. STE ONLY. Needs 1 Meg. £4.00

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G-AM908 JIGGY - A cross between a jigsaw and a sliding puzzle but with a time limit. An addictive game that is never challenging that is never boring. Needs 4 Meg.

G-AM910C ASTROPANIC '94 - A re-write of the good old fashioned Space Invaders type game 'Inv. Inv. Inv.' on your machine but uses extra features of the ST, TT and Falcon. Addictive for all ages. Needs 1 Meg.

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LAN808 OMMEN SOFTWARE DEVELOPMENT KIT - All you need to write your own OMMs (non platform wide) coding software or make existing programs compatible. Includes a source assembler, a C library, a linker, a compiler and lots of assembler source. Requires OMMs to UTL401.

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LAN849 ST-ADP - An integrated front end for the Sinclair C++ compiler. Don't Dan - A powerful 8086 assembler program and also in French. Very useful file of C source and also in French. LAN855 STOS CYBER, GIF & EXTRA EXTENSIONS - Three re-writes of the STOS BASIC with no self-improving STOS-BER. After being better. Offers use of SEQ activation in ST. Also adds 37 new utility type commands and GIF exports compressed files and MUCH MUCH MORE.

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S-4819 & S-4820 AGONISCHEN VERKOTEN by Lauer - The Last Flowers Demo. RGB ONLY. Needs 4 Meg and a hard disk. £4.50 for the two disks.

S-4815 & S-4816 42 BEARS LATER, by TKAO - An impressive graphic disk ticks this one off. Includes a range of pure graphic effects. Basic. RGB ONLY. Needs 4 Meg and a hard disk. £4.50 for the two disk set.

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F4825 MOSTLY HAMBURGERS by MJF Paul - One of the best demos on the Falcon. Lots of special effects. Even the graphics are impressive. RGB ONLY. Needs 4 Meg.

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F4823 LAMERS BEAST by The Megablasters - A great tribute to the Megablasters which has a number of interesting effects. A Code of Conduct - Concentration on a new demo effect and main goal of the DSP & COFFEE chips. Both demos on RGB ONLY and need 4 Meg.

GAMES

F4378 LASEKS AND MEN '92 V2 - Fun action. Wolfboy DZ close on your Falcon. Who wants you and who really recommended. Needs 4 Meg.

F4485 WINGLORD - Knock your opponent from their winged steed in this 1 or 2 player game. VERTICAL HAMMERS - A very original theme that ticks totally worth 4 more meg on one disk.

F4379 BLACK HOLE - Arcade action with lots of 'dug out' sound. Can you find the coins on each level that hold the key to the next? Watch out for the rare black thought! W4379C STARBALL - A fantastic Poolball game with great sound, graphics and several odd games. The HD version features several new adapted tracks than the ST version and is Falcon enhanced.

F4786 NIBB BRAINSTORM - Guide Allen's dog around dozens of numerous levels collecting all the Yin Yang symbols. Great graphics and needs 2 Meg. Nihil Racing - Another Allen's video game. Lots more details and maps and two players on the game. Needs 1 Meg. SLURP - The best game of simulation ever played!

F4820 ASTROPANIC - A re-write of the good old fashioned Space Invaders type game 'Inv. Inv. Inv.' on your machine. Also in French. Very useful file of C source and also in French. LAN855 STOS CYBER, GIF & EXTRA EXTENSIONS - Three re-writes of the STOS BASIC with no self-improving STOS-BER. After being better. Offers use of SEQ activation in ST. Also adds 37 new utility type commands and GIF exports compressed files and MUCH MUCH MORE.

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F4822 SWITCH - Fine-tuning control for the debugger, you can differ your way through a library, operated by a system of records and links. Formatting addictive and intensely enjoyable. RGB ONLY. Needs 4 Meg.

F4830 CUBUM - An addictive Tetris game with impressive graphics, chaotic patterns, hidden surprises and more. Needs 4 Meg. PINGPONG - A rather curious adaptation of Microsoft's TACTIGLOU - Similar in style to John Jung's Stargate. The game played on a 3D board.

UTILITIES

F4814E ACI, RUN VIA, NVII, JIF, MAMS WINDOW, MOOSE, KA MANIA & BURT BROTHERS, INC. PEKERSHO VEGEHOOL, VOLUME, VOLANTE, MARCH LITTLE, SLURP.

F4845 DAVE MULTICOLOUR, EASY DATA, PRIMA, TOCANTO, TRUESIDE, XTASIS, SPECTRUM EMULATOR V2.07.

F4825 AL325C7, ARHIZHE, MAC314, ARJWCJK, BARCODE, BOOT, BOX, CACHE, CHOOSE, JIN, DUPEL, ICE, BUST, PUS, GFA, G31, HWK, CTX, CTX2, OVERSINK, PAKHOUSE, SM, MASTER, STEFAC, TAP, TVR, V21, VM, OVERCAMC.

F4846 FLOPPYSHOP CXP COLLECTION - 75 CXP files for use with XCommod. This HD disk holds the entire contents of the two CXP disks in the ST section.

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F4864 SPLITTER, GHOST, GHOSTLINE, TGM, CD LIND, MED, NEUTAFU, WORKS TEMPLATES.

F4830 OMMs 0.1.2 - The new platform multi-tasking operating system. Please note that OMMs does not use GEM programs directly. Includes developers' kit. F4831 GEMDISK 0.99 - The latest update to this new platform multi-tasking operating system. Try the OMMs disk set on any ST or GEM programs. Details.

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REVIEWS

Atari World's reviews section covers all of the latest software and hardware to hit the market. This month we include a preview of Substation, the Doom-like game for the STe, and a review of MagiCMac, which includes most of MagiC 3's functions, along with details of MagiC 3's extra features.

- Inside:**
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Atari World Scoring System

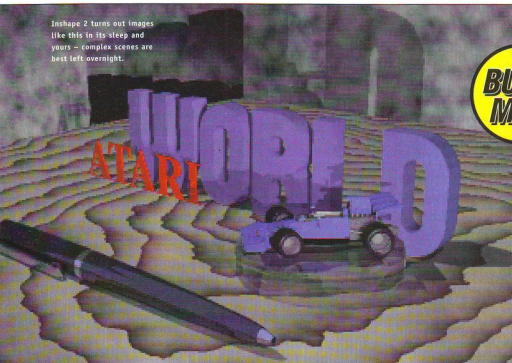
Each product we review (hardware, software, PD and shareware) is marked out of 10; an average product gets around

5. A mark of 7 or 8 results in a "Buy Me" award. If the product is in an area that interests you, then it warrants careful consideration.

A mark of 9 or 10 receives the ultimate accolade of an "Atari World Beater" award. Such a product has been accepted by our reviewers as being excellent in its class.



Inshape 2 turns out images like this in its 'sleep and yours' - complex scenes are best left overnight.



Prepare to have your sense of reality seriously abused by Inshape 2! Fully clad in his CyberJob gear, Nial Grimes puts the premier Falcon raytracing package through its multi-coloured, photorealistic paces...



Better *shape*

Raytracing is the digital equivalent of Lego bricks and every bit as addictive. It allows you to build 3D worlds inside your machine and turn them into photorealistic scenes within a matter of hours. The technique also has a professional

application: you'll find computer-generated images in game show logos, adverts, science fiction series, news programmes and all sorts of other places.

Business or pleasure, Inshape Intro had the power to produce mind-melting images on a Falcon or TT and version 2 promises to be even better.



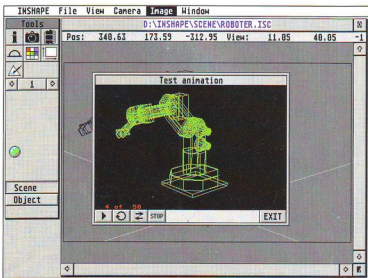
Inshape 2 is an incredibly classy piece of software. Firing it up for the first time produces a warm, Papyrus sort of feeling and users of the original version will be up and away in seconds. Although the interface looks very similar, it has actually been completely rewritten and dressed in GEM finery. However, it's not all such a pretty picture as some compromises have been made to fit in with the GEM environment. Colour gradation, for example, is no longer previewed. But enough "look

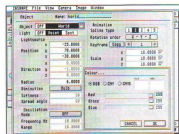
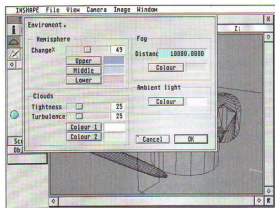
Animations are previewed in a trendy little window - it saves a lot of wasted tracing time.

Persistence pays...

As an ST owner, you might be feeling a bit left out with all of this talk of Falcons and TTs. Don't worry - the standard STFM is capable of similar tricks given the right software. That software is called the Persistence of Vision raytracer and it's available free of charge through the usual public domain channels.

The program works from a text file, which contains a description of a scene, including primitive shapes (such as spheres or cubes) plus details of textures and positioning. From this point on, POV (as it is affectionately known) is every bit as competent as its commercial counterparts.





Inshape's hierarchical system makes the scene editor relatively easy to cope with.

The all-new interface is very classy despite the loss of some cosmetic features.

up!

and feel" – how does the new application perform?

That'll do nicely...

"Nicely" is the straightforward answer. On a general level, the most obvious improvement is the addition of Gouraud and Phong shading modes. These don't provide as much detail as raytracing – textures and so on are out of the window – but it does mean that scenes can be tested relatively quickly. The faster shader also helps out considerably, although this part of the package still refuses to run properly under MultiTOS. A DSP version of the shader is under development.

More comprehensive attention has been lavished on the object editor and this is still the area that makes Inshape such a superbly refined package. Proper bezier curves are all part and parcel of the new regime and the extrude tool is much more capable. On a more practical level, objects can be dragged around with the mouse. Sadly, the scene editor is left with its rather awkward coordinate system, but at least the camera can now be moved under mouse

Numerous different surfaces are supplied on disk and all can be fiddled with in minute detail.

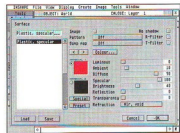
control. Integration with other packages has also been improved because Autocad DXF files can be imported and exported – a feature that will no doubt be welcomed by fans of the freeware raytracer, Persistence of Vision or POV.

The rest of the application remains very similar to the original. The same object tree is used to make positioning via coordinates as straightforward as possible, while colourful textures protrude from every conceivable point. Numerous other tweaks have been made and many of the niggles presented by Intro have been fixed. The version 0.6 monicker in the information box suggests that more might be on the way. It also explains why one or two minor bugs are present – the object surface editor has some trouble dealing with colour and the extrude tool can't take too much punishment. However, CGS assures us that bugs are being dealt with as they are reported.

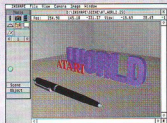
Verdict

Inshape 2 is certainly the best raytracing package available on the Atari at present. The interface has suffered a little on its journey towards GEM compatibility but the improved speed and competent object editor go a long way in making up for the minor inconvenience.

Overall, you've got a package that is incredibly good but does require dedication to exploit fully. It is a shame that the programmers missed the opportunity to give the scene editor full mouse control because it would have widened the appeal of the package and moved it from the "very good" to the "stunning" category. The minor bugs don't help much either. Nevertheless, it's a worthwhile upgrade for the money and it will no doubt rekindle the fires of creativity in raytracing fanatics up and down the country.



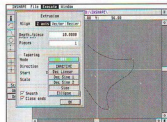
Four tip-top reasons to upgrade...



The Phong shading mode provides a quick preview of a scene and can save hours of wasted raytracing.



Bezier curves come in very handy when producing life-like objects – the number of points along the line is user-definable too.



The new extrude tool can produce some truly wickered shapes; now, I just need to think of some way to use them!



Mouse control is the order of the day in the object editor and the camera can also be dragged at will.

INSHAPE 2

<p>Publisher: CGS ComputerBild Contact: 0181 679 7307 RRP: £169 (£40 upgrade) Requirements: Falcon320 (with FPU) or TT, 4MB of memory</p>	<p>Pros: Outstanding object editor • improved speed • DXF support Cons: No font support • slightly buggy</p>
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Buried deep

Andrew Wright gets lost in the Crawly Crypt, a new Atari CD-ROM.

Digging its way to the light of day comes a new PD and shareware collection on CD-ROM from the dark and dingy depths of one of America's biggest bulletin boards, the Crawly Crypt. Volume 1 is stuffed full with over 600Mb of software, including 120Mb of Falcon-specific programs, games and utilities and 50Mb of STe and TT enhanced software.

There are thirteen main sections ranging from utilities to comms, graphics and games as well as folders devoted to the Falcon, STe and TT. Some of the main sections are sub-divided still further and each separate program has its own folder, so everything is tidily arranged and accessible when you need to find it in a hurry. The vast majority of the files

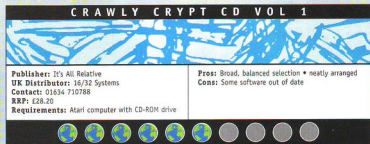
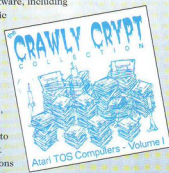


are uncompressed and ready to run direct from the CD if necessary.

The Crawly Crypt CD is a well-balanced collection that should appeal to any CD-ROM drive owner, no matter what type of Atari you own. Rather than simply unloading megabyte after megabyte of software onto a CD, the publishers have put a lot of thought into what should go on. There are no folders full of scanned images, huge TIFFs or dodgy sound samples to take up extra space and fill out the disc. Almost all of the stuff on here is a program of one

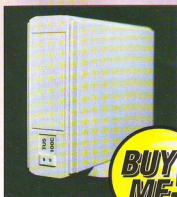
sort or another – there are utilities, desk accessories, full-blown shareware applications like GEM-View 3.06 and a lot of commercial demos as well, including demos of the more unusual programs like Avant Vector, Inshape, Chagall and Chronos-3D.

Playable game demos include Mig 29 Fulcrum and Dogfight. In the section devoted to magazines there are dozens of issues of the STun and Stosser disk mags, as well as other useful text files. All things considered, this one is well worth the asking price.



On the up

Ofir Gal looks at a new range of hard drives from The Upgrade Shop.



middle of the range is a 234Mb Hewlett-Packard based system which we had on test.

Like many other systems these days, the case takes advantage of the latest slim-line hard disk mechanisms and measures only 23 by 17 by 6cm. It can stand upright or lie horizontally, and a grey plastic leg is provided for standing the case on its side, as well as four sticky rubber pads – a good idea.

The metal case sports two LED indicators: one for power, the other for disk activity. At the back you'll find two SCSI ports, an ID selector and a power switch. The fan is not temperature controlled

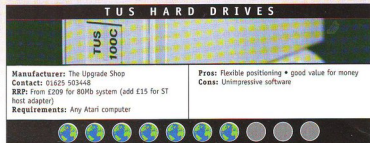
The Upgrade Shop has just launched the aptly-named TUS hard drives. On offer is a range of fast, modern devices, starting with an 80Mb IBM mechanism and going up to a 532Mb Fujitsu. In the

but is still comparatively quiet. The system can be purchased with a GE-Soft TopLink host adapter for use with an ST or with a Falcon SCSI cable.

In both cases, the GE-Soft hard drive software is provided. The software works well enough but, since the version supplied was written in 1992, it is not Falcon-aware and does not include any options for setting the internal IDE drive. It certainly falls short of the facilities offered by programs like HD Driver or ICD Utilities.

Other than that, the program includes all the options necessary for smooth operation. You can format, mark bad sectors and partition the disk. A 10-page manual is included to guide you through the installation, but to save you the trouble, the drive comes pre-configured and already set to auto-boot. Simply connect it to your system, power it up, and off you go.

TUS hard drives – neat design and reasonably priced.



Glorious



you'll find that the slightly angled top surface causes more problems than it solves!

If you're wondering where the 560C fits in, it's been upgraded to the 660C. It gets a boost in resolution to 600 by 600 dpi, faster printing and improvements all round. Not surprisingly it also gets a higher price tag and is now aimed more towards the small office and business end of the inkjet market.

Swapping around

The one big disadvantage of the new 540 is that different cartridges have to be used for different print jobs – for text there's a black ink cartridge while for colour you have to insert a three colour (red, blue and yellow) ink cartridge. While this is easy enough in practice (lifting the lids prompts the head carriage to move into view and the cartridges simply snap into place), it is easy to forget, leaving you printing your wrong in the wrong colours. The colour kit includes an air tight container for storing the cartridge that isn't in use, which is a good idea.

Whatever you want your DeskJet for, the chances are that good-looking, crisp black text will be the most important single requirement. A combination of new cartridges and better print head control has ensured a noticeable

Andrew Wright takes a look at HP's newest inkjet, the all-in-one DeskJet 540

Hewlett-Packard is, without a doubt, the world's biggest supplier of printers and no slouch when it comes to setting the pace. In fact, HP sold more than 6 million inkjet printers in 1994, of which roughly 70% went directly to the home market. More importantly, colour models outsold the monochrome ones for the first time since the DeskJet was launched in 1989. As a result of this changing market, HP has decided to grab the bull by the horns – from now on, every single DeskJet made will be capable of colour output.

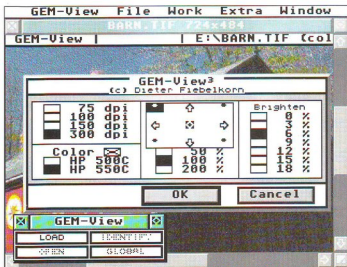
All you need to do is add an inexpensive colour kit costing £35 to a standard DeskJet 540 and you have a colour printer identical in practical terms to the old DeskJet 560C. In fact you get much more because the new model has a simpler, redesigned control panel and improved cartridges, print head and firmware.

You get the same 600 by 300 dots per inch (dpi) resolution and resolution enhancement technology (REt) that was introduced with the DeskJet 520 last year plus 300 by 300 dpi colour output on plain or glossy paper or transparency. Colour print speed has increased by 100% with no compromise in quality – in fact the output seems to have improved considerably.

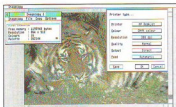
The printer's chunky case has been completely redesigned and it now boasts a slightly smaller footprint and more attractive appearance. It is 436mm (17 inches) wide by 405mm (16 inches) deep and 199mm (8 inches) high. However, if you've used your old DeskJet as a multi-purpose stand, like me,



GEM-View has a couple of useful colour-printing features, including a "brighten" control.



techno-colour



Imagecopy has the best support for colour printing.

improvement in black print quality and the DeskJet 540 even supports 256 levels of greyscale for dramatic image output. It can also produce black text at up to three pages per minute in its fastest mode (240 characters per second), ensuring that it doesn't fall far short of a laser in terms of either quality or speed.

Other bonuses are 0.5Mb of internal RAM, making printing much quicker and returning control of your computer much more quickly, as well as improved firmware and a much faster central processor unit. Changes to the firing

Ataris and DeskJets

The new DeskJet has four built-in bitmapped typefaces in varying point sizes including CG Times, Letter Gothic, Courier and Univers. Unfortunately, most Atari programs can't use the proportionally spaced internal fonts properly (CG Times and Univers). It's easy enough to send the escape codes that trigger a particular point size and typeface but you can't see what they will look like on the screen.

For day to day text output you are forced to choose between Courier and Letter Gothic. Prostat 6.5, with a dedicated DeskJet driver, is a notable exception and hopefully other word processors will catch up before long.

The good news is that the 540 is backwards compatible with earlier models so you can still use your existing DeskJet 500 and even many LaserJet 2 and 3 drivers, though black print output will always be at 300 by 300 dpi, rather than the 300 by 600 dpi that the machine is capable of.

If you want to get the best from your 540 in colour terms, a program like Imagecopy 3, with configurable support for all colour DeskJets, is pretty well essential. However many programs that do support the older DeskJet 500C and 560C should still work with the new model.

rate of the colour print cartridge mean it prints twice as fast as the 560C in colour mode and there's also an Econofast mode that uses just half the normal amount of ink and results in a three fold speed increase.

The DeskJet 540 printer includes four built-in typefaces with a variety of point sizes from 5 to 24 points in portrait and landscape orientations. There are also 14 TrueType fonts supplied on high density disk along with the Windows printer driver but you'll need access to a PC to decompress them and transfer them to your Atari if you want to use them with NVDI 3.

The new DeskJet 540 has a control panel with just two buttons, making it a lot easier to solve problems and restart printing. The input tray automatically feeds 100 sheets of paper, 50 transparencies or 20 envelopes. An automatic envelope sensor ensures optimal print quality on envelopes and the printer now supports custom paper sizes and heavy card stock, such as A6 cards. It will cope quite happily with thicker papers up to 135 gsm, envelopes to 90 gsm and postcards up to 200 gsm.

Verdict

When the RET and the improved mechanisms are taken into account, the black print from the DeskJet 540 has to be seen to be believed. It really is indistinguishable from cheaper lasers, even on medium grade paper.

For colour printing the best results are obtained from special glossy paper but at around £1 a sheet, you've got to be sure of what you're doing before using it! The clay-coated varieties, at around 10p a sheet, are much more realistically priced and offer much enhanced quality for final output. If you need real print quality without paying the earth, the DeskJet is still your best bet.



To show just how much difference the special glossy paper can make, we started with this TIFF of a tiger...



... and printed it out onto standard copier paper. Notice the rather washed-out colour quality...



... while the printout on glossy paper shows far more fidelity to the original, colour-wise.

DESKJET 540	
<p>Manufacturer: Hewlett-Packard Contact: 01344 369222 RRP: £329.12 Requirements: Any Atari, 0.5Mb or more memory, mono or colour</p>	<p>Pros: Cracking colour • crisp, clean text • cheap to run Cons: Not quite a laser • cartridges need swapping</p>

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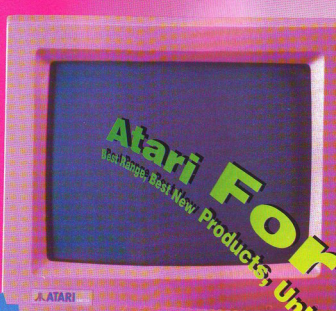
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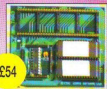
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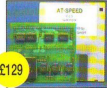


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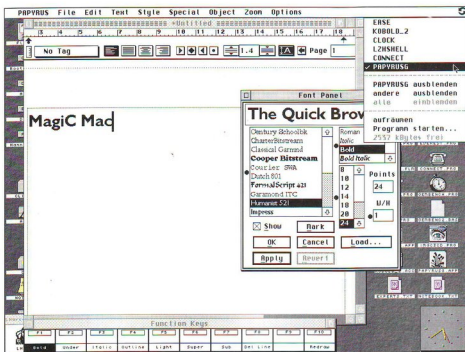
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MagiC Mac is now up and running, and MagiC 3 for the ST is on its way. Ofir Gal takes a close look at the latest incarnation.

The joy of multi-tasking - no longer do you need to quit one program before you can use another!

Mac *Magic*

MagiC has become a standard system for German Atari users and while its success in the UK has not been as overwhelming, there are a growing number of dedicated users. MagiC provides Atari owners with the very thing Atari has failed to - a fast and reliable multi-tasking operating system.



In fact, MagiC looks and feels much like the Atari operating system but offers several advantages. Most important is the ability to multi-task, that is run several programs at the same time. And if that isn't enough of an achievement, the same team of programmers have now ported MagiC over to the Apple Mac, the obvious choice due to the same processor family. MagiC Mac is not an emulator - it's a native operating system running at full speed.

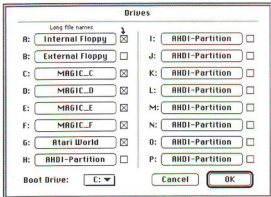


Any Mac folder can be assigned as a TOS drive with the option of long file name support.

Essae desktop and a few small utilities. Once installed, MagiC runs from the Mac desktop, just like any other program. From that point, the Mac screen looks just like an ST going through the boot process. MagiC Mac incorporates a full implementation of MagiC 3, available shortly for the Atari platform.

By default, the installer creates a folder on the Mac side of things called MAGIC_C which is set as the boot drive. You can create an AUTO folder, just as you would on a standard ST. Additional drives can be added by creating more folders and using the MagiC Drives configuration dialogue box. Here you can tell MagiC which Mac folder it should treat as a TOS drive. In addition, any Atari-formatted SCSI hard drive or CD-ROM is automatically detected.

The basic version allows display modes of monochrome, 16 and 256 colours at whichever screen resolution your Mac supports. Additionally, a special 640*400 ST High compatible mode is available for old programs that can't live without it!



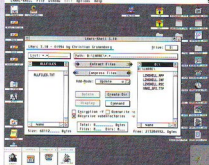
Away we go
MagiC Mac arrives on one high density disk and is very easy to install thanks to a standard Mac installation program. The package includes the operating system itself, the



MagiC 3.0

MagiC 3 will soon be available for the ST, TT and Falcon and is already part of MagiCMac. Much of what you have read about in this MagiCMac review will also be true of MagiC 3.0.

- Apart from providing you with a preemptive multi-tasking environment, MagiC 3 has several new features:
- New file system allowing long file names using any characters;
 - Loadable file systems;
 - MINT-like processes, pipes, installable devices and symbolic links;
 - Support for colour icons;
 - Window iconify;
 - 3-D buttons and boxes;
 - Drag & Drop protocol support, allowing text and objects to be dragged between applications;
 - Background DMA allowing background disk access and formatting.



MagiC now supports window iconify, allowing you to reduce windows into icons that you can re-open with a double-click.

Flying

Running MagiC on a suitably powered Mac (such as the affordable LC475) is a real joy. The system just flies! Even at 256 colours there's no lack of speed and tests show that an LC475 is at least three times faster than a Falcon – about eight times faster than a standard ST.

MagiC takes over the entire screen, but Mac programs continue to work invisibly in the background. A keyboard

shortcut easily switches between the two operating systems. However, programs running under MagiC are suspended while the Mac system is on screen. It is even possible to use the clipboard to transfer text, including RTF (rich text format) if supported, between Mac and Atari programs. A special version of HSModem is supplied to allow you to use the Mac serial ports for Atari comms programs. Depending on the Mac, this gives speeds up to 230 Kbaud.

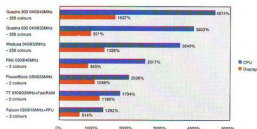
Although the manual claims compatibility with the Mac's built-in virtual memory facility, and the RAMDoubling utility, there are serious problems. The authors are trying to find a solution...

Compatibility is surprisingly good, although you are likely to find that some programs, especially old, non-multi-tasking friendly programs will fail miserably. Most crashes are trapped and a dialogue box enables you to quit the offending program or MagiC safely.

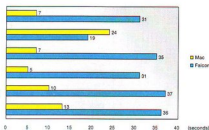
Printing

Printer support on the Mac is a complex issue. MagiC supports any printer with a serial port such as the DeskJet 500 or the Epson Stylus as well as the Mac-specific DeskWriter series. PostScript printers are not supported at present. If your printer only has a Centronics connector, you'll need to invest in the PowerPrint package. Surprisingly, SpeedoGDOS works without any problems although print speed is a little disappointing. This can be helped by using the MagiCMac version of NVDI, available separately.

The screen display is accelerated even more with NVDI although not on the same scale as with the ST. This is



These results were obtained using GEMBENCH 4 and clearly show how well MagiCMac performs on various systems. The longer the bar, the faster the system – a three-year-old portable Mac gave TT performance! All systems were tested running NVDI 3. A standard STe was the basis for the values shown in the table.



The "real" world. This table demonstrates just how powerful MagiCMac is when run on a top-of-the-range Quanta 800 compared with a Falcon. The longer the bars, the slower the system. Note that the Falcon is still faster at JPEG loading thanks to the DSP. The Mac was between three and six times faster in all other tests. An LC475, for example, would be between two and four times faster.

because many of the accelerated display routines are implemented into the standard version of MagiCMac. Installing NVDI also allows the use of 16 and 24-bit display modes.



MagiCMac is simply a dialogue box on the Mac's desktop. Hit the Return key to switch to MagiC.

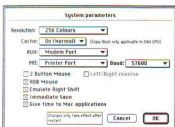
Verdict

MagiCMac is ideal for serious users of Calamus, DA's Layout or Papyrus. Even still Word Plus works! Programmers will also benefit from the extra power and speed. However MagiCMac does not provide any sound support beyond basic key clicks and beeps, and will not run any non-GEM games or MIDI and sound-based programs.

If you need improved performance and want to keep your Atari software, then consider this route – but keep your ST for the odd game of Obsession...



The memory configuration for MagiCMac that allows you to determine how much memory is made available to MagiC.



Various hardware set-up options are found in the system parameters dialogue box. These include the screen resolution, mouse set-up and printer port assignment.

MAGIC MAC

giC Mac

Publisher: Application Systems Heidelberg
UK distributor: System Solutions
 Contact: 0181 693 3355
RRP: £149.95
Requirements: Any 030/040 based Apple Mac.
 8MB RAM recommended

The Quick Bro

Century 2000-0000 Roman

Pros: Highly compatible with newer applications
 • extremely fast • 256 colours as standard
 Conas: No MIDI support • no proper sound support
 • problems reading some Atari disks

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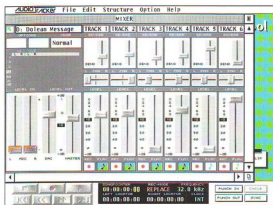
"We prefer to be known as a service rather than a business"

On the right track



No, it's not another tracker program! It's an eight-track direct-to-disk recording system for the Falcon.

Ian Waugh turns it on, plugs it in and tries it out...



The mixer has one channel for each audio track.

You can, however, link AudioTracker to an external sequencer or sync it to an external clock. It supports MIDI Time Code which makes it viable for pro and semi-pro use and you could use this with an external sequencer.

The Falcon promised the musician affordable direct-to-disk recording, thanks mainly to its DSP chip. AudioTracker and its eight-track recording facilities aim to fulfill that promise.

AudioTracker doesn't need any additional hardware but to achieve eight-track play-back you need a fast hard drive able to transfer data at 1.4Mb per second. The IDE drives in later Falcons should be able to play back four or five tracks at once but the internal IDE drive is not ideal for d-t-d recording. The program includes a SCSI hard disk driver to optimise play back from SCSI drives which are a much better option.

To record at the CD rate of 44.1kHz or the DAT rate of 48kHz you also need an S/PDIF interface. On its own the Falcon supports 49.2, 32.8, 24.6 and 19.7kHz sample rates. For best results you should use 49.2kHz but 32.8 still produces very good quality sound.

Sync

The program is copy-protected by a dongle that plugs into the cartridge port. Also, the cartridge port is also used by many dongle-protected sequencers. You can't sync to an internal sequencer so you wouldn't need both plugged in at the same time but swapping over is a nuisance.

The first step is to allocate some hard disk space for the recording. CD quality audio (sampled at 44.1kHz) uses 5Mb per minute. A five-minute, eight track song will need 200Mb of disk space.

You can record in mono or stereo, setting levels with the built-in mixer. You can also import AVR and AIFF samples. The program includes a delay and dual 10-band EQ functions although you can't use them both at the same time. You can pan tracks and adjust reverb levels or EQ settings.

You can punch in and out (although this is something I've never been keen on) and record tracks while listening to others. However, be aware that even if a disk can play back five tracks, it may not be able to play three and record two at the same time if it's slow. Tracks can be mixed into a stereo output using the

mixer or you can treat them individually if you have an FA-S (Falcon Analogue 8). You can mix down tracks internally with no loss of quality.

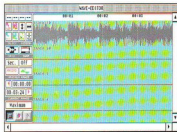
The wave editor has the usual edit facilities including cut, copy, paste and insert. You can alter the amplitude and normalise it too.

One nice feature is the ability to back up your audio recording to DAT (again, you'll need an S/PDIF) and this includes the essential verify option as well.

Verdict

AudioTracker has a few operational idiosyncrasies – it wouldn't show some of the filenames in the file dialogue box, for example. You need a magnifying glass to read the manual, too, and it has no index and the Help file is in German.

If you treat it like a digital tape recorder you'll get on well. However, I tend to think digital editing should be a tad more visual. It misses a Buy Me award by a sample width but if you want eight-track d-t-d recording it's still well worth looking at.



The wave editor lets you edit at sample level.

AUDIOTRACKER

ADC R DAC MASTER
REC PLAY REC PLAY REC PLAY REC PLAY REC PLAY REC

Publisher: SoundPool
UK Distribution: System Solutions
Tel: 0181 493 3355
Price: £159 inc. VAT
Requirements: Any Falcon preferably with more than 4Mb of RAM, S/PDIF for CD quality, fast hard

disk for full 8-track play-back, minimum 720 x 480 display for full view of mixer.
Pros: Eight track recording • good mixer
 • good sync facilities • DAT back-up included
Cons: Poor documentation • editing could be better • dongle

Prophet of Doom



In pure grey surroundings it's easy to get lost, but the map at the bottom of the screen helps out.

to four people over a MIDI network. In true Doom manner, characters are horribly pixelated once they get up close to the camera, but you are usually too busy running in the opposite direction to notice that! Naturally the enemy are sufficiently stupid to leave medical kits, ammunition and security cards lying about all over the place. The lack of scenery in general does create some problems in gameplay terms - basically, everywhere looks the same, save for a slight adjustment in the light level and shade of the walls. The programmers have obviously spotted this and an automatic mapping system at the foot of the screen takes the strain.

Substation pits you against hordes of evil minions in a three dimensional, deep-sea complex. Nial Grimes attempts a daring escape out of the toilet window...

The entire world has gone Doom crazy and with good reason - very few games can offer the same blend of stunning graphics and fast gameplay. While your STE may not be able to run Doom itself, it can certainly have a good go at Substation because the gameplay is almost identical.

The plot runs thus: in 1996, the Mitsubishi Industrial Company (Japan) discovers a way to produce energy from the earth's mantle. A huge power plant is built deep below the surface of the ocean to tap this power but after three years of faultless production (and two minutes after the warranty expires, no

doubt) all contact is lost. It's up to you to probe the secrets of Substation - secrets that would be best left buried at the bottom of the ocean. It's as good an excuse as any to go charging around a three dimensional environment giving the bad guys some aggro.

Shady business

The compromises in the graphics department are immediately visible - out goes the texture-mapped scenery and in its place you will find plain vector graphics. This does wonders for speed and the slick shading keeps the moody atmosphere intact. The question is whether Doom-style, simplistic gameplay can hold enough attention without the gob-smacking graphics to back it up. Initial indications are good. There is only so much you can do with the point-and-shoot concept but the maze-like station has no shortage of alien hordes, or power-ups for that matter. However, the most exciting aspect of Substation is that it can be played by

The presentation is as polished as any game seen on the ST and the sound effects should be something special.



If the intro is anything to go by, the sound effects in the finished game will be pretty awesome too. And for that authentic console feel, you can plug and play with a Jaguar Powerpad.


Sublime or substandard?

Substation promises the atmosphere and gameplay of Doom on the STE - a remarkable achievement by anybody's standards. As for the playability, we'll just have to see what the finished product brings, but do bear in mind that Unique Development was responsible for Obsession (rated as the best STE game ever released by nearly all who played it). Methinks it's gonna be big...



The walls and floors lack textures, but pixelated characters add "authentic" Doom atmosphere.

SUBSTATION



Publisher: Unique Development Sweden
UK Distributions: Merlin/JCA Europe
Contact: 01452 770135/01734 452416
MRP: £24.95
Expected Release: Mid-1995
Requirements: STE or Falcon030, 1Mb of memory.

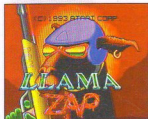


Knock out the power plants before the sheep mutate into killer robots – oh, it's pure Minter all right.



A test flight is definitely recommended unless you want to get vapourised in ten seconds flat!

Holy cow!



Llamazap is Jeff Minter's tribute to the Falcon. With the suitable

Sheepskin attire, Nial Grimes searches for mutant sheep...

Jeff Minter is a man who knows what gameplay is all about – you only have to look at Llamatron. Atari obviously recognises this talent too; the company commissioned him to write one of the Falcon's first games. Yes, it's been hidden away in Atari's vaults for what seems like decades, but Llamazap is finally ready to rock the world...

At no point are you left in any doubt that this is a Minter production – the game opens with a huge gun-toting Lama and things just get wackier from there. The first level pits your ship against giant, mutant camels and the remaining stages are just as weird. The style of play is hard to describe as it changes so often, but Defender is the overall theme with graphics to die for.

Those expecting a gentle start, with several wake-me-up-when-it's-over levels, will be in for shock – Llamazap is

hard! Without the right strategy, you will be splattered all over the virtual floor in a matter of seconds.

Fortunately, a test level is included to allow you to experiment with the three available ships and get to grips with the powerups, accessed via the Jag controller keypad. Movement controls are intuitive and by holding down the fire button you can let off some rounds while flying backwards – ideal for disposing of advancing camels.

Shades of Llamatron

Practice sessions out of the way, it's on to the game itself – no less than 25 stages of maniacal blasting. A transparent map at the top of the screen shows you where the bad guys are and a bonus round is thrown up after five stages. This is where shades of Llamatron start to seep through heavily but just to keep it fair, Asteroids and Gridrunner are also given a tribute along the way.

Smashing sonics add atmosphere to the experience – listen to Llamazap's



into music and you are left in no doubt where the inspiration for the Tempest 2000 soundtrack came from. Heavy guitars also put in an appearance along with sampled sheep noises (you what? – Ed) and explosions. These are backed up by the psychedelic effects you'd expect from the author of something as way out as Trip-A-Tron.

The one thing that Llamazap hasn't got on its side is simplicity. This vital ingredient is lost somewhere in between choosing the ship that's likely to prove best for the circumstances and messing around with powerups. On the other hand, Llamazap is a lot of fun to play once you've mastered the controls and it's incredibly varied. You simply don't know what the next level is going to throw at you but, one thing you can be sure of, it will feature enough colour to make your eyes sting and have a good sprinkling of a certain type of livestock. Complete all 25 stages and you'll probably be tempted to buy a Jaguar and Tempest 2000 to go with that Powerpad.



LLAMAZAP	
<p>Publisher: 16/32 Systems Contact: 01634 710788 RRP: £24 Requirements: Falcon030, Jaguar Powerpad controller.</p>	<p>Pros: Colourful graphics • superb soundtrack • fast action Cons: Steep learning curve • manual protection (grrr!) • complex powerups</p>

Iron Soldier



have to guide it around buildings and other obstacles to the target. You can even fly it around yourself if you want to!

Graphics are impressive with a good sense of 3-D. As you walk, you can look around to see what's going on. You can even look down to admire those iron legs stomping about on the enemy. The explosions are excellent with a mixture of huge flaming blasts and big chunks of debris flying about. On later levels it's well worth getting a set of big guns and shooting the place up to see the spectacular carnage.

Helicopters and tanks are particularly well done with texture mapped surfaces that look very realistic. Some of the buildings have excellent shading that shows off the Jaguars huge palette of colours to good effect.



Master blaster Iain Laskey turns into a forty foot man of metal and rampages his way round another Jag game. And nothing's gonna stop him...

Iron Soldier puts you in charge of a forty-two foot high robot known as an IS or Iron Soldier. Your job is to defeat the Iron Fist Corporation, an evil entity that has replaced every one of the world's governments with a military dictatorship. Your robot has been captured from the enemy and with it rests the hopes of the resistance movement. The aim of the game is to complete 16



(above) Plenty of explosions and challenging gameplay - what more could you possibly ask for?

A static shot cannot show just how good these choppers look in action.

missions. Each mission requires you to destroy a target or penetrate enemy positions. At the start of each one, you have to equip your metal mammoth with the various weapons you will need to complete the task. These range from assault rifles and grenades through to the ultimate weapon, a cruise missile.

Once the game begins, you can start blasting your way around. The main enemies are tanks and helicopters and these can be easily dispatched with a quick shot of your guns. More advanced missions introduce super-tanks, planes and other nasties which are harder to deal with.

Vandals 'r us

You can tread on tanks that get too close or punch buildings until they collapse, often revealing hidden ammo or new weapons that can be picked up. Later missions can be very tough unless these newer weapons have been found so it's well worth doing some serious city demolition as you wander about.

Different buildings have differing properties. The fuel tanks have to be treated carefully as shooting one can create a chain explosion, damaging your robot. The control towers have to be destroyed quickly as they help to coordinate the enemy.

Unlike other weapons, the cruise missile has to be controlled all the way to the target. When fired, the screen changes to show the view from just behind the missile as it flies along. You



The cruise missile is the ultimate weapon: once launched, it can be flown, flight-sim style.


The sound matches up to the graphics with a range of suitable moody tunes and good sound effects. In case you can't wait to hear the tunes for later missions, the options screen lets you hear them all.

Unlike many Jaguar games, the delay as each mission loads in is minimal. The game remembers which missions have been completed and any new weapons you have found. To round off the package, you get a joystick overlay and the manual has a replica of this for photocopying in case the original gets mislaid. Nice one, Atari!


Verdict

Atari has a winner on their hands with Iron Soldier. It's great fun to play and the missions often require some serious thinking rather than brute destructive power to complete them. The graphics and sound are well up to scratch too. This really is the sort of game the Jaguar was designed for.

IRON SOLDIER



<p>Publisher: Atari Europe Contact: 01753 533344 RRP: £49.99 Requirements: Atari Jaguar</p>	<p>Pros: Great graphics • good gameplay • moody sound effects Cons: Too few missions</p>
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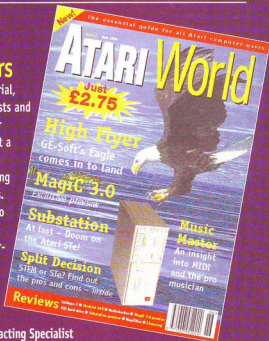
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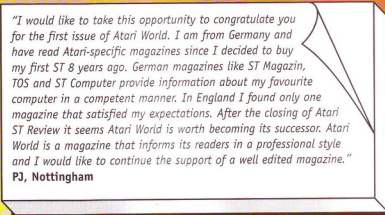
Loud 'n' Clear

The response to last month's survey has been staggering
– over 1,000 replies in less than two weeks!




"First and foremost let me say a great big congratulations on the first issue of Atari World. As you so rightly guessed there are heaps of bods out here who just don't want to be lumbered with the expense of buying PCs and Macs, and many like me who just couldn't afford them..."

JB, Perthshire



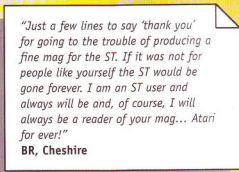
"I would like to take this opportunity to congratulate you for the first issue of Atari World. I am from Germany and have read Atari-specific magazines since I decided to buy my first ST 8 years ago. German magazines like ST Magazin, TOS and ST Computer provide information about my favourite computer in a competent manner. In England I found only one magazine that satisfied my expectations. After the closing of Atari ST Review it seems Atari World is worth becoming its successor. Atari World is a magazine that informs its readers in a professional style and I would like to continue the support of a well edited magazine."

PJ, Nottingham




"Layout is marvellous, very easy to read..."

KM, Kings Lynn



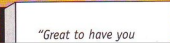
"Just a few lines to say 'thank you' for going to the trouble of producing a fine mag for the ST. If it was not for people like yourself the ST would be gone forever. I am an ST user and always will be and, of course, I will always be a reader of your mag... Atari for ever!"

BR, Cheshire



"I have only just brought my Atari STFM 1040... I am as green as grass to TOS, MagiC or anything else you care to mention, so your mag was a life saver as well as an eye opener."



JC, Telford




"Great to have you



Second none to



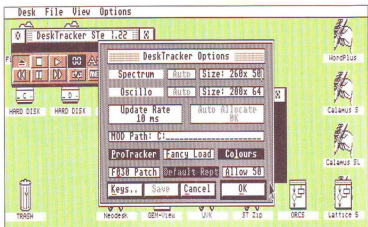
In the market for a new computer? Nial "fly-pitcher" Grimes sets up a make-shift table and guides you through the ST-buying minefield...



Believe it or not, the ST has been with us for over a decade, and anybody using a machine for that length of time has a perfect right to itchy feet. Is it finally time to upgrade to a PC or a Mac? Well, why bother when there are upgrade options that won't involve any cold turkey from your favourite applications? Yes, an awful lot of progress has been made over the past ten years and you can really benefit by stepping up to a later machine.

Although new STs are in short supply, there are huge stocks available on the second-hand market. Many of these have been owned by adolescents who swiftly moved onto game consoles and as a result are in very good condition and can often be picked up for a song.

No matter whether your ST has reached the end of its



working life, or you just feel like a change, the second-hand market has something to offer, but which machine should you go for? Is it really worth holding out for an STe? Let's take a look at the advantages offered by each model...

Evolution

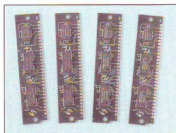
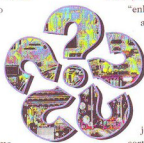
The ST was born in 1985 and since that time has gone through a number of mutations. The original ST suffered from an external floppy drive and power supply, but Atari soon saw the error of its ways and bundled the lot into a neatly proportioned case; the STFM was born.

Along with it came a range of professional machines called the Megs, featuring the long-promised blitter chip (to speed up the screen display) and a new version of the operating system to go with it.

The largest upgrade to the range came with the release of the STe in 1989 (the "e" standing for "enhanced"). It was basically an attempt by Atari to squash

the Amiga, which was rapidly gaining ground in the games market. The type of improvements reflected this fact: hardware scrolling, filtered stereo sound and analogue joystick ports – hardly the sort of stuff that would make

Calamus users' hearts skip a beat. Nevertheless, the blitter chip and memory expandability are very useful.



Most soundtracker programs offer improved replay quality and even extra channels on the STe.



Low quality samples can sound a bit rough, but the STe's filters smooth them out nicely.

The operating system has been continually upgraded to keep space of bugs and the new hardware. Steady improvement was inevitable and when looking for a machine, it makes sense to go for the later releases. Versions 1.04 (Rainbow TOS) and 1.62 (STe only) are extremely robust. 1.06 on the other hand is a bit of a rogue and contains some irritable bugs; most notably, a "PC compatible" disk format that isn't, and a real attitude problem when it comes to booting in medium resolution.

In terms of usability, STes and STs with Rainbow TOS are quite evenly matched. Both are stable under

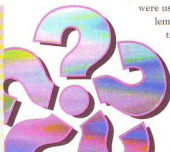


pressure and relatively bug-free, discounting perennial problems such as modem flow control (easily fixed with a software patch). Only the technical specification set them apart, so what advantages are there to owning an STe in software terms?

The soft option

Compatibility right down the ST line is generally very good. At every upgrade stage there were casualties, but games were usually the root of the problem. The STe may not have taken off as quickly as Atari would have liked, but there are an awful lot of programs out there that

A flow control bug is present in most versions of TOS, but plenty of patches are available to cure the problem.



A Step in the right direction?

The STe offers many technical improvements over the standard ST and most apply to entertainment software. For example, hardware-assisted scrolling allows the screen to be moved instantly and



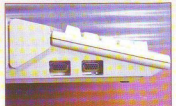
Games are the STe's strongest suit; hardware scrolling, stereo sound and a blitter chip see to that.

smoothly in any direction, while the blitter chip helps out in handling sprites.

The "e" also stands head and shoulders above the ST sonically. Two channels of sampled sound (left and right stereo) can be played at one of four rates, stretching from 6.25kHz though to 50kHz. Line-level audio sockets to the rear of the machine

can be plumbed directly into most Hi-Fis and allow you to appreciate these audio features fully. The ST's standard sound chip is also blessed with the gift of stereo; I'll let you decide if that's a good thing.

Quite a number of differences lie "under the bonnet" too. Not only can you upgrade the memory easily, but a "processor direct socket" makes it simple to fit certain accelerators and emulators. Advanced controller ports round off the hardware deal – some games make use of these if you've got a Jaguar controller to plug in.



The controller ports on the side of the machine accommodate a Jaguar Powerpad and sound is fed via the sockets on the back of the STe.



How much?!

There is no such thing as a set price for a piece of computer hardware, but you might like to use the following as a guide:

Machine	Second-hand Price
520STFH	£50-£60
1040STFH	£60-£70
Mega ST 2	£90-£100
Mega ST 4	£100-£110
520StE	£60-£70
1040StE	£70-£80
MegaStE 2/40	£190-£210
TT 4/40	£300-£380
Falcon030 4/65	£390-£480
SM124 Mono monitor	£50-£60
SC1224 Colour monitor	£50-£60

Prices indicated are for a stock machine in good condition.



Peripherals, such as an SC1224 colour monitor, are often bundled with second-hand machines at rock-bottom prices.

Independent publishers have been wringing every last ounce of power from the machine with titles such as *Obsession*, *Team and Substitution*. Less concerned about financial considerations, the public domain has consistently turned out bundles of STe-enhanced games and demos.

Second choice

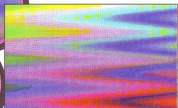
STs are reliable beasts and so make a sound second-hand buy. The local paper or "Free-ads" style magazines are usually the best places to look for a bargain.

There are several questions you really need to ask before reaching for your wallet. The age of the machine is obviously important, as is the TOS version, the disk drive (single or double sided), the amount of memory and so on. A system analysis program, such as Profile 2, is very handy in sussing out these details.

The weakest point of the ST has always been the power supply, and

(top) Beware of dodgy power supplies when buying an early ST; they're not very cheap to replace.

(bottom) A jump from 512 to 4,096 colours allows the STe to use more subtle colour fades.



Dozens of flashy public domain demos are willing to show off the STe's potential.

Make do and mend?

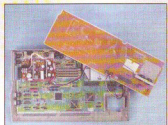
In theory, dozens of things can go wrong with an ST, but in reality very few things do. Power supplies can be a bit of a headache but other than that, a second-hand machine should be fine as long as it can be shown running a variety of software.

Most design problems had been well and truly sorted out by the time the STe arrived, but early "e"s do suffer from hard disk problems. Random sense errors (displayed in the top right hand corner of the screen) and "Data on drive X may be damaged" messages are the symptoms, and the modification can cost over £50.

A quick look at the price table below will tell you that it's not worth buying a broken machine, unless the repair is extremely straightforward. Of course, the situation is different if your own machine (complete with upgrades) decides to die. In this case, a repair can be a good idea. System Solutions, Compo, Ludbrooke Computing, First Computer Centre and several other companies offer a repair service, and most can provide a quotation for a fixed fee. Here are a few examples of the prices you can expect to pay:

Repair	Cost
PSU	£35
68000 central processor	£30
Internal disk drive	£35
Keyboard	£65
Floppy controller chip	£30
Glue chip	£40
Video shifter chip	£40
Blitter chip	£40

All prices are plus labour and can vary widely from supplier to supplier. Phone around for the best price.



Certain simple ST repairs are worthwhile, but often a new machine is a better bet.



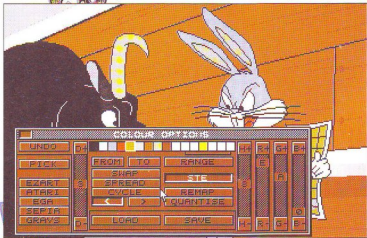
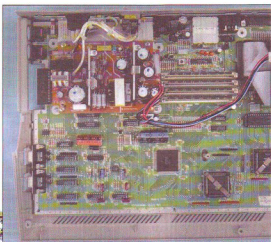
Early STes eat hard disks (or at least, they corrupt the data on them) and the required modification can be expensive.



use the extra abilities. All GEM applications benefit from a blitter and most art packages will also take advantage of the improved colour palette (4,096 as opposed to the ST's 512). EZ-Art Professional is an ideal example.

The sound hardware is equally well catered for. Just about every sampling package sold within the last five years has an STe option to smooth out the crackles. Many tracker programs also allow extra channels to be used because the actual replay is handled without any help from the main processor.

STe-specific games, of which there are a few, tend to exercise most of these features. Early on we were treated to enhanced versions of *Sleepwalker*, *Vaccine*, and *Chronicles of Omega*. More recently, various





they're quite expensive to replace. A crackle as you flick the power switch is acceptable, but moderately loud buzzing during operation can be a sign of impending disaster. Even if you are prepared to accept the risk, it's worth using as a bargaining point.

The same goes for DIY upgrades – just about anybody can fit a couple of memory modules to an STe, but accelerators are a different matter; beware of bodge jobs.

Having decided on the machine you want, it's all down to agreeing a reasonable price. You can use the table in our "How Much?!" box as a rough guide – don't be tempted to pay too much, but recognise a good, clean machine when you see one.

Remember that software rarely adds much to the value of a second-hand computer. However, a slightly

overpriced machine with a couple of titles that you want can be a good buy. To a degree, the same can be said of memory and TOS version; there's little reason in pursuing a half meg machine with TOS 1.0, when a 1040ST with

Rainbow TOS can be bought for

around the same price.

All the while, remember to take your

time and be polite – if the vendor

is cagey, he either doesn't want to sell or has something to hide. Be equally suspicious if he

refuses to provide a receipt purely as a proof of purchase.

Step right up!

ST or STe? That is the question. Both machines have their advantages: the STFM is slightly more compatible with older software and cheaper. The STe on

the other hand feels faster thanks to its blitter and also boasts a range of exclusive software. It also shows the benefits of several years of development – a more dependable power supply plus easy memory and TOS upgradeability are cases in point.

Rest assured that there is life beyond a 520STX. If you are happy with the machine you have, enjoy it. If not, think about the benefits that an STe has to offer: more software, more speed, more reliable, and all for very little money...

Heavy metal

The ST and STe are undoubtedly the most successful machines Atari has ever released. However, they by no means represent the whole range of TOS computers. High-end machines are also available on the second-hand market.



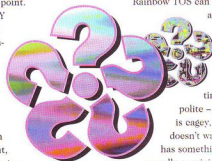
Bargain Falcons are available if you look hard, but early models need modifications to run top-end music software.

The MegaSTe is probably the best upgrade from a "compact" ST. It's twice as fast as a standard machine and features a far better keyboard. There is also plenty of room for expansion: not only is the case itself more roomy, but a VME slot makes it straightforward to add a graphics card. The TT is essentially a grown-up version of this machine – it features a more advanced processor (the 68030) and also boasts some very usable screen modes (640x480 in 16 colours, for example). Prepare to look hard for this one though...

Falcons, on the other hand, are quite plentiful, and can be a very good buy. Find the right person and you could walk away with a 4MB machine for around £400, and that will probably include a 65MB hard disk. Do be careful if you intend to use the machine for direct-to-disk recording though – the modifications that early models require can quickly turn a "bargain" into a costly experiment.



The TT has a more advanced processor and some very usable screen modes – but you'll have to hunt hard for a bargain!



GENBench File Test Windows Help		
GENBench		
File Test Misc.		
Test	Time	Ratio
GEN Dialog Box:	0.000	----
VDI Text:	0.000	----
VDI Text Effects:	0.000	----
VDI Small Text:	0.000	----
VDI Graphics:	5.200	94%
GEN Window:	0.000	----
Integer Division:	0.000	----
Float Math:	0.000	----
RAM Access:	0.000	----
ROM Access:	0.000	----
Dithering:	0.000	----
VDI Scroll:	0.000	----
Justified Text:	0.000	----
VDI Enquire:	0.000	----
New Dialogs:	0.000	----

Statistics	
Display:	94%
CPU:	8%
ST	F1
STe	F2
MegaSTe	F3
TT	F4
✓ Falcon	F5
Genulator	F6
User Sets	F7
FPU	

<input type="radio"/> 640x480x2
<input type="radio"/> 640x480x16
<input type="radio"/> 640x480x256

NOT REGISTERED

A benchmarking program comes in handy if you intend to buy an accelerated machine.

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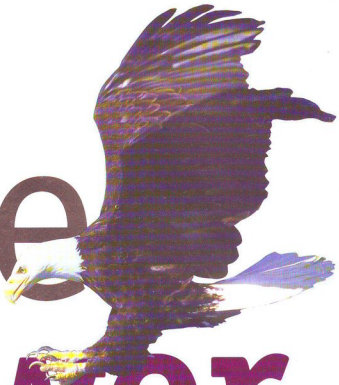
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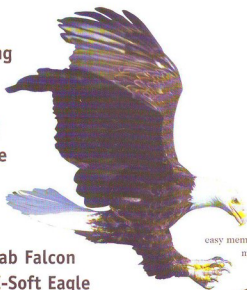


Eagle



Power

As the hopes of seeing a new computer from Atari diminish, hardware wizards and smaller companies are now producing their own alternatives. First the high-end Medusa, then the C-Lab Falcon Mk II and now the GE-Soft Eagle joins the list of Atari-compatible third party computers. Could the Eagle bring a breath of fresh air to the Atari market? Ofir Gal finds out...



The Eagle is a TT-compatible system that features a fully modular and upgradable design. In more than one way, it looks like the computer Atari should have produced to follow the TT. A tower case, an external keyboard, plenty of upgrade slots and easy memory expansion as well as a full set of serial ports make this an ideal system.

The system is housed in a medium-sized tower case. The case measures 40 by 16 by 40cm and has three vertical drive bays. A respectable 200W power supply with a temperature controlled fan is used to power it. The back of the Eagle features an array of ports - maintaining a high degree of compatibility with the TT and ST. You will find MIDI ports, a full set of four



serial ports, a printer and cartridge ports.

The system is shipped with TOS 3.06 and 4Mb of RAM. The internal RAM board sports 20 SIMM slots that can take the memory up to 270Mb. The Eagle has a TT compatible VME bus that can take graphics cards such as the Nova or Matrix cards. On a suitable SVGA monitor, resolutions such as 800 by 600 or higher can be used, running in 256 or even true colour.

The TT's performance was held back due to a design which meant that while the main processor was running at 32MHz, the rest of the system was pacing along at half that speed. In contrast, the Eagle board runs at full speed, thus removing this bottleneck and achieving better performance. The increase in speed is around 30% compared to a TT. Further, unlike the TT, the ST RAM is just as fast as FastRAM.

Compatibility

Due to the highly compatible design, almost every program works. I have tried a number of programs that I normally use on my Falcon and they all worked very well and much faster. The Falcon was still faster at JPEG loading thanks to

the DSP and of course has the advantage of being able to run Cubase Audio.

Practically any application or utility that is "well behaved" and runs on the TT and Falcon should also run on the Eagle. Most games will not run, although there is a growing number of GEM-

based games that should work without any problems. The Eagle has no DMA



sound, unlike the STe and TT, so any program that requires this hardware will also fail to work. It does however have the same Yamaha sound chip that was used in the ST. It should also be noted that programming tools such as MonST and SysMon cannot work with the current version of the Eagle due to lack of standard ST resolutions.

Verdict

The Eagle performs rather well. It is faster than a TT and much faster than a Falcon. It is powerful enough to run at 256 colours or true colour without a perceivable performance hit. The performance chart demonstrates how well it fares in comparison with other Atari computers as well as the Medusa and the PAR 3 accelerator. You can also expect a doubling in speed when the 040 upgrade becomes available. Thanks

The 040 Upgrade Scheme

All current Eagles are shipped with a 68030 board. GE-Soft are planning to provide all owners with a free 68040 upgrade board. The 68040 is clocked at 32MHz (internally double-clocked) and contains a floating point unit. The board is very easy to install since it simply fits into one of the Eagle expansion slots. No soldering is required!

SuperNova Graphics Card

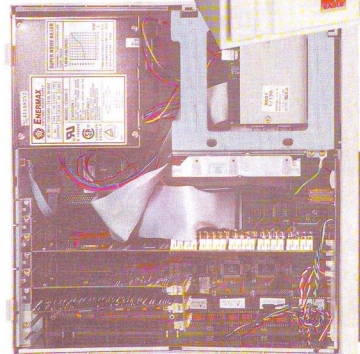
The inclusion of this powerful graphics card makes the Eagle an ideal system for photo retouching and desktop publishing. The board features the ATI Mach and 2Mb of VRAM. The SuperNova Mach 32 card is capable of displaying any colour mode from monochrome to 24-bit colour at high refresh rates, producing a clear flicker-free display. The 2Mb configuration can display screen resolutions such as 1280 by 1024 at 256 colours, 1024 by 768 at 16-bit or 800 by 600 at 24-bit colour. The Nova card includes its own VDI but is also compatible with NVDI 3.

The tower case is large enough to fit as much memory as you'll ever need, a graphics card and up to four disk drives.

Technical Spec

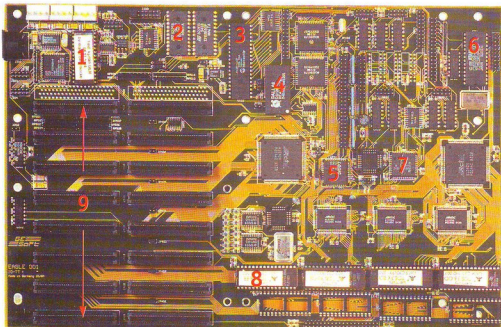
The Eagle is shipped in a tower case and configured according to the user's requirements. The basic system consists of a 68030 running at 32MHz (easily upgradeable to a 32/64MHz 68040 CPU), an FPU, a 320Mb SCSI hard disk, an external keyboard and 4Mb of RAM. The basic package also includes the Nova Mach II graphics card. Due to the modular design, a system can be ordered with any extras you like, be it more memory, a SyQuest drive or a larger hard disk.

CPU:	68030/68882 @32MHz (free upgrade to 040), 32-bit bus.
Ports:	ACSI, SCSI, 2 modem ports, 2 serial ports, LAN, Parallel, MIDI in and out, VME, ROM (cartridge port), TT keyboard port, PC (MF2) keyboard port, ST mouse.
Memory:	4Mb upgradeable to 14Mb ST RAM and 256Mb TT RAM.
Bus System:	8 Eagle Channels, each of which is a full range bus with all signals present.
Storage:	High density floppy drive, 320Mb SCSI hard disk. Up to four drives can be fitted internally.
TOS:	3.06.
Video Hardware:	SuperNova Mach64.
Display:	15-inch multi-sync colour monitor (optional).
Other Options:	Internal CD ROM drive, SyQuest or magneto-optical drives plus a one year warranty.



Apart from being TT compatible, the Eagle's most important feature is the set of eight expansion slots that GE-Soft call "The Eagle Channels".

- 1 - PC keyboard controller
- 2 - MFP
- 3 - Yamaha sound chip
- 4 - Centronics controller
- 5 - SCSI controller
- 6 - Video
- 7 - SCC
- 8 - TOS 3.06 ROMs
- 9 - Eagle Channels (eight)



to the built-in graphics card, I was able to run my favourite applications in glorious colour.

While compatibility is very good, there are a few things to consider before taking the plunge and getting one of these high flying beasts. MagiC does not currently work on the Eagle (as is the case with the Medusa). The differences in the hardware require a special

version of MagiC to be written, although this only involves minor changes.

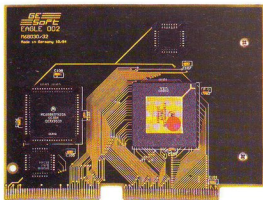
Fortunately, an Eagle happy version of MagiC 3 is planned. There are no problems running MultiTOS and Geneva and the Nova card which is included as standard supports NVDI 3. The Eagle is the perfect solution for the serious user who requires upgradability, extra memory, extended graphics and raw power.

The Future...

GE-Soft had various difficulties completing this project and the Eagle is already more than a year late which is a real shame because it is a great machine. The future still looks rosy, though. An ST compatible graphics card is planned which will allow the use of programming tools such as debuggers, and possibly allow some games to run.

A 68060 board is also planned, and this will almost quadruple the performance of the Eagle. Additionally, a Falcon compatible sound system and DSP board are on the cards for compatibility with programs like Cubase Audio. The Eagle's design opens the door for various add-ons and only time will reveal its full potential.

The 32MHz 68030 and maths coprocessor that neatly slot into an Eagle Channel.



Performance



This chart shows how the Eagle compares with other Atari systems. The figures were obtained using GENBench. These are the averages of the integer division, floating point math and memory access tests and should reflect the true feel of the system.

The Eagle is about 30% faster than a TT and more than twice as fast as a Falcon. However, when running in colour modes the differences in speed become more noticeable. The Falcon gets progressively slower as more colours are displayed while the Eagle maintains its performance. Screen update speed depends on the graphics card and of course the resolution in use. The SuperNova is very fast and performance can be pushed further using NVDI 3.

Unfortunately, we did not have the Eagle for long enough to perform more extensive tests. When the 040 version appears these figures will shoot up towards the Medusa; it will be interesting to see which one performs better.

EAGLE

Manufacturer: GE-Soft
UK distributor: Gostiner
Contact: 0181 345 6000
RRP: £1699 (£1999 with 15-inch monitor)
System: 4Mb RAM, 320Mb hard disk, keyboard and mouse

Pros: Fast and powerful system • good compatibility • fully modular and upgradable design • can be customised
Cons: Does not run MagiC • debuggers do not work • propriety bus interface

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Imagecopy 3.5 has highly sophisticated easy-to-use printing features that get the very best out of your printer. It will print pictures in black and white or colour on all popular printers: 9-pin, 24-pin, Stylus, Bubblejet, DeskJet, and LaserJet.
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- Convert images singly or in batches, all popular image file formats are supported.
- Nine zoom levels plus the ability to flip and rotate images. Thumbnail option displays miniatures of a set of images within a single window.
- Print catalogue pages with up to 40 or more pictures on a single page. Also prints multiple copies of an image - great for letterheads, invitations, greeting cards, etc.

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THERE IS A POINT
BEYOND
ADDICTION

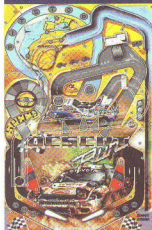


OBSESSION

Atari STE

1 Mb memory and color monitor required
Falcon compatible

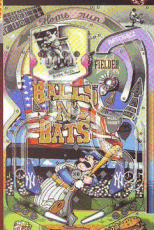
Actual screenshots from the STE version. The game includes a total of 4 tables.



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98%
Atari ST Review

94%
ST Format

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In over 90% of all STFMs, the upgrade plugs straight in. There are possible problems if either the video shifter chip or the MMU chip in your computer are not in sockets.

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These lines are manned Monday to Friday,
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TURN OVER...

... for more readers' offers and details of ordering by fax or post!

SEE THE PREVIOUS PAGE FOR OUR SENSATIONAL MEMORY UPGRADE OFFERS!

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CLOCK CARTRIDGE

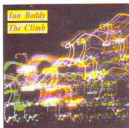
Who sets the time each time they switch on their ST? If like many thousands

£14.99

Boddy

language

Ian Boddy is one of the most well-known musicians on the UK's electronic music scene. He composes, plays live gigs and owns his own record company. Ian Waugh met up with him at his Something Else Studio to discuss music, composition, sequencing and life with an ST...



How it all started and right up to date - *The Climb* was originally released on vinyl in 1983, while *The Deep* is Ian's eighth album.

Over the past 12 years, Ian Boddy has released eight albums and performed over 60 concerts. Not a particularly amazing feat, you may think, but he is an independent electronic musician, not one of the rock and pop brigade.

His Something Else Studio is a mix of modern digital equipment and old analogue synths. Ian is enthusiastic about his music and he begins by talking about the ubiquitous Atari ST which sits above the main work area.

"I originally started writing *Jade* on the MC500 and half way through I bought the Atari, a 1040STF. That was 1987. I've never had it upgraded. It still has 1Mb of RAM and it's never broken down. I still have one of the original SM125 monitors.

"I use Cubase version 2.01, I think. It's certainly not the latest version but it does everything I need. There's only so much time. I have so many bits of gear it's impossible to learn everything about them all. I've never got into Logical Edit, for example. I find it... mysterious."

Do you still use the ST for sequencing?

"Oh yes. I use the MPC3000 mainly for Dance-based music but I use the Atari for orchestral stuff. When I'm using the MCP3000, if I make a mistake, it's quicker just to play it again. I don't use the editors, I just rely on feel.

"But for orchestral pieces I use the Atari. To give you an example, I reissued *Spirits* on CD earlier this year and added a bonus track. Rather than try to find some old piece of crap



which has been lying on tape somewhere – I'm always suspicious when people do that because the reason it wasn't released in the first place is that it wasn't good enough – I did a new piece but tried to make it fit the mood and feel of the original. It's virtually all orchestral – sampled strings, choirs,

Something Else Studio Equipment List

Analogue Synths

Roland 100-M:10 Modules with MPU101
MIDI/CV interface
VCS-3

Digital Synths

Kurzweil K2000
Korg WaveStation
Roland D550 and PG1000 programmer
Roland JD990
Yamaha TX41E
Quasimidi Technox

Sampling

Akai S3000: 18Mb RAM, SCSI, digital In/Out, S3200
Filter board plus 650Mb Optical Drive and CD ROM
Akai MPC3000 (also used for sequencing)

Sequencing

Atari 1040 running Steinberg Cubase
Digital Tape/Editing
Akai DR40 Hard Disk Recorder
Sony DTC 1000 DAT

Mixing

Soundcraft Spirit Studio 16/8/2

Outboard

Sony R7 Reverb
Dynaord DRP 15 Multi Effects processor
Roland SDE 330 Dimensional Space Delay
Roland RE501 Tape Echo
Alesis MidiVerb II
Roland SVC350 Vocoder
BBE 462 Sonic Maximizer
Behringer MDX2000 Compressor
Alesis MEQ 320 Graphic Equaliser

Miscellaneous

Atari ME30P MIDI Patchbay
Atari ME76 Audio Patchbay
Yamaha KX Remote keyboard
Akai MX1000 Mather Keyboard

piano, sound effects – and the way I used Cubase is probably different to the way most people use it. I ignored the bar lines and recorded in free time. I wanted a certain amount of rubato and it's very difficult getting a natural rubato playing to the bar lines and using the master track to speed it up and slow it down later on.

"I use Key edit a lot when I do this. I call up two tracks and compare the notes by eye. If the notes are too far askew, I just drag them back. It's really useful for that."

You used to be one of the most prolific gigging electro musicians in the UK. Is that still true?

"It could be argued that some of the people doing Ambient and Dance music are today's equivalent of electro musicians. Electronic music has a much broader span of styles now than it used to have.

"When I started off, if you said you were an electronic musician to most people you were in the vein of Tangerine Dream, Jean-Michel Jarre and Vangelis. But now you could include The Orb or any other Dance, Trance or Ambient musician and I'm sure some of those guys have done more gigs than me. I've still done more than most people in my area of music but nowhere near as many as a rock or pop band."

It must be difficult playing live?

"I used to use the Atari live – danger, danger! I used it in about half a dozen concerts. It misbehaved in one in a big way but in the other five it was fine.

"But it became more and more difficult to sequence live as there was a huge amount of gear to carry around. So for the past few years the backing tracks have been on DAT. There are arguments for and against both but, realistically, what you hear on DAT is no different to what you hear from a sequencer.

Ian's Something Else Studio set-up includes a bog standard ST running Cubase 2.01 on an ancient SM125 monitor.

Discography

The Clinic: released on vinyl in 1983, reissued on CD in 1993.
Spirits: released on vinyl in 1984, reissued on CD in 1995.
Phoenix: vinyl release in 1985, due for CD release in 1996.
Jade: cassette release in 1987, reissued on CD in 1992.
Odyssey: CD release in 1989.
Drive: CD release in 1991.
The Uncertainty Principle: CD release in 1993.
The Deep: CD release in 1994.

"The big difference is that you can, if you get the system right, change the sequences live. You can't really do that with a computer. I've got a concert in Derby at the end of May and I'm working on a system that will allow me to use sequences live. I have a sequencer in the 100M, an arpeggiator in the Technox and I'll be using the MCP300. I'll have sequences on each track and mute and unmute them when I want."

How do you begin composing a new piece of music?

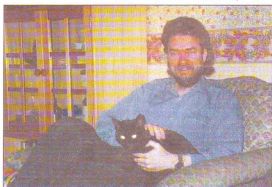
"There's no hard and fast rule. Sometimes I just sit down and play. Even if it's a load of rubbish, you get it out of your system. It's a bit like going to the loo – you purge your system of it. You need to get it out.

"No two tracks are created in exactly the same way. Going back to the bonus track on the *Spirits* album, it's very gothic and I wanted to recapture that atmosphere. I thought we'll have some Gregorian Monk chants – but not like Enigma.

"Normally abbeys and monasteries are very cold and two sounds sprang to mind. I have a lovely sample of cold, howling wind and I managed to track down a recording of crows from the RSPB. I paid the royalties to use it, of course! I put it all together and as soon as you hear it this amazing eerie picture comes into your head.

"After that it was a case of writing a dark orchestral section to build on the atmosphere. Then there's a lighter section. I painted a picture in my head, switched on Cubase, selected a piano

Ian Boddy – living proof that STs can deliver MIDI and music to the masses...



sound and just improvised. It was done in one take.

"I wanted the last section to be really over the top, gothic and demonic so I added chants and orchestral stabs. There's a big crash of a bell and then it goes back to the wind. I love the way Debussy and Ravel paint pictures in sound.

"For other pieces I just sit down, mess about and see what comes out. In some cases a sound can be the most important thing. In *The Deep* which is my latest studio album, I was using a beautiful eerie choir from a sample CD.



Ian hard at work behind the Soundcraft Spirit mixing desk.

a bit like the Ligeti choirs from 2001 and that immediately gave me ideas for tracks because it was such a haunting sound."

Is it difficult finding time for your music?

"I have lots of friends who dabble with music in their bedrooms. I have quite a nice studio here but I know people with as much gear but the reason they don't get anything done is that they don't have the discipline to work on a piece until it's finished. You can spend forever just messing about."

Are you driven to compose?

"Yes, I have to do it. I'd be quite unwell if I didn't. That's what I mean about purging. If I've been busy with other

things and haven't played for a few weeks I have to come in and thrash the living daylight out of the gear. I can't honestly imagine not doing the music. My hunger for doing it is just as great as it was 15 years ago."

You have your own record label – Something Else Records. Did you start it because of difficulties in getting your music released?

"Yes, in the early days I had a lot of trouble getting the finance together. Jade was the final straw. I got a record deal and even got an advance but the CD never came out. I'd invested 18 months of my life in it and it only came out on cassette.

"Then a record label called Surreal to Reel was set up by some other electronic music guys in the UK. They released a couple of my CDs including *Drive* which built my confidence again.

"Things started to pick up and I got a bit of money together to release *Jade* on CD at last. Then I released *The Uncertainty Principle* which has been my best-selling CD to date. It's sold about 2,000 copies which is pretty good bearing in mind it's had virtually no publicity in the mainstream press.

"I'm now in the nice position that when I finish something I can put it out straight away. I do the artwork and I have an account with Nimbus the CD pressing plant. It's quite a painless process."

For readers who are writing their own material, have you any advice how they can get it released?

"The convoluted path I've followed is probably unique so I doubt anyone could – or would want to – follow the same trail. There is a market for electronic music but it's obviously difficult to get into. However, there's an underground scene in the UK and

people do buy this material on CD and cassette.

"Producing the music can be quite easy. Producing a CD is easy although to make it financially viable you have to press at least 500. The hard part is selling the bloody things!

"Initially, it's probably best to release material on cassette. There are a lot of New Age shops which only sell cassettes and there are a few magazines such as *Zenith* and *Voyager* which will probably review your material. There's a few specialist shops and mail order companies which will sell your stuff if it's good enough.

"A few independent labels are springing up. I've just got distribution through Pinnacle but they've only sold about 200 copies of *The Deep* through shops which is very small.

"Anyone interested in electronic music should join an organisation called EMMA. They produce a newsletter containing lots of contacts, names and addresses. They release compilation CDs so if you're starting off you might get a track on one.

"But remember, any degree of success I've had is incredibly small compared to a rock or pop band."

But success is relative and Ian Boddy is certainly one of the UK's most successful electronic musicians. For more information about his CDs and live concerts, you can contact him through Something Else Productions.

Ian has kindly donated a complete set of his CDs for an Atari World competition – just answer our easy-to-enter competition!

Contacts

Something Else Productions, P.O. Box 16, Consett, Co. Durham, DH8 8YJ.
EMMA, PO Box 71, Riccall, York, YO4 6YJ.

Win the complete set of Ian Boddy CDs!



The first prize in our competition is the full set of seven Ian Boddy CDs. There's also two runners-up prizes of his latest album, *The Deep*.

All you have to do is answer these two questions, both taken from the piece you've just read:

- Which version of *Cubase* does Ian use?
- How many copies has *The Uncertainty Principle* sold?

Please send your answers on a postcard or the back of a sealed envelope (to arrive no later than June 15, 1995) to: Ian Boddy competition, Atari World, Unit 3 Green Farm, Abbots Ripton, Huntingdon PE17 2PF

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ATARI World

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Back to your Roots

We investigate whether software on the ST can be used to create professional family trees.

Don't miss the next issue of *Atari World* - on sale June 16...

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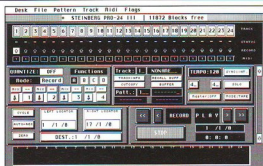
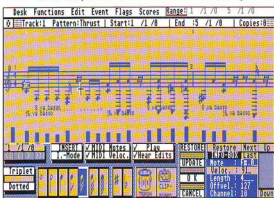
PRO 24 the Steinberg classic

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The Atari ST is the classic computer for music sequencing. PRO 24 V3 had a big part to play in making it so. PRO 24 has been used to make hit records by the likes of Dire Straits and Midge Ure. PRO 24 is not the latest and greatest sequencing package available today. That honour is reserved for the likes of Cubase and Notator which cost hundreds of pounds. But PRO 24 is the software on which Cubase was based - learning PRO 24 means that you're taking your first steps towards learning Cubase.

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Sequencing

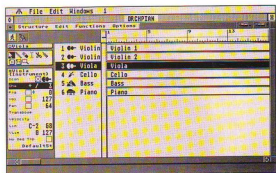
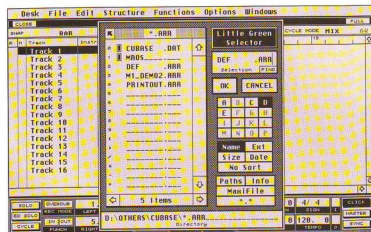
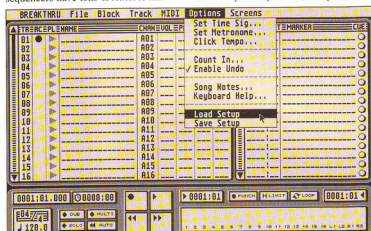
- beyond the manual

Ian Waugh presents the first in a new series of hints and tips for sequencer users.

When you first start sequencing, the sense of power and freedom it gives you can be overwhelming - if you're not overwhelmed by the complexity of the process first! Modern sequencers have tons of features and

options and it's not always easy to set it up to make the best use of your equipment and let you to work the way you want to work.

Obvious though it may seem, the first thing to do is to make sure your equipment and Atari are talking to each other. If you only have one keyboard



You can load and save Setup preferences in Breakthru from the Options menu.

Notator Logic comes with several templates for various instrument, chorus and orchestral ensembles.

you simply connect the MIDI In and Out sockets but if you have a sound module or two as well, you'll have to use the MIDI Thru sockets on the equipment.

This can be fraught with danger - not of blowing anything up but of things not working as you'd expect. The MIDI Thru sockets pass on data which is arriving at the In socket. It is not an extra MIDI Out. So to connect your Atari, a keyboard and a sound module so that you can play both the keyboard and the module from the sequencer, you'd make the following connections:

- Keyboard Out to Atari In
- Atari Out to Keyboard In
- Keyboard Thru to Module In

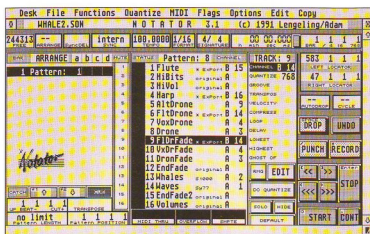
You can load and save Def arrangements in Cubase.

You can daisy chain another module by connecting its MIDI In to the first sound module's Thru. However, once

Save it!

TIP Everyone knows you should save your work often but how many do it? Every time you make a substantial change to your work, save it. It's a good idea to increment the filename - song1, song2, song3 and so on - just in case you want to go back to an earlier version. See if your sequencer has a hot key command for Save - this will make it less of a chore.

Save often - this is the best piece of advice you will ever get!



you acquire more than two pieces of equipment, you're really better off with a MIDI Thru box. This accepts one input – in the above example it would be from the Atari Out – and has several Outs which you would connect to the keyboard and other modules' In sockets.

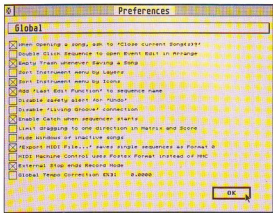
Local here

There's one more thing to do. Most sequencers have a MIDI Thru function which passes a copy of the data arriving at the Atari's In socket to the Out socket. In the above example, if the Thru function was on, the keyboard would actually receive two sets of note data – the one you generate when you play the keyboard and the same set being routed through the Atari.

This will result in double notes. It can make the keyboard sound decidedly odd and halves its polyphony. Avoid this by switching Local Control to Off.

Doing this will disconnect the keyboard's sound generator from the keys. In other words, when you play the keyboard it won't make a noise. However, if you use MIDI Thru on your sequencer the keyboard will play the notes arriving at its MIDI In socket.

Some sequencers let you specify a MIDI channel which MIDI Thru will not transmit on. Set this to the MIDI channel your keyboard is transmitting on.



So why use the sequencer's MIDI Thru? Because most sequencers have a channelise function which is incredibly useful. It transmits the Thru signal on the MIDI channel of the currently-selected track.

This means you can set up the tracks in your sequencer with a MIDI channel and a program change number so when you select a track and play the keyboard, you will hear the correct sound. This makes it very easy to change sounds when composing a piece as you can make all the changes from the Atari. You don't have to faff about selecting MIDI channels and sounds on the equipment. Just make sure it is all set to multi-timbral mode.

Switching off

There's just one more thing to check before you start. If your keyboard and sound module are both 16-part multi-timbral they will both respond to MIDI messages on the same channel. You need a way to direct the messages to one instrument or the other.

The easiest way is simply to mute or switch off certain channels on both instruments. You may decide to use channels 1 to 9 on the keyboard and 10 to 16 on the sound module in which case you would mute channels 10 to 16 on the keyboard and 1 to 9 on the module. Most instruments let you do this although some General MIDI modules don't and will blissfully respond to data on all 16 channels regardless.

An alternative method is to use a device such as ModemMIDI which gives your Atari another MIDI module which answers your Atari's Out to one instrument and ModemMIDI to the

In Notator you can assign a track to one of several different MIDI Outputs, depending on the hardware that is attached.

other. The sequencer must be capable of recognising this additional Out. Notator, Cubase and Breakthru, for example, do. Multiple Outs are also available for Notator using Export or Untor hardware interfaces.

Finally, when some sequencers boot, they automatically load a file called Autoload or Def which contains settings such as MIDI assignments and general preferences. Create your favourite settings and save the result as the autoload file so they are there as soon as you switch on.

Another good time-saver – and an alternative if your sequencer doesn't have an autoload file – is to create templates of set-ups you use frequently. It could be an orchestral layout if you produce scores or a set of tracks set up for GM or your set of instruments.

Notator has a MIDI Thru option plus a Thru Off channel.



Cubase's MIDI Thru and Thru Off channels can be found in the MIDI Definition window.



Breakthru has a Soft Thru option in the MIDI menu.



As you link "virtual" equipment in Notator Logic's Environment page you create MIDI Thru facilities automatically.



Groovy metronome

TIP You're ready to get creative. Click on Record and play something. Click, click, goes the metronome. Not very inspiring... Many musicians start by recording a drum track which they listen to instead of the metronome click and which helps them get in the groove. Record your own patterns or use one of the hundreds of third party drum patterns available in MIDI File format. It could just give you the creative edge you need.

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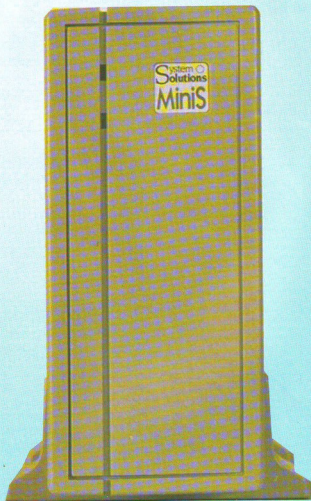
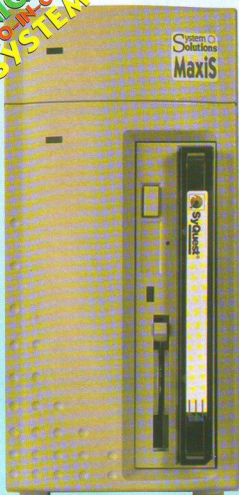
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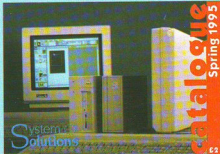
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Zorg 1.93



Floppyshop • £2.00
• ST/Ste/Falcon

Those of you who own a hard drive will undoubtedly want it to perform as best it can. One obstacle in the way of perfect performance is fragmentation of files which slows down access. Fragmentation occurs after many save and delete operations and occurs when a file is scattered across the drive in little chunks. When this file is accessed, the drive head has to find all the bits and pieces. Defragmenting the file joins all the bits together and saves the result in one contiguous file onto the drive.

Zorg, or Ze Organiser, is a shareware program that defragments files as well as offering other hard disk optimising utilities and several analysis options. It is capable of diagnosing and repairing the damage from a hard disk crash. In addition, for the techies among you, Zorg allows you to reorganise your file system and change the directory entry or FAT directly.

Zorg sports a standard GEM interface, and is reasonably easy to use despite the lack of comprehensive documentation. The on-line help has yet to be translated into English. If you want to give your hard drive an overhaul, then back up your hard disk and Zorg away...



I bet you didn't know just how long 38 years really is!

Gosh! Files on this drive definitely need to be defragmented...

Probe House Unit Converter 1.00



Floppyshop • £2.00
• ST/Ste/Falcon

The Probe House Unit Converter (PH Unit) is a small program for converting between different units of measurement ranging. You can use it to convert degrees Celsius to degrees Fahrenheit or acres to hectares, for example, and the program handles 16 types of measurement with a number of different units for each one.

PH Unit is very easy to use. You select the general type of measurement you are interested in, followed by the specific unit. Then you type in the amount and you are given a table of results which can be saved as a text file.

PH Unit has a wide range of potential uses, from converting recipes to working out how much petrol your car is using. If you try to convert gallons into litres, you'll realise that the program caters for American gallons, not British ones but the rest of the conversions seem to be fine.

PH Unit does its job well though you have to wonder how many people would be likely to use it regularly. If you need to convert units, and you're not good at memorising conversion factors, then PH Unit might be worth while.



Stoop 1.03



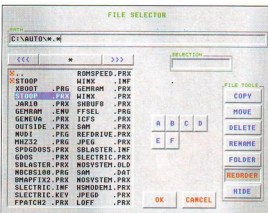
Goodman International • £1.95
• Falcon only

Stoop is a point and click boot manager that selects between different working environments at boot time. It is a shareware program and is installed using a well-designed utility that makes



Standing room only! Which utilities shall I leave out today?

Group	File	Group	File	Group	File
SHRPF1X2	LISTOEN	ARC1E9M	FRED	Calamus	2
CH1414	STOOP	COLE	SPED	Clispom	4
DRUM	ADDRESS	CALEMRA	VERBOS	DEP151	1
FEES	BOOTRACK	CONF19	MINIMUM		
FAL19720	CALLSCT	COLOV01			
FONTSEL	COOKIES	COOKIES			
GEN	DARKLOB3	ENW			
GENRAM	ED1TRES	FILEINFO			
GENRAM	FINGER20	FONM1			
GENRAM	FRECOO	FRENAM			
HARD001	GENRAM	FRENAM			
ICPS	LIST	FSDND			
JAN10	INC00P3	GENRAL			
JPEG	KANCODE	NDCP2			
JPEG	KEYS1P1	HP_LJ4			
LETENFLV	MON10	LEDPANE			
LOFF	KORBLD	RODR			
MON10	MON10R	PR1TER			
MON10	PROCALC	SAN.SET			
NSYSYEM	SANCF1G	SAN.SET			
NSYSYEM	SNAPD0T	SLASTER			
OUTSIDE	ST_LGE	SYSTEM			
REFRIVE	STEND	UDFONIC			
RSPDSE2	TASHER	WILLES			
SLASTER	TALANKE	XMIX			
SHRPF1X2	TOM115				
SHRPF1X2	WHAT10				
STOOP					
T022EH					



Use the re-order option to move Stoop so that it runs first.

sure everything ends up in the right place.

Most boot managers can select between auto folder programs and accessories but Stoop provides control over 20 different file groups using "boards". Each column contains four boards which can be cycled through using the right mouse button. Stoop can also copy and rename files as a single action with different original and destination file extenders.

Multiple files in different boards can be grouped together for activation with a single click and complete configurations can be assigned to any of the 27 launch buttons.

The Falcon specific settings remove the need for the DESKTOP.INF file - it's just a pity that Stoop can't be used on other Atari models.



Disk Cake

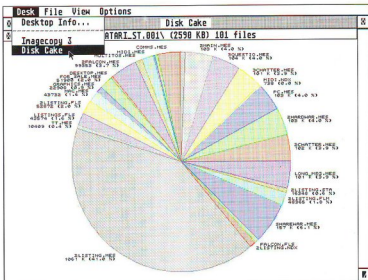
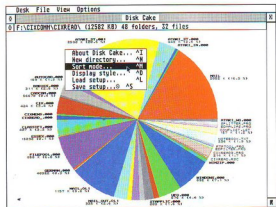
1.7



Goodman International • £1.95
• ST/STe/Falcon

Disk Cake displays the file structure for any floppy or hard disk partition as a pie chart. Select a path using the file selector and a pie chart is generated.

Click on any folder pie segment and it withdraws then generates a second display for the next directory level down. By clicking on pie segments or the close window gadget, it's easy to step up and down the directory tree. Disk Cake is also



Clicking on the Atari segment displays the individual files.

bi-lingual, depending on an option in its INF file.

If you're still not impressed, clicking on any file displays a file info dialogue box including a delete option so what started off as an interesting, graphical curiosity turns out to be a complete graphical file manager!

Unfortunately there's a downside: too many "known" problems detailed in the documentation. Until they're sorted out, Disk Cake remains a curiosity instead of a vital utility.

My CIX folder looks a bit of a mess - time for a sort out!



Bootsie 1.74



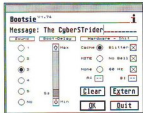
Floppishop • £2.00
• ST/STe/Falcon

Ever wanted a customised message on screen when you switch on your computer? How about speeding up the boot process? You can do this by writing special code into the boot sector of a floppy disk. This boot sector is checked by your computer whenever it boots and any program stored there is always executed first.

You don't need to know anything about disk structures and you needn't have any programming knowledge either - Bootsie can do it all for you. It has an elegant point and click interface that allows you to choose a number of options. All you do is select the one you want, click on OK and the code is installed in the boot sector of your chosen floppy.

Options include initialising certain hardware at boot up time to speed up the boot process. Colour monitor users can have the screen picture made bigger and you can even make the computer go "bing" with your customised message.

Bootsie can also be used as a simple boot sector virus killer. Do be careful not to use Bootsie on original or master disks, though, as you may make them unusable...



Bootsie has a simple but practical interface. The custom message here reminds me who I am...

Hmm... perhaps I'd better not phone Uncle Bruce after all!



Goodman International • £1.95
• ST/STe/Falcon

There probably aren't too many Atari enthusiasts who regularly need to know the time around the world but if you're one of them you'll be pleased to hear that Dan Wilga, of NeoDesk and Geneva fame, has released World Clock into the shareware scene.

World Clock runs as either a program or accessory and displays a cute map that can be proportionally re-sized from postage stamp size all the way up to full screen. Point and click on any of the 50 crosses to display the time and place at that location in a neat pop-up menu. Before the times displayed make sense you need to enter your location in the Edit places dialogue box which is tucked away under the "?" icon. Other places can be merged with the supplied database too.

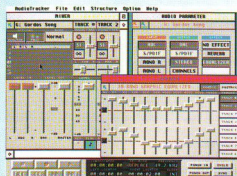
Options include a system date and time setter, time bar across the top of the map, 12 or 24 hour clock, day of the week and latitude/longitude display. The two supplied maps

supplied are in GEM format which might just come in handy.





The Complete Direct to Disk System



Audio Tracker Mixer and Effects Editor



Audio Tracker Wave-form Editor

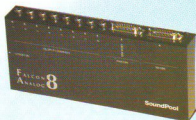


Best Hard Drive 1994



1Gb, 1.7Gb, 4.3Gb
MiniS Hard Drives

FDI ~ Falcon
Digital Interface
£239 inc. VAT



FA8 ~ Falcon
8 Audio Outputs
£349 inc. VAT



NEW

Audio Tracker

8 track digital recording for the Falcon 030 with only 4Mb of memory! Audio Tracker uses internal IDE drives, external SCSI drives and is fully FDI and FA8 compatible. The Recorder features MTC and audio sync, punch in/out, pre-roll, locators, song pointers, digital mixdown, sample rate conversion and audio file import/export for AIF and AVR files.

The Wave Editor allows non destructive editing using sample accurate markers and a powerful mixer and effects unit is included. Audio Tracker is ideal for video sound production, background music and voice-overs, as well as conventional multi-track recording.

All this and more for **only £159.00** inc. VAT.

Telephone (0181) 693-3355 to arrange a demonstration, or to discuss any questions you may have.
Ask for your personal quotation. Tailoring systems to your requirements is our speciality.

Call about our High Resolution monitors for the Atari STfm/e and Mega computers. Fully SM124 compatible - No Adaptors. Perfectly aligned sharp and square image - No ghosting.

NVDI 3



The fastest display accelerator now comes with the Speedo and TrueType scalable font system. NVDI 3 has highly optimized code, faster than the original. Get a faster display, comfortable font handling and faster printing for all programs using GDOS or SpeedoGDOS. Now you can use all those classic TrueType fonts from the PC or Macintosh.

NVDI v3.0 including 8 Speedo fonts £49.95
100 TrueType fonts on disk £39.95
500 TrueType fonts on CD-Rom £49.95

For update pricing, please phone.

NVDI v2.5 will continue to sell for only £29.95
Best Software Upgrade 1993 & 94 - ST Review.

MagiC



"If you want a multitasking system that works simply and reliably, then MagiC is for you."

ST Review, June 1994.

MagiC is a full TOS replacement, a very fast disk filing system; has accelerated serial, MIDI and printing routines and is, of course, a true pre-emptive multitasking system. MagiC Desk, a replacement Desktop, and a powerful command shell are included. MagiC runs on ST, Mega and TT computers with 512Kb, but 2Mb is recommended for a useful working system. The Falcon version is expected to be available by July 1995.

"It's like running an accelerator and getting the multitasking thrown in for free."

ST User, February 1994

MagiC (RRP £69.95) Intro Price £59.95
MagiC and Ease £79.95
MagiC and Kobold £79.95
MagiC, Ease and Kobold £119.95

NB: Excellent with Calamus SL. Compatible with Notator Logic, but not with Notator SL and not yet compatible with Cubase.

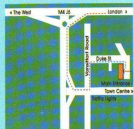
PAK68/3



Turn your computer into a 32bit system with the PAK68/3 and a 68030 processor. The 32MHz clock, 32bit wide TOS and a 32Kbyte cache will accelerate your system by 775% (Gembench 3.10). This is faster than the Falcon and the T1 Clock speeds of 40 and 50MHz are possible. The use of recycled processors makes this upgrade very affordable without sacrificing reliability. A 32bit 128Mb FastRam board and a 24bit colour graphics card are now available.

PAK68/3 board only, no CPU £249.00
PAK68/3, 33MHz CPU, TOS 2.06 req. £299.00
PAK68/3, 33MHz CPU and TOS 3.06 £359.00
PAK68/3, 33MHz CPU & FPU and TOS3.06 £399.00

Please telephone to discuss your requirements.



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With two service centres and Atari trained engineers at your service, the Atari Workshop is now Atari UK's preferred and recommended service agent. Need it back in a hurry? Ask for our next day ProService. Call us for estimates and to discuss your upgrade requirements. We fit all quality upgrade products. Ask for our Courier collection and delivery.

Call Windsor on (01753) 818816, or London on (0181) 693-1919.

ATARI WORKSHOP

Kobold



This High Speed File Manager gives unbelievable speed. Copies 1000 files (10Mb) in 45sec (GEMDOS 5.35min). Use Kobold for backing up; formatting floppies (DD,HD,ED); move, copy and delete files; use the learn function to automate repetitive jobs. Ease calls Kobold automatically for all desktop file and floppy operations.

Kobold 2.5 (RRP £59.95)

NEW PRICE
£39.95

Ease

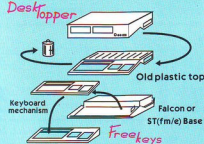


ST FORMAT Awarded 97%
Use your Atari with EASE. Replace the old Atari Desktop. This program could not be more appropriately named. The right click replaces the double click. Iconize windows for instant access to groups of files. Ease is aware of multitasking and comes with a sophisticated Colour Icon Editor. Works on any ST, all TOS versions, and with any display and graphic card.
Ease (RRP £49.95)

NEW PRICE
£39.95

DeskTopper

No space for accelerators, TOS boards, hard disks, graphic cards and PC emulators? Convert your Atari into a desktop computer with more space. Simply replace your plastic top with the DeskTopper and fit your keyboard into FreeKeys (or replace with a PC keyboard using AT-Key). For more information, ask for the DeskTopper leaflet.



DeskTopper - ST(FM/e)/Falcon £69.95
FreeKeys £39.95
DeskTopper and FreeKeys £99.95
AT-Key £49.95
Cherry Keyboard £29.95
DeskTopper & FreeKeys £99.95

T28 & T28e



Tired of waiting for your computer? Then speed it up with a 28MHz processor. The T28 accelerator is now available for STE and STFM computers. Compatible with Cubase and Notator Logic.
Available Now: The MultiBoard, a TOS2.06 IDE and graphic adaptor with 2-8Mb memory expansion.
T28 - with 64Kb cache for STFM/MegaST £179.00
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SCSI Drives



Best Hard Drive 1994 - ST Review Christmas '94
Mini size hard drives are full SCSI systems, hardware compatible with all Atari, Amiga, Mac and PC computers. They are unrivalled in size, low noise, speed and style. The ST(FM/e) version now comes with the ICD Link II as standard, or choose the Translator with HD Drive. Also included are terminators and all required cables.

We will match prices but won't compromise quality

Gold Award of 93% - ST Format Feb. '94
Essential Buy of 92% - ST Review Christmas '93

- * Quiet fan * Internal Power Supply 100-240V
- * 2 Year Warranty * Small (2.5x6x5") (WxHxD)
- * Dual SCSI Port * Device Number Switch

	TT/Falcon	ST(FM/e)
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127Mb Quantum	£199.00	£249.00
270Mb Quantum	£229.00	£279.00
540Mb Quantum	£299.00	£349.00
730Mb Quantum	£349.00	£399.00
10b Micropolis	£54.00	£59.00
1.7GbAV Micropolis	£899.00	£949.00
2GbAV Micropolis	£1099.00	£1149.00
4.3GbAV Micropolis	£1995.00	£2045.00

VAT included

CD-Roms



NEW Toshiba 3.4x Speed CD Rom drive systems: for the Falcon with SCSI II Cable, or TT £249.00 for the ST(FM/e) with the ICD Link II £299.00

- * Multi-session Drive * Photo CD compatible
- * Triple Speed * No caddies * Plays Music CDs
- * Dual SCSI Port * Headphone socket with Volume control * Stereo Phono connectors

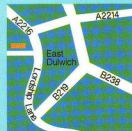
ExtendOS Pro v2 with music CD player £39.95
NEW - Atari Magazine Archive, Volume 2, May 95
1.9 Gigabyte of Compressed Data (UK) £24.95
Gemini (Atari/PD/Shareware) (US) £24.95
Alpha/WhiteLine - PD/Shareware £39.95
Skyline - PD/Shareware £24.95
Bingo - Vol 1 - PD/Shareware £19.95
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SyQuest



NEW SyQuest removable media offers fast and secure storage. Ideal for backing up, or as a main drive. Imagine all your music files and software on one cartridge, and all your DTP files on another.

105Mb Drive, 14.5ms, Inc. 1 cartridge £369.00
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230Mb Magneto Optical Drive £799.00
128Mb / 230Mb MO Cartridge £29.95 / £49.95



GDOS-Check 2.0

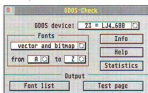


Goodman International • £1.95
• ST/Ste/Falcon

GDOS-Check is programmed by Christoph Bartholme, the IdealList programmer, with IdealList users in mind. It performs two useful functions: printing out a test page to determine the physical limits of your printer; generating font tables for an installed GDOS device.

All versions of GDOS, including SpeedoGDOS and NVDI 3.0, can be tested using GDOS-Check. After selecting a driver you simply press the Test page option. From the printed output, it is possible to accurately determine the margins and enter these into your IdealList adaptation file (IXA).

The Font list option outputs the installed fonts for the selected GDOS device according to the settings in the main dialogue box and the GD_CHECK.INF file. By default the user-definable INF file adds a title line for each font which includes the font name, point size, font type (bitmap/vector/Speedo) and font ID followed by four lines of the character set.



Problems with GDOS? Use GDOS-Check to investigate.

If your desktop gets in a tangle, why ya gonna call?

Maus-Window 1.32



Goodman International • £1.95
• ST/Ste/Falcon

Have you ever noticed your desktop windows take on a life of their own, with the window you want buried right at the bottom? If this sounds familiar, then you need Maus-Window, a freeware accessory that ensures that the window under the mouse pointer is automatically topped. It comes in two flavours: a complete version with configuration options; and a light version that uses the settings from the full version but cannot be configured during use. There are plenty of options to choose from. Prevent Disappearing only tops a window if it doesn't completely obscure other windows while Don't Top During Mouse Movement prevents casual mouse movements causing psychedelic window displays! Work-Area Only ignores the window



surrounds and gadgets which might otherwise be activated under MultiTOS or WinX.

Although Maus-Window isn't the only automatic window topper, it's intelligent, cleanly programmed and compact at under 7Kb.



Paula 2.4



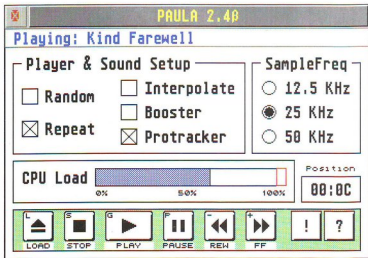
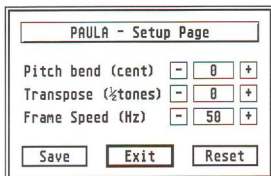
Goodman International • £1.95
• ST/Ste/Falcon

Paula is a Shareware MOD file player capable of playing both Soundtracker and Protracker format MOD files on all Atari computer models.

Paula takes its name from the Paula chip used in the Amiga which is equivalent to the PCM chip used in the STe and Falcon. Because none of the ST models have PCM chips a

Paula offers independent pitch and speed tuning.

A neat, intuitive front end.



separate sound driver has to be installed. This driver, called Petra, was programmed specially for Paula and is included in the package.

The sample frequencies on an ST drop from 12.5kHz down to 6144Hz, from 25kHz down to 9600Hz and 50kHz down to 12288Hz but something is better than nothing eh? Paula runs as a desktop accessory or program and can play samples in the background on a Falcon, TT or MegaStE.

There are plenty of buttons to push and the Interpolate option in particular makes a dramatic improvement to the sound quality. The Booster button raises the signal to noise ratio by six decibels.



Charmap5



Goodman International
• £1.95 • ST/Ste/Falcon

Charmap5 is a nifty freeware utility that makes it

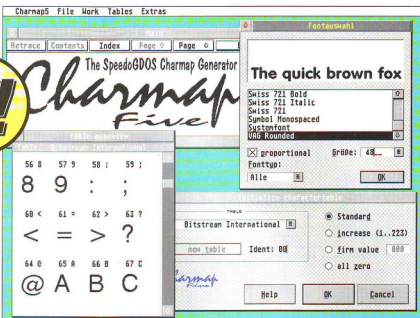
possible to access hundreds of characters that normally remain hidden in each of your fonts.

Speedo fonts typically contain around 560 characters whereas TrueType fonts can contain anything up to a theoretical 65535 characters! These extra characters are normally wasted because the ASCII standard only supports 256 different characters.

Charmap5 gets round this limitation by diverting SpeedoGDOS at the point where it normally reads the ASCII code table to read its own SPDCCHAR.MAP instead and, *voilà*, you can use Charmap5 to create, manage and output individual font tables.

The range of features on offer is a little bewildering at first but Charmap5 exerts such a degree of control over SpeedoGDOS that it has to be classed as a must-have utility for all SpeedoGDOS adventures.

Charmap5 is easy to install and includes a separate English resource file. Unfortunately the ST-Guide context-sensitive on-line help and other documentation is currently only provided in German.



Charmap5 is the ideal companion for SpeedoGDOS.

Before Dawn 1.39



Goodman International • £1.95
• ST/Ste/Falcon

Before Dawn has been around a while and was originally launched as shareware on the ST. In case you're wondering, the name is a sideways swipe at After Dark, a popular PC screen saver. The Falcon has breathed new life into Before Dawn as it's now capable of playing sound and animation together at a reasonable speed.

Different IMG and MOD files can be loaded into each of the three modules supplied and the modules can be cycled automatically. "Warp 5 Mr Sulu" recreates the reoccurring star effect. "Bouncing hole" smears a still image around the screen and "At the Movies" floats an animated image around the screen. Options allow separate monitoring of the keyboard and various ports along with variable mouse sensitivity and computation time.

Seeing the animated "Intel Outside" logo floating around the screen with a suitable MOD file playing in the background may almost persuade you to leave Before Dawn on your system - but I'd prefer the extra free memory...



Create animated images - here's a clip from my favourite...

And the number on your credit card is?

Vericard



Goodman International • £1.95
• ST/Ste/Falcon

Vericard is a freeware desk accessory that can check the validity of credit cards. It's an open secret (*well it is now!* - Ed) that credit card numbers conform to an algorithm that can be used by mail order companies to help spot fraudulent telephone credit card orders.

The documentation is very thin on the ground but after a few experiments with my own dodgy collection of cards, I've figured out that Vericard works with Access, Visa, Mastercard and (strangely) Air Miles card numbers. Charge cards such as American Express and Diners Club have different number formats and presumably different verification systems so they didn't work, and neither did the debit, store or cash cards.

Vericard may be of use to mail order companies trying to cut down on fraud over the phone, but we're not convinced...

Enter a credit card number to verify

Card Number: 1234 6789 3456 2333

OK

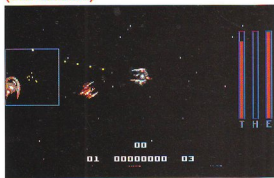
About

Cancel

Graveyard

Goodman International • £1.95 • ST/Ste/Falcon
(with Backward)

Billions of aliens
and only a
pes-shooter to
defend yourself.
Tough? You could
say that...



Graveyard walks away with this month's "most aptly titled game" award. It's an Asteroids clone from hell and is the most difficult public domain game I have ever encountered. Play is set on a large scrolling star-field and the age-old twist-and-thrust method of control is used. Ultra-violent aliens are attracted to your ship like magnets and careful use of the scanner is needed to avoid any close encounters. From a technical standpoint, the speed at which the enemy move across the screen is astonishing, but it doesn't do much for the gameplay. The digitised sound effects are quite impressive however.

All of the vital technical ingredients may be present and correct, but Graveyard is just a bit hard. Sit in one place for too long and your ship will be mince-meat within seconds - give the enemy the run-around and the engines explode through overuse. Still, at least the £5 registration fee entitles you to a free, no-limits version of Hoog (as featured in last month's PD Arena).



The Curse of Bolda

Floppyshop • £6.00 • Ste

The sprites may
be small, but they
are beautifully
drawn and full
of character.

Platformers are rapidly taking the place of shoot-'em-ups as the backbone of the public domain games scene.

Curse of Bolda is a case in point. The idea is to guide a geeky hero, named "Kev", around a succession of levels collecting crystals. All sorts of power-ups will be needed to make it through, and rogue toys will do their best to hinder your progress - fireballs take care of any persistent offenders. To add to the tension, each stage must be completed within a time limit.

The first thing you notice about the game is the general lack of speed - the Ste is capable of far more than this. But as ponderous as the scrolling may be, the controls are responsive and the graphics superb - the amount of character in some of the little sprites is amazing. Yes, persevere and you will find a rather nice game lurking under the technical difficulties.



Stello is packed with
extras, but none add
significantly to the
gameplay.

Stello 2.1

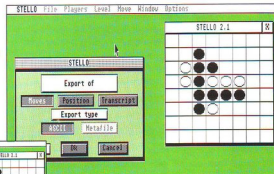
Mertin • £1.25 • ST/Ste/Falcon

Given the range
of difficulty
levels, your ST
should always
prove a worthy
opponent.



Generally speaking, good board games make good computer games, and Othello is no exception. I am sure you are familiar with the idea - tiles are laid on a grid in turn and the aim is to win as many of your opponent's pieces as possible by surrounding them either vertically, horizontally or diagonally.

Stello is a beautiful implementation of the game - it runs as a GEM application in almost any screen resolution from ST Medium upwards and packs a wide variety of difficulty levels. Your train of thought is interrupted occasionally as a shareware dialogue box appears, but it's not too intrusive and you



can explore the game fully before deciding to register; ten quid is the asking price. Other niceties include the ability to save games and you can even print the board if you want to; the way the tiles fade between colours is rather trendy too. Despite these touches though, Othello is still Othello - it's a nice version, but not a mould-breaking game.

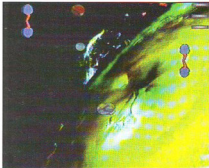


Pong 2000 Demo

Merlin • £1.25 • Falcon only

Pong started it all – it was the first video game to meet with any level of success and you can look at it as the great-grandfather of every single entertainment title on your shelf. Pong 2000 is a tribute to this classic of classics and attempts to add to the concept in much the same way as Tempest 2000.

In fact, Tempest 2000 vibes pulsate right the way through the game, from the "ravey" intro music to the available play modes – Classic, Duel and 2000. The latter adds stray rocks to the play-field and includes power-ups to



improve the speed of your bat and so on. You'll have to register to play a classic game of Pong.

Both joystick and Jaguar Powerpad are supported, but strangely the mouse isn't – this is a recipe for frustration because often it is physically impossible to get the bat to the ball. If they sort out this problem in the full game (also available via Merlin) we could be looking at a winner...

Asteroids and rocks on the play-field make the ball behave in a mighty strange way.

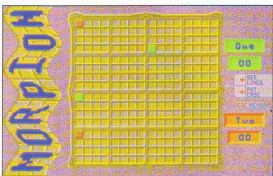


Morpion

Goodman International • £1.95 • ST/STE

Back in the seventies, notepad games were popular and I remember vividly playing one particular example – Tic-Tac-Toe – hundreds of times. As I am sure you have guessed by now, Morpion is a computerised version of this game. In play, it's very similar to noughts and crosses, but the board is bigger and set over several layers. To win, you simply need to form a straight or diagonal line of marks spread over all of the platforms. In contrast to the original, loads of different board styles are available and the computer makes a challenging opponent. You can also save a game and the ST can highlight possible moves. Sadly, the author hasn't even attempted a three dimensional board and each level is laid side by side on the screen.

Overall, Morpion is a sound game and an enjoyable one.



Numerous different board styles are available, but the completely "flat" interface makes some quite difficult to play.

Really, it would benefit from an improved interface, but if you can get used to the layout it's worth investigating.



Columns

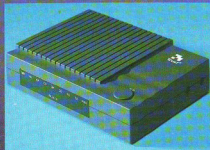
Floppyshop • £2.00 • Falcon only

Much of the success of Nintendo's Gameboy can be attributed to one game – Tetris. It turned perfectly normal people into complete video-game junkies and train journeys will never be the same again. Not to be outdone, Sega bundled their hand-held machine with a similar game called Columns, a clone of which is available on this disk. The aim is to create lines of three or more identical symbols from falling pieces – more difficult than it sounds, believe me. Beautiful sound effects and music accompany the whole game and the icons are expertly drawn. Registration will cost you around a fiver (fifty French francs to be precise).

Columns proves that a tired concept can still be revived by stunning presentation. It doesn't bring anything startlingly new to the genre, but it is exceptionally nice to look at and damn good fun to play...

Slick presentation and wonderful music make Columns a "must-have" for all Falcon owners.





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| Eclipse Mouse | £8.99 |
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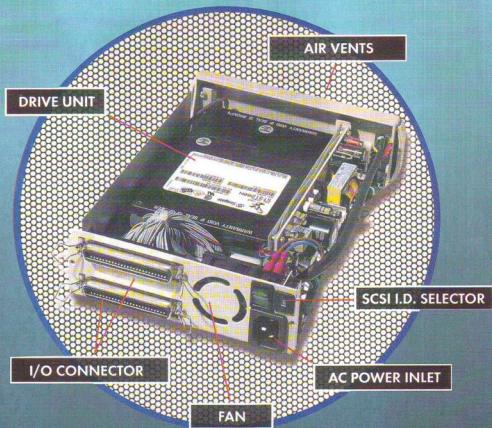
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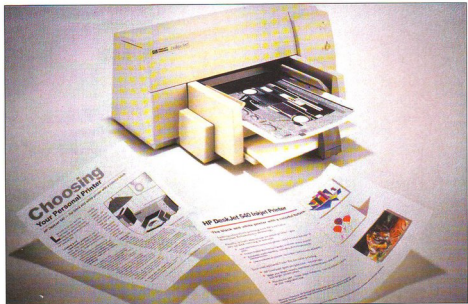


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Colour on

Fancy getting inkjet colour refills for less than £1? Follow Paul Keller as he shows you the way...



Experienced inkjet owners will know how fast you can go through a cartridge when you're printing in graphics mode, particularly if you're into colour.

As a rough approximation, a high capacity black ink DeskJet cartridge will cover at least 250 A4 sheets with DTP text and cost you about £25. Now the DeskJet itself is guaranteed for around 1,000 A4 sheets a month for five years. If you are using your machine full tilt, that's four cartridges a month – no less than £1,200 a year spent on ink cartridges!

Not many people use this amount of ink, of course. If you are only using your DeskJet for word processing it should last 500 A4 sheets per cartridge – but that's still £600 a year in printing costs.

Most regular DeskJet users know that you can get black ink refills for about £15 each. Although most suppliers claim these are double refill packs each refill probably only contains a maximum of 22ml (about half of a full capacity cartridge).

HP's DeskJet 540, as reviewed on page 22 of this issue. But the older members of the DeskJet family can also be made to output in colour...

The cost of this can still be prohibitive if you are a heavy duty user. Luckily, there is a much cheaper alternative – an ink that will cost you less than £1 to buy and which is widely available in the high street. Believe it or not, I'm talking about food colouring...

I have been using these ink refills for over six months now, trouble free, and have used the equivalent of some 15 cartridges in this time – a saving of about £200 in ink costs.

Food, glorious food

First you will need an empty HP51626A (high capacity) cartridge, a reusable syringe and a stopper to close up the hole after the refill. These are supplied with most commercial refill kits and can be reused many times.

Don't puncture the hole in the middle of the cartridge as this will render it useless. Instead a small sealed hole can be located on the top of the cartridge to the bottom right hand corner. This hole is opened up by pressing a ball point pen into it and, with a little brute force, pushing the small plastic ball into the cartridge. Hold the cartridge in your

Creating an extra paper guide

TIP A small extra paper guide can be made for the back edge of the paper in any DeskJet. A pencil rubber can be cut to fit between the paper stack and left side of the tray, this will help greatly in any extra guidance and accuracy when paper needs to be feed through two or more times. Some precision will be needed in cutting the rubber to fit correctly, it needs to be not too tight and not to loose.

the cheap

hand while doing this. Have two small bowls handy as well as some tissue paper. Stand the cartridge carefully on some tissue paper in one of them.

For the ink, using a store like Tesco and look for "Supercook" food colouring, buying one 38ml bottle each of blue, egg yellow and cochineal. Note that other makes may contain harmful particles that can clog up the jets. Empty all the contents into the second bowl and add 5ml of black ink (one syringe full).

This will produce a very dark brown colour suitable for most printing applications. Fill your cartridge with the syringe and seal it with the stopper. Place any remaining ink back into the bottles and keep it for future use.

The cartridge may leak for a little while after sealing but you can stick the syringe in the underside of the cartridge in a small hole near the back centre. Suck some of the excess ink and air out and wipe it gently with some tissue. Leave the cartridge some five minutes to make absolutely sure it has stopped leaking and wipe the ink head, very gently with a damp tissue.

The cost of refilling works out at less than £1 after you have obtained your black ink, reusable syringe and stopper. Other colours can be created and tested on a white piece of paper by use of a match stick end dipped in the ink.

A cartridge can be reused in this way 6-10 times before it needs replacing and this type of ink does not block so easily as that used in some of the other black refill kits available.

If you have the standard capacity HP51608A ink cartridge, ignore the previous instructions - simply clean it out and fill it with the food colouring.

Contacts

Imagecopy 2 (£19.95) and 3 (£29.95):
FAST Club, 7 Musters Road, Nottingham, NG2 7PP.
Tel: 01159 455250.

Reusable syringes:
Total Computing, Freeport, 16 Station Road,
Poole, Dorset, BH14 8BR. Tel: 01202 717001.

Inkjet refills:
Rodesign, 195 Milwards, Marlow, Essex, CM19 45J.
Tel: 01279 444313
System Insight, Units 1-3 East Burrowfield,
Weylyn Garden City, Herts, AL7 4TR. Tel: 01707 395500.

Colour by numbers

If you've only got a mono DeskJet and you want to produce colour, three separate colour cartridges are needed. Although you can use one, it would mean that you have to keep cleaning it thoroughly every time you need to change colour.

The cartridges can be stored by wrapping them in clingfilm or storing them in a small plastic bag with a piece of damp tissue. This will protect them from exposure to air and potential blockages. You should also use the rubber paper guide mentioned for best registration results.

See that you have cartridges filled with blue, one with cochineal, and one with egg yellow, and one with black. You'll also need a version of Imagecopy, either 2 or 3, which is available from the FAST Club.



Right: Select a 12 by 12 matrix from the half-tone selection screen. Make sure that print quality is set to best to reduce any possibility of banding.



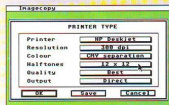
The paper is feed through the printer a second time for the magenta (cochineal) separation.



Add the final black separation to your work. The print order of the first three colours does not matter but make sure that when printing, you do the black separation last.



Left: In Imagecopy choose Printer type from the Options menu and select CMY Separation from Colour box. Follow the normal procedures for printing from this program.



Feed the paper through the printer for the first time for the cyan (blue) separation. Make sure it is secure and loads from the same position each time it is loaded.



Add the (egg) yellow separation. This may be a little weak compared to blue and magenta. If so, increase its saturation to 100% in the Adjust colours menu.



Allow a few seconds to dry and void - the finished product! A full colour picture printed from a mono inkjet - at a fraction of the cost of that of commercial ink cartridges.

Mega Games Bundle!

£15
inc. p&p

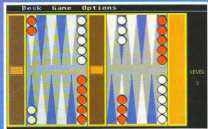
Nine classic games – the full packs including manuals, all for just £15!



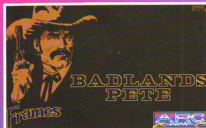
9 Lives Wacky and catchy – four massive levels with hundreds of rooms, stunning animation and dozens of characters.



Armada Full story of the Spanish Civil war including 60-page manual with full history – take the helm as Lord Howard or lead the invaders.



Backgammon The classic board game, Backgammon is probably the oldest of all games combining skill and chance.



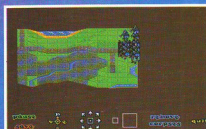
Badlands Pete Take on the role of the meanest, leanest six-gun toter in the Wild West. Smooth scrolling and 3-D sprites bring this game to life.



Chronicles of Omega A magical quest where good clashes with evil – battle your way to the demon castle for the final encounter.



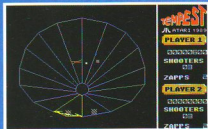
Gettysberg A classic war game sim. Can you lead the out-numbered rebels to victory and win the greatest battle in the American Civil War?



Prince You're in the tenth century here – lead a great military campaign with the aim of making your army victorious.



Pyramax As an intrepid intergalactic explorer you must decode the devious booby traps to reach the incredible Crystal of Thaal.



Tempest A classic Jeff Minter shoot-'em-up and forerunner of the highly-acclaimed Jaguar version, Tempest 2000.

Please rush me the Mega Games Bundle. I enclose payment of £15

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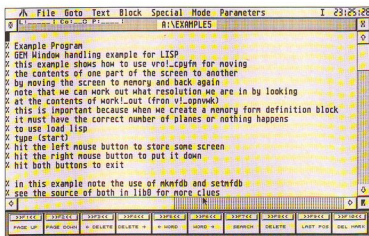
Send your order to:

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Green Farm, Abbots Ripton,
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More words of wisdom from
Jon Ellis on the subject of
programming...

Never mind the language



LISP, one of the many minority interest languages available for the ST.

but too many of them can make it difficult to keep focused on the main point of the project.

Choose a language

Choose an appropriate language for the task – just because something can be done in a particular language does not mean it is best done that way. It is important to be comfortable with a language as programming is much more efficient if you are thinking about the problem rather than about the language.

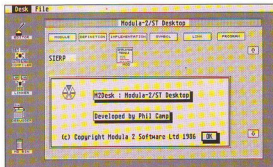
For most applications a general purpose high-level language like C, BASIC or Modula 2 is fine. For access to low-level system facilities, specific routines can be added in assembler. For system extensions or interrupt handling, however, assembly language is essential.

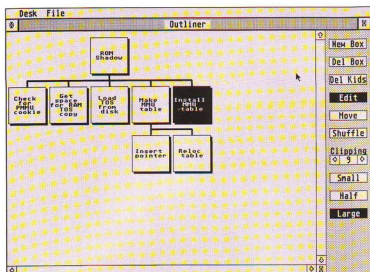
If possible, keep your development system up-to-date through upgrades, especially if you want to develop applications for systems running the latest

In the first part of this feature, we looked at the resources needed for successful software development. Once these are in place, the programming process proper can begin.

The first and most important step is to analyse the problem thoroughly. Think carefully about what the program is to achieve and how it might be done. Sketch out ideas on paper or on a word processor. Outliner programs may be useful for ordering thoughts in a logical fashion. It is a good idea to derive an approximate specification of features for the finished program and then try to stick to it. It may be tempting to add extra bells and whistles along the way

TDI Modula 2 had an innovative development environment but is no longer supported.





Planning a programming project with Calligrapher's outliner.

software such as SpeedoGDOS, MagiC and MultiTOS. Unfixed bugs in compilers and code libraries are very frustrating aspects of programming!

Research and design

In many programming projects, particularly those involving complex interfaces

or delicate system hackery like hard disk drivers and monochrome emulators, it may be difficult to see precisely how to approach a problem. In such cases, don't be afraid to throw together a quick test program to check out your ideas or the merits of alternative algorithms.

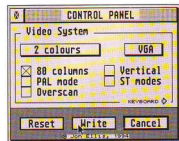
By developing and debugging routines in this fashion, the main program can be assembled from pieces of known working code, allowing you to concentrate on structure and design rather than the intricacies of routines.

And finally, the activity that everyone thinks programming is all about - coding. If the preparatory work has been done well, writing the code should be fairly straightforward.

Here are five suggestions born of experience:

- Keep the code simple. Don't use a complicated construct just because the language supports it. Clear code that expresses the thinking behind the program is much easier to debug and maintain.
- If your language supports it, group like routines into the same source code file or module. Where possible, reduce the number of global variables by using variables local to a module. The more distinct and better isolated a module is, the easier it is to debug.
- Try to reuse code - another task aided by modularity. With time, you should gradually accumulate a library of useful routines that will contribute increasingly towards future programs.
- Avoid code specific to a machine or operating system. If such code is necessary, document it carefully, and confine it to one source code module. Don't make assumptions about hardware or TOS features - use enquiry functions and the cookie jar to determine program behaviour.
- Comment your code carefully. Don't waste time documenting the obvious bits; spell out the design and niceties of intricate pieces of code. Key features requiring documentation include any restrictions or limits on inputs to a function, possible return values and places where code relies on a structure or data set up in another part of the program.

Though such a structured approach to programming may seem a little restrictive at first, the discipline will yield benefits in reduced debugging time and increased program reliability. On top of that, you will have the satisfaction of knowing that your new creation is clean, tidy, and professional. In short, a job well done!



Keep your development system up-to-date if you want to write CPX modules.

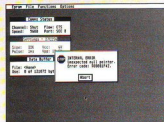
Prevention is better than cure

Finding and fixing bugs in a program is a time-consuming process. The best solution is to take some preventative measures:

- The worst bugs occur when a program is fundamentally flawed due to bad design - fixing these often requires a complete rewrite of large sections of code. With a little care in the early analysis and design stages, this can usually be prevented.
- Another type of bug is caused by code being exposed to combinations of circumstances that were not anticipated when it was designed. This is a particular risk when pieces of code are being reused some time after writing. Minimise this hazard by documenting the source code carefully, noting any assumptions or restrictions in particular routines.

● Defensive programming techniques. The simplest of these involves having a routine check that its inputs have sensible values before launching off into its work proper. Taken to extremes, this approach can make programs bulky and slow, but it is extremely effective when used carefully. For example, in C, checking that pointers are non-null before using them will prevent a lot of bus error crashes (two bombs).

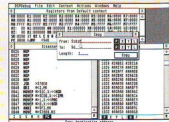
If these measures fail, some debugging will be required. At the simplest level, this may involve careful rereading of the source code. Another useful approach is to use print statements to provide a trace of program flow or variable values. Subtle or complex bugs may need dedicated debugging software.



Checking for null pointers allows a civilised exit rather than a crash...



Debugging a program using HiSoft's Mon...



The debugger with the nicest interface - Brainstorm's DSP Debugger for the Falcon.



Other useful utilities for debugging include SysMon by Karsten Isakovic.

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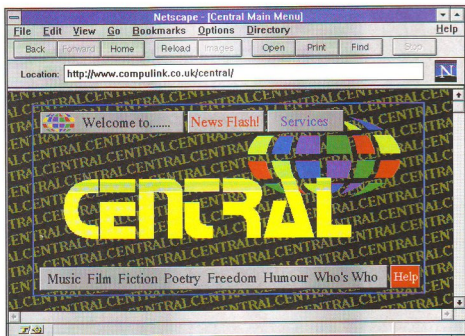
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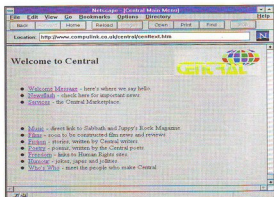
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Feel Like Makin' Web

Graeme Rutt and
Alexa Robinson take
on the task of
creating *Atari
World's* very own
World Wide Web
site...



Central's option text menu, again shown in Netscape.



This month sees the start of a new series in which we'll be creating a World Wide Web site for *Atari World*. Along the way we'll be showing you how to write code in the Hypertext Mark-up Language (HTML) and how to use the various Web browsers available on the Atari platform.

Your first duty as a prospective Web site creator is to plan your site and to find some suitable storage for the data. Like most things in life a little forward planning can help stop a lot of future problems.

Many Atari enthusiasts will have text-only access to the Internet. But from personal experience I know that a lot also have some kind of graphical access so it seems logical to give users a choice of a main menu displaying graphics or text.

The subsequent pages linked to the main menu will be both text and graphics based but HTML code gives us enough leeway to create pages with graphics that look okay even if viewed with a text-only browser.

For ease of use all pages will link back to the page they're linked from and also the main menu. This kind of system makes it nice and easy for users to find their way around the site.

The Central site's graphical menu, viewed with Netscape.



Pages viewed through the text-only Lynx viewer are a little less than inspiring...

Our site is designed to promote the *Atari World* magazine so it makes sense to lay out the menu as a contents page. This will link to various sub-sections: editorial, subscriptions, readers' offers, foreword from the publisher and graphic scans of the front page of each issue.

This will be a solid enough site to start with, although it always makes sense to allow space for expansion in the future. As long as we leave plenty of room in the main menu we'll be okay.

Browsing...

Next we have to look at the different programs that people use to browse the Web. As the site is going to be graphical in nature we're going to use Netscape features. Netscape is the most popular browser and it provides the Web builder with some tantalising graphical possibilities.

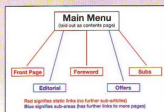
As a Web builder there are four questions to consider. Who are my audience? What content will I include? How should it be displayed? And, last but not least, which Web browser shall I write my code for?

When you have your answers you will have a broad plan on which to base the next step, creating your pages. Before we get onto that (next month) there's one more stage of pre-production to consider; resources. If you're going to require any graphics or sound for your pages then get thinking about how to get hold of or create them.

Site schematic

If your site is going to be more than a couple of pages long, you'll find that you can make things a lot simpler by creating a site schematic. Here's my rough sketch for the links on the *Atari World* site.

As you can see, there is no reason to make this plan too specific during the planning stage. For example, we know that all pages will link back to the main page but there's no reason to show all those fiddly links.



Schematic for the *Atari World* Web site.

Oh, what a tangled Web we weave...

There are many reasons for building a Web site – you might want it to be a graphic business card and CV or a club noticeboard. If you're a company, perhaps exporting goods, you can use the Web as an affordable distribution network. Anything is possible and right now is a great time to test the waters.

It is vital to be clear about what your site is for. Dedicating a machine or network to World Wide Web access, installing the lines from BT, Mercury or Pipes, then installing a server, is the optimum solution, giving complete control over information output. But this is a full-time operation in itself, and not the solution if making a profit from the Web presence is the plan.

A far more reasonable option is to lease storage from an existing Internet provider. These entities are appearing all over the UK and their terms are often quite flexible. In fact there are some that include up to half a meg of free Web storage with every account.

The first consideration is local dial up access. Finding the closest connection will definitely save money in the long run. In fact, it is even possible to use a local connection to "telnet" or "FTP" into a different remote account where Web pages are stored. Anything is possible on the Internet so getting connected is your first concern!

If distribution of information is your primary goal, just about any server will offer the means. The user interface is an important factor. Can you alter your information directly? Easily? Ask! At least one storage provider insists you send a floppy disk with your pages and pictures for them to install. Others allow 24 hour access to your own pages, to alter and update at any time. Again, pricing varies.

If your project is of a commercial nature, and you hope to take orders for goods and services directly from your Web site, a high degree of security is desirable before users provide credit card information over the Internet. Ask the server what they can offer in the way of safe information flow and find out, too, what support is available for forms and the input of information. This option can vary from simple automated e-mail to complex forms that split information to many different e-mail addresses.

Another option available is FTP storage as well as Web pages. If you intend to distribute any digital information, consider this to allow users to download much larger amounts of data than is reasonable from page viewing. The WWW offers vast possibilities for the distribution of shareware, for instance. If this is desirable, make sure your server offers this option.

It can be very time consuming and frustrating to move to a different provider once your Web site is established so plan as much as you can before you go into an agreement. Nothing is absolutely fail-safe but careful preparation can help avoid the pitfalls.

Servers

Use this guide to locate the server in your local area via your phone book.

Company	Contact	Email address	World Wide Web address
Alladin	info	aladdin.co.uk	http://www.aladdin.co.uk
Almac	postmaster	almac.co.uk	n/a
Atlas Internet	mail	atlas.co.uk	n/a
BBC Networking Club	info	bbc.org.uk	http://www.bbc.org.uk
BTnet	internet	bt.net	n/a
CityScope	sales	cityscope.co.uk	http://www.cityscope.co.uk
CIX	cixadmin	cix.computlink.co.uk	http://www.cix.computlink.co.uk
Compuserve		n/a	https://www.compuserve.com
Delphi Internet	ukservice	delphi.com	https://www.demon.co.uk
Demon Internet	sales	demon.net	n/a
Direct Connection	helpdesk	dircon.co.uk	n/a
Dungeon Networks	dale	dungeon.com	n/a
EUNET GB	sales	Britain.EU.net	n/a
EasyNet	admin	easynet.co.uk	http://www.easynet.co.uk
Educational Exchange	postmaster	golviz.co.uk	n/a
ElectricMail	info	elmail.co.uk	n/a
ExNet	helpex	exnet.com	n/a
Frontier Internet		n/a	http://www.tech.co.uk
FutureConnect	netmag	futurenet.co.uk	http://www.futurenet.co.uk
Genesis Project	sales	gpl.net	http://www.gpl.net
Glass Asylum	gnc	glass.jecsystems.com	n/a
GreenNet	support	gn.apc.org	n/a
IBM Global Network	inquire	ibm.com	n/a
Integralls	market	integralls.co.uk	n/a
Lunatech	info	luna.co.uk	n/a
Microland	support	trevan.co.uk	n/a
MKBS	sysop	mkbbs.co.uk	n/a
On-Line	sysop	online.co.uk	n/a
Pavilion Internet	info	-pavilion.co.uk	n/a
PC User Group	info	ibmpcug.co.uk	http://www.ibmpcug.co.uk
PC User Group	help	win-uk.net	http://www.ibmpcug.co.uk
Pipex	sales	pipex.net	n/a
Rednet Online	info	rednet.co.uk	http://www.3.rednet.co.uk
Sound & Vision BBS	info	span.com	n/a
Specialix	keith	specialix.co.uk	n/a
Spud's Xanadu	sweh	spuddy.uucp	n/a
Total Connectivity	sales	tcp.co.uk	n/a
U-Net	hi	u-net.com	http://www.u-net.com
ZetNet	pm	zetnet.co.uk	n/a

Q & A

You send in the questions – Ofir Gal and his team of experts set about solving 'em...

PC Compatible



Q At work I use a PC with Microsoft Word

6, but I would like to work on documents at home using *Protext* on my ST. Unfortunately, *Protext* can't read Word documents and Word certainly can't read *Protext* documents! Is there

anything I can do to get around this problem?

Mark Smith via Internet

A There are two possibilities.

The first will always work: use files in plain ASCII format. These contain only the standard ASCII character set and will always be interchangeable. Ask Word to save a file in "Text only" format to a floppy disk. Make sure that the floppy is not a high density one (although MegaStes and Falcons do have such drives.) On the ST, run the conversion program supplied with *Protext*. To run this from the Desktop, double click on CONVERT.TTP and hit Return when the dialogue box appears. Choose "Import file conversions" from the first menu and then "ASCII to *Protext*".

Type in the name of the file you want to convert, then the

name you want the converted file to have. You can specify another drive and directory for the new file if you wish. When the conversion is finished, run *Protext* and load the converted file. You may need to reformat it – choose "Format text" from the Format menu. Your document will have lost all its text attributes, such as bold, italic and so on, but all the text will be intact. When you save your file from *Protext*, save it as ASCII – choose "Save as..." from the File menu in *Protext*, then save the file as "ASCII - Reformatable".

The alternative is to use a common file format designed to overcome this kind of problem. This is called Rich Text Format (RTF), which both Word and *Protext* support. Do the same thing as for ASCII files, choosing "RTF to *Protext*" in the conversion



Q I'm having a problem printing reports in Superbase

Professional. It only seems capable of printing in columns which isn't too good if one has long fields and wishes to print them on an 80-column printer without resorting to condensed fonts. What I want is to print each complete record one after another with each field occupying a single line – similar to Record View with Paging off. But if I try this with Output set to the Printer I get records split between pages. No doubt this could be done by writing a Superbase program. I have studied the manual many times but cannot see what to do.

James McKay, Aberdeen

A I don't think the solution can be achieved using Reports and Queries because of the default column format for reports, but you can get around many of these deficiencies by producing a report to a disk file and then loading it into *Protext*, where it can be formatted as you wish.

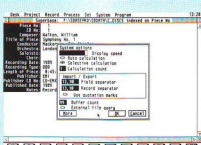
• First possible solution

Click on Set/Options and in the Import/Export section and enter 13,10 (carriage return/new line) for the Field Separator and 13,10 for the Record Separator.

Click on Export menu item and, at the Filter, choose which records you want. Leave it blank if you want them all, or enter a filter command to select some, such as: *Composer LIKE "Elgar"*.

At the Export File Type dialogue box, choose "ASCII delimited" and at the next dialogue box, enter a filename.

Load this file into your word processor. This will be similar to what you want. Enter headings, page numbers and the like as usual and format so that each record doesn't split over two pages. The



Solution 1: the Import/Export section of the Options dialogue box decides how fields and records are to be separated when sending output to the disk.

only problem with this is that you don't have the field names at the start of each field.

• Second possible solution

What is ideally needed is a way of getting the Record View sent to a file for processing in a word processor. I've come up with the following little program.

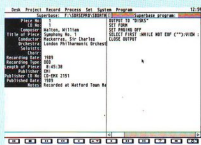
Load your database file as normal. Click on Program and New. Enter the following, choosing a suitable file name:

```
OUTPUT TO "filename"
SET FORM
SET PAGING OFF
SELECT FIRST:WHILE NOT EOF(""):VIEW:SELECT NEXT:WEND
CLOSE OUTPUT
```

Run this and quit Superbase. Load the resulting file into your word processor. This form of output mirrors output to the printer, so the page width is the same as set in Superbase. You'll see a carriage return at the end of each line and lines split and padded out with spaces.

What we need is to split each line at the | character (Shift \), which delimits every field, and then get rid of the carriage returns at the

end of each line. But, if you get rid of the carriage returns first you'll end up with one enormous single line of text which most word processors or editors won't cope with. Some well, like *Protext*, but any subsequent processing tasks forever. So, do this: using Search and Replace replace the carriage return character with a carriage return and a unique, unused character, say



Solution 2: with the data file loaded, enter the program into the Program window and Run.

a tilde "~". Most word processors will allow you to enter a carriage return in the search and replace dialog, try CTRL-M or ALT-13 on the number pad if not. Where CR equals the carriage return character ASCII 13, do this sequence:

```
Search CR
Replace CR~
```

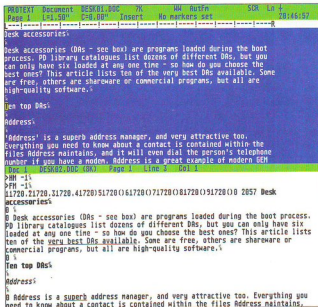
```
Search | (shift \)
Replace CR
```

```
Search CR-
Replace (nothing)
```

Then separate each record by searching for the first field, say:

```
Search PieceNo
Replace PieceNoCRCR
```

I've tried this and it works very well. *Mark Baines*



Protex and Word on the Mac both support Rich Text Format, but you often get more than you bargained for...

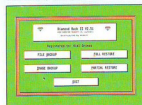
program. However, you need to run the conversion program after saving your document from Protex, which can't save RTF files directly. Choose "Export file conversions" in the conversion program followed by "Protex to RTF".

The disadvantage of RTF is that the files Word saves may not always be entirely compatible between the two platforms. The screenshot shows the same file in Protex after having been converted into ASCII (blue background) and RTF (white background). Note

Part 'n' parcel

TIP Deciding how to set up a large hard disk is a tricky business. The temptation is to use one mammoth partition, but splitting the drive into smaller sections makes sense for several reasons. Firstly, it allows you to keep data and applications separate. Not only does this make back-ups easier - application partitions rarely change - it also safeguards against total data loss; after all, most problems will be limited to a single partition. As a bonus, your application drive will not become fragmented.

Dave Rickett, Cornwall



Sensible partitioning protects against data loss and makes a hard drive much easier to back up.

that the ASCII version has lost its text attributes, while these are retained in the RTF file, but some unwanted garbage has crept in! In general, you might find ASCII more convenient until you come to do the final formatting of the document.

There is a third possibility which I have not tried. Both Protex and Word can read and write Wordstar files; you might try this as a common format and see if it works better than RTF. If you want to explore the use of RTF further, both Calligrapher and Papyrus can use RTF files, and Calligrapher with a little copes quite well with the files produced by Word. Steve Pedler

Surf's up!

Q I've been reading a lot in the press about the Internet and would like to get "on-line". I have an Amstrad SM2400 modem, which I use to call bulletin board systems, and I use a 4Mb STe with a 40Mb hard disk. Is this a suitable set-up for using the Internet and how do I get on-line?

David Hardcastle, W. Yorks

A Apart from the modem, your set-up is fine for some 'net surfing. The 'net tends to be very data intensive and a connect speed of 2400 just doesn't cut the mustard these days. You might think about picking up a 14,400 modem (look for the words "v32bis" and "v42bis" in the advert) which you can get for around £150. Alternatively,



Connect and CIX - a powerful combination that gives you full (text) access to the 'net.

you might like to think about going for a top-speed 28,800 modem ("v34" or "V.F.C.") which cost a little over £200.

For your Internet connection you can either go through a system like CIX, which gives you "buffered" access to the 'net, or you could use Demon or Easynet, services that give you a direct connection. CIX is more expensive but enables you to use your favourite comms terminal (and you also get a very fine non-Internet commercial bulletin board to use). Direct connection providers require you to use specialised networking software - on the Atari the package is called NOS. It's a bit of a pig of a program but once you get it working it's more than adequate for most Internet needs. Graeme Rutt

Guide lines

Q I've recently noticed an alarming trend - shareware and PD authors are providing ST-Guide help files instead of ASCII documentation! I usually print out an ASCII reference text but can't even get ST-Guide running on my system. Am I missing something?

Richard Pope, Brighton

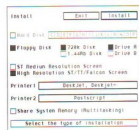
A ST-Guide documentation may be in STG or HYP format. An STG file includes keywords but is still readable ASCII that can be printed out like any other text file. HYP files are compressed STG files that can include images. The ST-Guide

Double trouble

TIP Users of the ST Review Calligrapher disk may be interested to learn that it is possible to run the Calligrapher upgrade on two floppy drives.

I was disappointed when the installation procedure did not allow for this, so I installed a PD utility called "Tandem" into the AUTO folder. Calligrapher now runs perfectly with the program disk in drive A and the printer disk in drive B. Tandem is intended for games that use two disks, but it works perfectly with Calligrapher. Use drive A to save files, with a separate disk.

John Goldsmith, Howrah, Australia



Install me - the Calligrapher upgrade didn't support two disk drives.

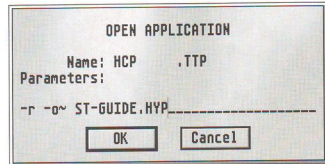
viewer displays HYP format files and can print individual pages and copy text to the Clipboard.

HYP files are generated using the ST-Guide Hypertext Compiler (HCP) which can be used to "reconstruct" the original STG file along with any included images.

If ST-Guide doesn't run properly on your system try renaming ST-GUIDE.INF to ST-GUIDE.INX using the Desktop "Show Info" option. This disables the INF file forcing ST-Guide to use its internal defaults.

If disabling the INF file allows ST-Guide to run, you need to configure ST-GUIDE.INF for use with your system. Load the INF file into any ASCII text editor (like Everest or Tempus) and edit each line in turn. Work on a back-up copy so you can compare changes with the original file. Joe Connor

Run HCP.TPF and enter -r -a and a HYP filename to rebuild the original STG file.



Down 'n' out?



Q I am writing to ask

advice about the hard drive I have just assembled from parts: Quantum LP120S disk unit, power supply, Translator host adapter and HD Driver software. It all works rather well... on its own! The disk hums away quite happily and only gets moderately warm. The trouble is that after partitioning and subsequent trial, there is severe data loss.

● Loaded files just vanish, will not run, visibly break up after additional file transfer, then cannot be deleted, etc. There is no "wipe" utility with HD Driver, so the drive just has to be repeatedly re-partitioned.

● Often, some or all four partitions just disappear, in which case the hard disk driver software, cannot even "get at" the drive, making partitioning impossible.

Ruling out the drive unit, adapter and software, there seems to be only one possible cause of the problem. My TOS 1.06 vintage 520 Ste (now upgraded to TOS 2.06/4Mbytes) has the dreaded faulty DMA chip in it which has ID-No C025613-38-PH-23-030. However, my computer has C025913-38-PH-23-030, a close relative.

On the other hand, ever since installing TOS 2.06 last year, I have noticed a problem where floppy disks formatted on my external drive or with FASTCOPY.PRGM will not boot. An STE circuit diagram I have shows that the DMA chip also services the floppy drives, so maybe both problems derive from this one component?

Have you, come across these problems before - can you pinpoint some reasons? If you do think this particular IC is at fault, would you mention a replacement IC and ID number and where it may be found. A good quality socket is already waiting for action...

It would be sad indeed to find that my brand-new and much-needed acquisition cannot now be made to work and I do hope you can give some practical directions!

J. Lambert, Sydney, Australia

A It is very difficult to diagnose the cause of such problems by post, without access to the hardware. You suggest that the problem is due to the infamous STE hard drive problem, which arose when Atari shipped a batch of STes containing a sub-specification DMA chip. The flaw usually manifests itself as random disk errors that typically occur after a couple of hours continuous use.

Such a rogue chip may well be responsible for these woes, though three points suggest that this may not be the whole story:

- Your data loss is rather more severe than is typical for the STE DMA bug, and there is no hint of any time-dependency of the corruption;
- There is no direct evidence that the hard disk unit is fully operational. Although the drive spins up, and consumes a normal amount of power, this does not tell us anything about the function of the host adaptor board or the cabling. However, the

fact that the disk can be partitioned and seen by TOS argues against a fundamental error;

● It seems likely that the machine suffered some form of damage during the ROM installation, as there is clearly a problem with the floppy. This may be unrelated to the hard drive errors - for example, a knock on the floppy mechanism causing a misalignment of the read/write heads. This seems the most plausible explanation, as something like static damage to the DMA chip would be expected to affect all floppy disk reads/writes, no matter where the disk in question was formatted.

Memory matters!

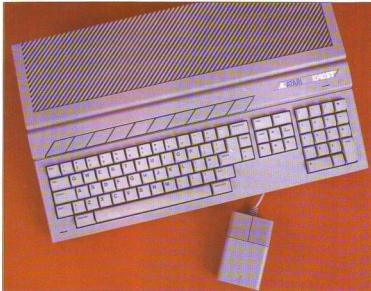
TIP The most common cause of crashes under Calamus SL is shortage of memory. At the first sign of trouble, ditch any unneeded AUTO folder programs and desk accessories - replacement file selectors are easily dispensed with, because Calamus offers its own. If problems still persist, increase SL's internal memory allocation (System Parameters module) and disable all caching through the Miscellaneous Settings dialogue box. With any luck, this will solve the problem - if not, it's time to start saving for a memory upgrade!

Colin Johnson, Stockport

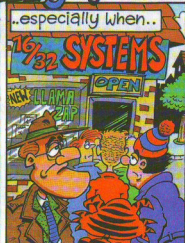


Calamus SL stability problems can often be solved by increasing the internal memory allocation.

While some STes had a serious DMA chip problem, this is not the only cause of problems...



Sid and Scuzzy by Dave Howell and Paul Van Linden ©95.



If at all possible, try to test the hard disk on another ST (preferably not an STe!). This will narrow down the possibilities greatly. Similarly, testing another floppy in the machine will also be helpful. If, after these tests, the DMA chip still appears to be the culprit, then maybe a replacement is indicated. System Solutions (fax number: +44 181 693 6936) stock DMA chips, and may also be able to advise on whether the present chip is from the duff batch. Best of luck! Jon Ellis

Light fears



Q I am a writer in a team that writes

ASCII information text files for a Public Domain Information Producer, and in our next disk, we would like to include pictures, diagrams and representations of the subject matter.

My question is, what is the difference between an ordinary mouse, an

Desktop accessories

TIP Through trial and error, I have discovered a way of running some desk accessories without having to reboot. This method only works on standard TOS versions, so don't try it with NuTOS or MagiC.

Just add one line to the DESKTOP.INF or NEWDESK.INF file on your boot disk. Load the file into a text editor or word processor and add the line:

```
#G 03 FF *AC?@ @
```

This should go just below a similar entry that ends with *.PRG@ @. This makes the system load the accessory as if it was a stand-alone program. The question mark means that both ACC and ACK (disabled accessories) can be loaded.

This only works for desk accessories that can be renamed and run as a standard program, such as Fastcopy. Some will refuse to work and will probably crash your machine. Also, be careful not to edit other lines in the DESKTOP.INF file in any way! Make sure that the text editor you are using does not have some option to remove trailing spaces. I've been bitten by this one when I used the otherwise excellent Everest to perform this surgery... Mark Wade, Bath



Keboid is one of many desk accessories that can run as stand-alone programs and it works rather well with this trick.



optical mouse and an optical pen mouse? The name "pen mouse" implies to me that it is a mouse in a pen shape and if it is such, would one be able to use this device to copy line diagrams from paper to monitor in the same scale?

Also how compatible is an optical mouse, be it pen or standard type? Would such a mouse work with Neochrome, Canvas and Degas Elite, for these would be the formats we would be distributing in. J. J. Bond, London

A A computer mouse operates in one of two basic ways:

The standard roller-type translates the movement of the ball, via two small rollers inside the mechanism, into horizontal and vertical components. This information is interpreted by the ST into similar movements on the screen.

The optical type depends on the reflection of light against a fine hatched surface to detect movement. As such, it's not generally possible to use it on any thing other than the special mat provided - no using your jeans or the table here. The way the movement information is sent to the screen is the same as for the roller-type mouse.

The pen mouse, in the form of the Tabby, is indeed ideal for tracing images. If the diagrams are relatively simple, have you considered an art package that allows

you to export in IMG format, or even a scanner? Either should be sufficient on their own if you want to create images for inclusion in an ST-Guide hypertext file, which actually seems the best way of achieving your aims.

Regarding compatibility problems with the Tabby are that it plugs into the serial port and uses its own mouse driver, which isn't entirely happy with all software and ties up your modem port. A standard optical mouse, such as the Alfa Data, doesn't have these problems, although its need for a special mat means your tracing line-art idea comes unstuck.

I've tried an optical mouse with Degas Elite, Neochrome v2.10 and Canvas as well as Hyperpaint, EasyDraw and Arabesque with no problems - in fact, the extra smoothness is a decided advantage over the roller-type mouse.

The hardware set-ups you describe should be entirely suitable, whichever choice you make. Harry Sideras

An optical mouse gives you extra-smooth movement, while the Tabby is ideal for tracing images.



Send Us Your Questions

Can't find anyone to answer that nagging question? Then drop us a line. Our team of experts are on hand to investigate and solve almost anything you can throw at them. Just send your letters to:

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Cambridge PE17 2PF

or email them to:
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While every effort will be made to answer your question within the pages of either Atari World or Atari Pro, please note that individual correspondence cannot be entered into.

Fancy Earning A Tenner?

All you have to do is send us a useful tip for your favourite program - what could be easier!

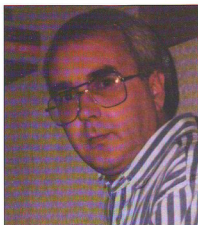
Send us your hint on a disk, saved as a text file (preferably), along with a screenshot for illustration, or possibly a drawing if it's a "you can build this" style tip. We'll pay £10 for every reader hint that we publish.

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TalkBack

Each month, Vic Lennard puts an industry figure on the hot spot with four searching questions. This month it's the turn of Mike Goodman, proprietor of Goodman's PD library, to sit in the hot seat...



Mike Goodman, Goodman's PD.

What do you think of the current UK market?

"If you listen to some people, the Atari market is dead and gone. But while the growth in the user base has diminished, the sales of second-hand machines along with owners who are unwilling or unable to invest in new equipment is leading to people using their STs more productively. I remain very optimistic that the next couple of years will remain fairly stable for our company.

"In fact since Christmas, the number of new customers has taken us a little by surprise and we have had to book another print run for our shareware guide. Supplies of this should have lasted through until next Summer."

How has PD and shareware changed over the past two years? How have you adapted to these changes?

"The quality of programs has improved quite dramatically, particularly over the past 12 months. The platform now seems to be taken far more seriously; I always believed that this was possible, and hope that I have had some influence on how users now view PD and shareware.

"Back in 1991, we were the first Atari-specific shareware service in the world to meet the standards of the American-based A.S.P. (Association of Shareware Professionals) and have always been selective in the programs we include in our catalogue. We try to present our customers with the best of each type of program, and I personally check every one of them.

Most of what I receive passes with flying colours - in years gone by, less than half of what I saw was of sufficient quality.

"Another noticeable change is that customers are far more demanding and expect a professional approach - quite rightly! The illusion that all you need to do is offer a large collection of disks no longer holds weight. Queries need to be answered, new programs have to be sourced, and existing ones frequently updated. These tasks alone can occupy many hours every week, hence the demise of many part-time libraries."

What has been your initial response to Atari World?

"We started receiving telephone calls the day after it hit the news-stands.

"Although limited for the first week, there has been an increasing mail and telephone response ever since.

"Considering it was the first issue, the interest has greatly exceeded my expectations."

What future plans do you have?

"Although we have other computer-related interests, as far as support for the Atari line goes we intend to continue as present. The catalogue print run is indicative of this.

"At the recent All Micro Show we attended, there were stands for the old Atari 8-bit machines, Sinclairs, and even one for the Einstein User Group! The millions of Atari computers sold throughout Europe will not disappear over night - and neither will we!"

ATARI World

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NUTS TO YOU ALL!

As you will see from this page, we are still nuts about the Atari range of computers and are continuing to support the platform. We have released over 50 titles for the Atari over the last 9 years (most of them are to be found on this page, somewhere) and now we announce **Squirrel Storage Systems** - SCSI peripherals at realistic prices. We think that it's about time that Atari folk were able to buy quality SCSI devices at competitive prices, so we have put together some very special deals based on high quality components, all with 2 year warranty. (Atari ST/STe owners will need a SCSI interface). Whether you're buying SCSI for the first time, extending your SCSI chain or fitting more units in a tower case, why not take advantage of the generosity of our storage-hungry squirrel and grab his nuts while you can!

SCSI CD-ROM Drives



Squirrel 2x - int £129, ext £189
New! Squirrel 4x - int £199, ext £259

Introducing our brand-new quad-speed CD-ROM drive, the Squirrel 4x; a feature-packed, lightning-fast drive at a stunning price. This is the flagship of our range of CD-ROM drives, all designed to suit your needs and your pocket.

Squirrel CD-ROM drives are cased in extremely stylish enclosures with two SCSI connectors and offer fast access times, stereo headphone sockets with volume control, phono line output, PhotoCD™ multi-session support, CD-DA (digital audio) compatibility with the convenience of tray-loaded action. The Squirrel 2x CD-ROM drive offers 300Kb/sec transfer while the Squirrel 4x attains a 600Kb/sec sustained transfer rate, with an access time of only 190ms. You will need suitable CD-ROM driver software; please add £29.95 if you require us to supply this.

SyQuest Drives



44Mb - int £129, ext £189
88Mb - int £269, ext £329
270Mb - int £419, ext £479

Introducing removable SCSI drives for your Atari computer. Based on reliable, proven SyQuest™ mechanisms, these 44Mb, 88Mb and 270Mb units offer transportable, compact, high performance and, above all, expandable storage for all your computing needs. SyQuest is the world leader in this technology across computer platforms which means that you can transfer work between Atari, Macintosh™ and PC, with ease. Our drive prices include 1 free cartridge.

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270Mb £169, 540Mb £239
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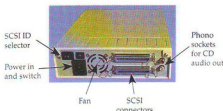
Hard drives are becoming more and more affordable and we can now offer some tremendous prices on a range of superb quality drives in a range of capacities.

These drives offer fast seek times (14ms @ 270Mb, 11ms @ 540/720Kb, 9ms @ 1Gb), large caches and high speed data transfer rates. All units can be supplied for you to fit in your own case or pre-installed in one of our professional Squirrel SCSI cases.

We can supply all necessary SCSI connecting leads (both internal and external), SCSI terminators etc. Please feel free to call and discuss your exact requirements with our friendly, technical staff.



Squirrel SCSI Cases



All our Squirrel SCSI devices come either bare (int - ready for installation internally within a suitably-equipped Atari or other computer) or fully-cased (ext) with integral multi-voltage power supply, SCSI in/out, SCSI ID selector and audio out (for CD-ROM). The cases we supply are high quality, shielded, snap-together enclosures, each with 40W power supply - the back panel of the 5.25" case is shown above. These SCSI enclosures are available at **£69.95** each (please specify 3.5" or 5.25" when ordering).

Please note that, unless you already have one, you will need a SCSI interface for your Atari ST/STe in order to attach our Squirrel SCSI devices. We recommend the ICD Link 2 which we can supply at **£69.95** inclusive.

Essential Utilities

These are programs that you should never be without.

Diamond Back 3* - hard disk backup	£39.95
Diamond Edge* - hard disk maintenance	£39.95
XBOOT 3 - boot management	£29.95

Programming

Our first program on the Atari platform was our HiSoft Devpac assembler and we have always regarded the Atari 680x computers as ideal machines on which to develop your programming skills. Over the years we have produced a wide range of programming languages and associated utilities and now here is a great opportunity to purchase anything that you may have missed or perhaps have not been able to afford.

HiSoft Devpac 3.10*	£59.95
DevpacDSP Falcon*	£49.95
HiSoft BASIC 2.10*	£79.95
HiSoft BASIC 2.02	£59.95
Lattice C 5.6*	£99.95
Personal Pascal	£29.95
WERCS	£9.95
FiRST BASIC with	
Your FiRST BASIC book	£19.95
Modern Atari System	
Software book	£15
The Atari Compendium book	£39.95

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We offer two superb True Colour packages for painting and image processing.

TruePaint*	£19.95
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Two power programs and one three-in-one program here to satisfy all your word processing, database and spreadsheet needs.

Papyrus Gold*	£129
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Music/Video

Two years ago we acquired all the Microdeal titles and, since then, we have improved and developed these products, enhancing for the Falcon and re-working the documentation. These are all quality hardware products at superb prices.

Clarity Falcon* - 16 bit stereo sampler	£79.95
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StroMaster ST - 8 bit stereo sampler	£29.95
PlayBack ST - 8 bit stereo playback	£24.95

* Falcon enhanced title. Some programs need extra memory and a hard disk to function; please check first if you are in doubt. All offers subject to availability and strictly only valid to readers of this magazine and until 30 May 1995. E&OE. © HiSoft 1995.

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All HiSoft products should be available through your favourite Atari dealer but if you have difficulty in obtaining any title, we offer some special direct-to-you prices as listed on this page. To order directly from HiSoft - just call us free on **0500 223660**, armed with your credit or debit card; we will normally despatch within 4 working days for a postage charge of £4 or, for £6, by guaranteed next day delivery (for goods in stock). Alternatively, you can send us a cheque or postal orders; please add postage as appropriate. All prices include UK VAT. Export orders: call or fax to confirm pricing and postage costs.

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Papyrus GOLD

the power of words



Papyrus Gold is the most full-featured and highly acclaimed word processor for all 80386 PC and IBM compatible computers (2MB+).

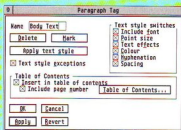
With its advanced range of full text processing and DTP features, Papyrus Gold lets you create all kinds of professional-looking documents from simple flyers through to full brochures to complete journals or novels. Sporting a user interface that is a joy to use, Papyrus Gold is the application that actually makes the full potential of your Windows 3.11 computer.

Full-text editors feature a level of precision and fine-tune intelligent editing capabilities with support for line and word wrap.

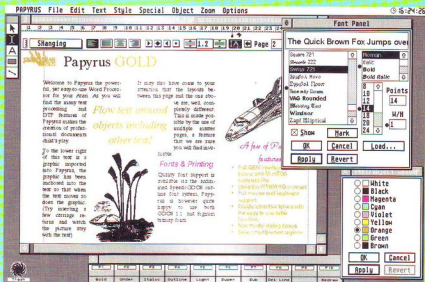
Paragraph styles, tabs of contents and index generation, hyperlinks, headers and footers, full margin control, UK and American English dictionaries.

Powerful search and replace functions with wild card characters. Streamlined block operations (marked blocks do not have to be connected), full support for Spelled, DDE and NVDI, including, 11 type fonts.

The font selector lets you pick from a large screen array of all available fonts (both outline and bitmap types) together with their attributes (bold, italic, etc) and allows you to change any point size, the dialog not merely allowing you to try out your new font without closing the font selection box, you can even load new fonts and make fonts for use with search & replace.



Paragraph styles dialog allows you to create and name various styles such as *Section Headings*, *Section Header*, *Section Sub*, etc. This is the area that you can change the look of your document instantly and in a non-destructive manner over the design process.



As you move from the text dialog (above) you can also have full flexibility when it comes to printing, being able to adjust the paper format, tabulating, copy, choose portrait/landscape, configure the printer, drivers and achieve true WYSIWYG printing.

Power features include tables, micro-spacing, multiple columns, automatic text flow around objects, free-clang of objects (text and graphics) including rotation, master pages, text object chains, import/export of RTT and ASCII formats, object menus, to keep objects together, footnotes and more.

Papyrus Gold is quiet, fast and economical, and runs in a mere 650K memory and above. We recommend a hard disk, although this is not essential. The price also includes an excellent manual with a screen-shotted manual.

Papyrus Gold is another power product from:

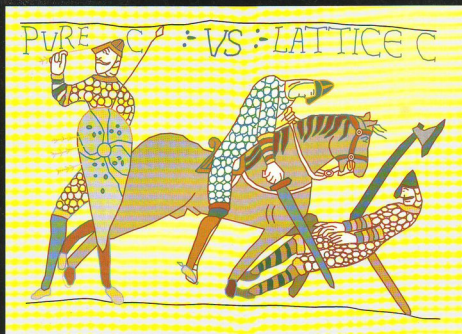
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Issue 2 June 1995

ATARI *Pro*

Into Battle

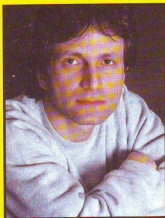


Inside

- 2** **Pure 'n' Simple** – what makes Germany's key C language special
- 4** **Fine Mesh** – a guide to HiSoft's Lattice C
- 7** **C Here** – how the two packages compare
- 10** **Resourceful** – full review of the Interface resource editor
- 13** **Answers** – Ofir Gal tackles your Pro questions

Find out how HiSoft's key language fares against the German giant...

Exclusive!
First UK review of Interface



Get programming!

This issue of Atari Pro is dedicated to C programming. This language is most popular among programmers, especially on the Atari platform. TOS itself, as well as MagiC, MultiTOS and Geneva were all written in C. Even so, C is not the only language to write programs in. Many powerful applications and utilities were written in Pascal, BASIC and even Assembler.

Programming is not as difficult as it may seem. Any one who wants to program on the ST can do so. There's a choice of several programming languages, with some C compilers being available in the public domain. Don't let the apparently complex source code listings and jargon intimidate you; the ST is an ideal machine to get started with because the operating system is relatively simple, yet modern enough to produce a powerful user interface. The skills you acquire on the ST are easily transferable to any other system.

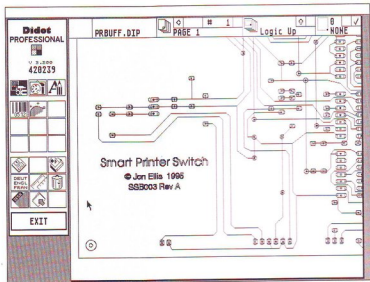
Knowing how to write your own programs, even the most basic ones, is very useful. You can easily write a small program to initialise your printer or convert text files. As your programming skills develop, you can let other people enjoy them by releasing programs into the public domain. It is very satisfying to know that someone else is enjoying the fruits of your creativity - that's how my GEMBench program came to be.

If you want to get started, don't hesitate. Get a book on BASIC or C programming and if you persevere, you will soon be showing off your first program to your friends...

Ofir Gal, Technical editor

Behind

Jon Ellis looks at the power behind German ST programming, the Pure C development system...



Didot Professional, just one of many excellent programs written using Pure C.

Take a look at the range of major applications for the ST: DA's packages, Calamus, Interface and so on. Most of these have two things in common: they come from Germany; and they were written using the same compiler system - Pure C.

Pure C is a development system with a pedigree. It was originally developed by the German branch of Borland International as an Atari port of the best-selling PC package, Turbo C. When Borland decided not to develop the product further, Application Systems Heidelberg added some enhancements to produce Pure C.

As a result of the changes of ownership however, Pure C's mutation has been dogged by legal squabbles. The package has never appeared with English manuals - the major reason for it failing to gain widespread popularity in Britain and America. Similarly, a lack of foreign distributors has made it awkward for non-German programmers to get hold of Pure C, depriving an

excellent package of a wider appreciation. UK distribution is handled by System Solutions, but no product will be available until the next release of the program appears.

Why is it so special?

If none of this puts you off, what can you expect from Pure C? The answer is a clean, fast development system that produces some quick object code.

Pure C works from the command line too...

Pure C Preprocessor Pure Software Munich
Distributed under License of Borland (Germany) GmbH
Copyright 1988, 1990 Borland International Inc.
All rights reserved
Version Mar 20 1992

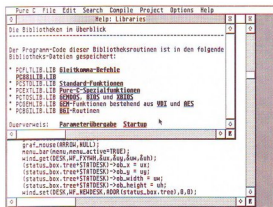
```
Usage: CPP [options] [files]
  -c Generate 68000 code      -h Output file directory
  -b Generate 68010 code     -f Output file name
  -n 6801 keywords only     -F Use absolute calls
  -B Generate 68010 object   -C Use Pascal calling
  -C Allow nested comments  -R No register variables
  -sax Standard stack frames
  -fenn Stop after N errors  -T Stack checking
  -fenn Stop after N warnings -u Underline a macro
  -s Size optimization       -v Verbose message output
  -j Use cdecl calling       -E Enable all warnings
  -X Include files directory -hxxx Enable warning xxx
  -J No jump optimization    -# Default char is unsigned
  -Lnn Maximum identifier length -d Add debug information
  -H No string merging       -O No register load optimization
```

Press any key or mouse button to return to keypad

the veil

Development is based around the integrated compilation environment that Turbo C popularised on the PC, which includes project management facilities for large programming exercises.

The editor portion of the package offers the usual source code editing



Jewel in the crown

For English-speaking programmers, the real attraction of Pure C lies not so much in the qualities of the compiler itself, as Lattice C does a perfectly good job, but in compatibility. Over the years, several German programmers have compiled excellent libraries of graphics and interface functions. Many of these libraries have been released as freeware or shareware, providing a marvellous resource for anyone who wants to add a little German polish to their software.

One of the most widely used of these is MyDial, a library that is bundled with the excellent Interface resource editor. MyDial provides keyboard shortcuts for dialogue boxes, dialogues in windows together with all manner of new buttons and objects. Unfortunately, MyDial is distributed as a Pure C library file, without source code, so confining its use to Pure C owners.

Other libraries that initially appeared in the Pure C format, for example the keyboard handling package NKCC, contained source code, and Lattice-compatible versions are beginning to make an appearance.



MyDial, one of the wonderful German interface libraries accessible to Pure C users.

An on-line help system makes programming easy - if you speak German!

features: auto-indenting, parenthesis matching and so on. Having written a module, compilation is simply a matter of selecting a menu option, and then watching somewhat open-mouthed while the compiler rips through the source code. Turbo C indeed!

Library support is fairly standard: an ANSI-compatible C library; both software and 6885X coprocessor maths libraries, and GEM and TOS function sets too. An added extra is a BGI (Borland Graphics Interface) graphics library, which may be useful for porting old software from the PC.

Facilities for mixed C and assembly language programming are provided by a full macro assembler, PASM. With options for processors up to the 68040, maths coprocessors and memory management chips, the Pure assembler seems powerful enough for any task.

Hammer and tongs

There's much more to a development system than an editor, a compiler and a few libraries. Most packages include a whole suite of utilities to assist in various aspects of the development process. For most ST programmers, the two most important utilities are likely to be a resource editor and a debugger.

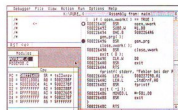
The good news is that Pure C has a very pretty debugger, PD. What is more, it's a source level debugger - a program that allows you to step through your C program, looking not at the compiled assembly language, but at the original source code. The Pure debugger also lets you look at the assembly language level too, a facility essential for catching low-level bugs, or sorting out a mixed C and assembly-language program.

Somewhat unusually for a debugger, PD makes use of a GEM interface, with windows and dialogue boxes. Not quite up to the standard set by the Brainstorm DSP debugger, but rather more friendly than most. PD is not just a pretty face either: conditional breakpoints, variable watching and slow-running are just some of its features.

The bad news on the utility front is that the review package included no resource editor. For a number of reasons, Interface (see review on page 10)



Insert a breakpoint with a click of the mouse using the Pure debugger.



Debug in assembly language, C source or both - it's up to you!

is likely to be the program of choice, but it is frustrating to think that you could buy Pure, and then be unable to develop GEM applications without forking out again. Other common utilities were also absent: no object file librarian or code profiler; no object file conversion utilities or symbol table strippers.

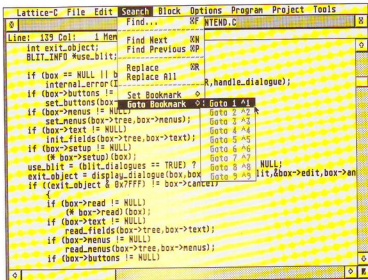
In the know

Just how far can you get without English documentation? Oddly enough, it's not too much of a problem if you have used an ST C compiler before. All program menus and dialogues are in English, as are all compiler error messages. But the README files and much of the example source are in German.

The greatest loss though is the on-line help system, which is almost wholly in German. To be able to look up information about the compiler, the assembler or even the language itself while writing code would be invaluable to the beginner. Still, the package includes the tool to compose help files, so it's possible that some English help might make an appearance someday.

In summary, Pure C is a quick and effective tool for programming the ST. Despite the problems with documentation, it is a surprisingly usable system, mainly due to an uncluttered interface, and a fast, high-quality compiler.

Here we are inside Lattice's integrated environment. Loads menus!



What weighs 4.5 pounds, has more than 1,000 pages, and occupies 4 megabytes of disk? Jon Ellis finds out about Lattice C...

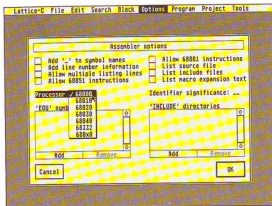
Lattice C is nothing if not comprehensive. From the moment you open the box, it's obvious that this is a heavyweight package. Take installation for example: a user-friendly GEM installation program that doesn't just ask you where you want the system installed, but which bits of it you'd like.

Over the years, Lattice C has grown and matured with the ST market. When it was distributed by Metacomco, it was slow, rather limited, and supported by some fairly crude utilities. In a series of HiSoft incarnations, Lattice has evolved into a highly polished and flexible package. The system has kept pace with recent innovations in system software and hardware too: a variety of header files and library functions support the Falcon hardware, MINT and MultiTOS, SpeedoGDOS and the cookie jar.

Nicely developed

As seems to be *de rigueur* for compilers these days, Lattice provides an integrated development environment, where a program can be created, compiled, linked, tested and debugged all without leaving the source code editor. To speed up the development cycle, both phases

ASM will assemble code for many chips.



BIG

of the compiler, the optimiser and the linker can all be made memory resident, saving on disk access time.

One of Lattice's major strengths is the sheer flexibility of the system. The development process seems almost infinitely configurable, with options covering all aspects from exactly which non-ANSI enhancements are active through to which 680x0 processor the compiled program should run on.

Having so many options incurs a price, though, in terms of complexity of the user interface. There are so many sub-menus and dialogue boxes with such an array of buttons that it is easy to get lost. Particularly for the beginner, the Lattice Integrated environment can be somewhat daunting. Perhaps HiSoft should consider adding a simplified "plug 'n' play" editor without some of the more arcane options; they already include command line versions of the compiler and other tools for those who prefer not to use the integrated system.

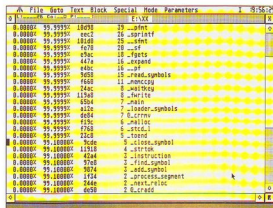
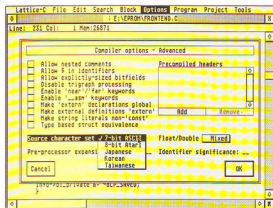
Lattice is a fully ANSI-compliant compiler, which means that it should be

happy with industry-standard C from any platform. Backing up the compiler is a complete implementation of the ANSI Standard C library, together with a maths library and a GEM and TOS function library. Each is available in a number of variants tailored to suit the range of styles of code that the compiler can produce. Additionally, there are separate maths libraries to cope with 6855x maths coprocessors too.

More bytes for your buck

The Lattice debugger is an enhanced version of the DevPac that forms part of HiSoft's DevPac assembler package. Although it offers some support for the C environment, it cannot be considered a proper source-level debugger. A familiarity with 680x0 assembly language is necessary for successful debugging. That said, it is a powerful and effective tool which is well worth the time spent in learning how to use it.

For those occasions when a little assembly language is called for, the Lattice assembler, ASM, is more than



Far Left: One of the many pages of Lattice options.

Left: Spotting the bottlenecks is easy with a code profiler.

capable of coping. It supports all processors in the 6800x family, up to the 68040, as well as maths coprocessors and memory management chips.

A major part of the Lattice package is made up of utility programs. These range in importance from the essential, like a resource editor, down to the obscure, like a conversion utility for Lattice object files into GST format files. Recent additions include a couple

of programs to assist in the construction of CPX modules, and a profiling package. The latter is used to identify execution bottlenecks in programs, marking them out for further optimisation.

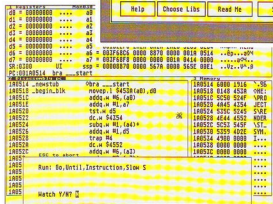
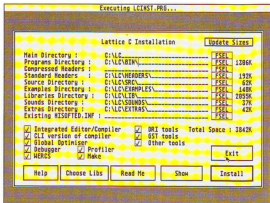
Documentation comes in the form of three perfect-bound manuals. The first of these details the operation of the compiler and other programs in the package. Liberal use of screenshots illustrate the features, and the style is

clear and easy-to-read. The other manuals detail the standard C and TOS library functions in a similar fashion.

Lattice C has been the flagship of HiSo's range of programming packages for several years now, and this position is well deserved. The sheer range of compiler options and utility programs make this easily the most comprehensive and powerful software development system for the ST.

is beautiful!

A GEN Installer makes Lattice C installation easy...



Assembly-level debugging with Mon.

The full WERCS

To develop GEN applications, you need a resource editor to design menu bars and dialogue boxes. Unlike many other ST language systems which have licensed versions of Kuma's K-Resource or DR's RCS, Lattice includes HiSo's own program: WERCS.

WERCS allows the usual menu bars, dialogue boxes and alerts to be constructed and edited on-screen. With the exception of colour icons, WERCS supports all AES objects and flags, including the new 3D-attributes introduced with MultiTOS. A limited test facility lets the programmer check that everything works as intended, before the new creation is saved to disk.

In comparison with Interface, WERCS shows its age badly. There is no support for direct design with user-defined object types, and only one resource file can be open at a time. WERCS' own dialogue boxes and menus are hardly state of the art in appearance, and give a rather clumsy feel to the editing process. Screen redraws are less than snappy, and occasional unnecessary extra updates compound the problem.

Although WERCS supports a variety of programming languages, this extends only to the construction of a header file containing symbol definitions for a resource file. Source code representations of the resource file are available in C and assembly language through the use of a rather pedantic command line utility, DERCS.

All in all, though, WERCS can cope with fairly basic resource design requirements. It falls short of the high standards set by the rest of the Lattice package.

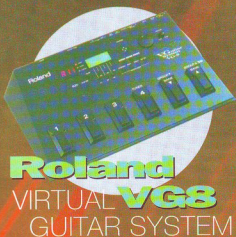
WERCS isn't the finest resource editor, but it's better than now!



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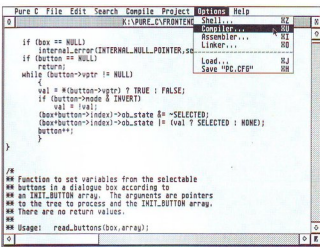
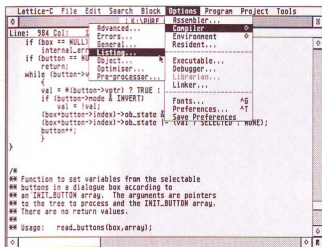
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Lattice and Pure - two similar-looking development environments...

Compiler checkout

Having made the introductions, Jon Ellis casts a critical eye over our two heavyweight contenders...

Given that any comparison between two packages will inevitably major on the differences between them, it is important not to lose sight of the common ground. Both Pure C and Lattice C are comprehensive software development systems, each capable of meeting most normal programming needs with ease.

For such complex collections of software, both packages are surprisingly easy to use. While it is unlikely that any compiler interface could ever really be described as intuitive, both Pure and Lattice feature pleasant integrated development environments that make life easy for fans of mice and windows. The traditional command-line interface is also supported by both packages.

Speed king

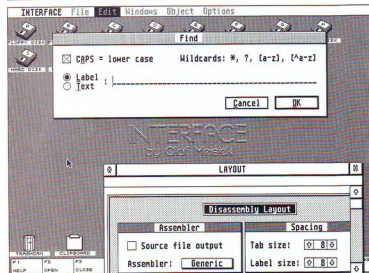
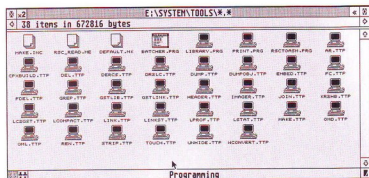
The essence of Pure C's appeal is speed. The source code editor is slick and has most of the useful extras that program-

mers find so useful, like auto-indentation. Compilation is blazingly fast - in one fairly rough and ready comparison, Pure compiled a fairly complex module in 9 seconds, a task that took Lattice 27 seconds. As a result, the edit-compile-link-run cycle turns smoothly, making development efficient. The environment contains many nice touches that also contribute to the overall impression of good design; the provision of on-line help is just one example.

Quick compilation is of little use if the resulting code is slow. Pure C does not disappoint on this front either, as a quick check with a version of the Dhrystone test program revealed (Table 1). Notwithstanding any quibbles over the qualities of the Dhrystone as a measure, Pure C had a clear edge over Lattice in this test:

Fully tooled up

In other areas though, Pure C looks a little under-specified. Lattice wins easily



Having lots of utilities makes programming easier.

UK version, interest in Pure C is likely to be confined to German-speaking programmers, those with a need to access third-party graphics libraries like MyDials or developers seeking the fastest compiled code.

For more complex projects, perhaps the development of a large package or more intricate system-level work, Lattice has a breadth of options and facilities that is hard to beat, and so remains the one to have if you want to be able to tackle any ST programming project.

Pure needs a resource editor: Interface is probably the best.

As a caveat though, the version of Pure C used for this feature, v1.10, is about two years old now, whereas Lattice v5.60 has had several months' more development. Maybe if the long-rumoured Pure C 2 ever emerges from the lawyers' clutches, we might see a different outcome. With English on-line help, accessible technical support, more features and an aggressive price through System Solutions, an enhanced Pure C could prove a real threat to Lattice's domination of the English-speaking market.

If HiSoft want a top tip for spoiling one of Pure C's major attractions, they should look into including support for the Pure C object file format in a future release of Lattice. This would open the way for Lattice users to tap into the wonderful interface libraries produced in Germany for Pure C. Now there's a thought...

Lattice has the options and tools for all tasks - CPX programming for example.

on the language front. It provides a much wider range of utilities to help with program development (several linkers, resource editor, object file utilities and so on). To be sure, many of these, like the program profiler will be used infrequently by most programmers, but their presence adds to the overall gravitas of the package.

Others, such as the resource editor, are everyday tools for ST programming, and their omission from the Pure package is curious. Lattice's WERCS may not be the most glitzy of resource editors, but it's sure better than nothing! However, the pretty source-level Pure debugger does go some way to redressing the balance, making Mon look rather unpolished.

The Lattice compiler has a much richer set of options than its competitor, allowing the development process to be tailored precisely to the project's requirements. As an example, under Lattice, each individual compiler warning message can be made into an error, a warning or ignored. The Pure C just has a couple of global settings covering compiler verbosity.

This flexibility also extends to an exceptional level of control over the specifics of code production. Not only does this open up new areas to Lattice programmers, such as low-level system programming, but it also allows fiddly

programs like CPX modules to be produced easily. Library support is also much more comprehensive under Lattice C, with a range of C, GEM and maths libraries covering four different code models.

Word on the street

On the documentation front, there is no contest. Lattice includes three manuals detailing all aspects of the operation of the compiler and utilities, together with full descriptions of the standard C, GEM and TOS library functions.

In contrast, Pure C offers no English documentation, further limiting its appeal. Driving a compiler package without documentation can be awkward even for the experienced user, particularly for anything other than run of the mill programming.

The bottom line

In summary, for general C programming, there is nothing much to choose between the two systems. Both do the job and do it well. The Pure C integrated development environment is quicker than Lattice and arguably easier to use. If the on-line help were in English, Pure would make an ideal compiler for programmers outgrowing Prospero C.

Given its current state however, with no English documentation or saleable

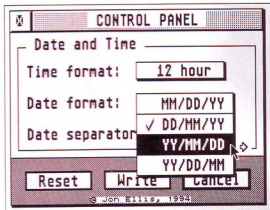


Table 1: Dhystone speed test

Program	Options	Result
Pure C	default	4695 Dhry
Lattice C	default	2808 Dhry
Lattice C	optimised	3793 Dhry

Test system: 4Mb Falcon with Power-Up 2, 68802, mono screen. The Lattice optimised version was compiled for 68030 with the short integer library, stack checks disabled and the global optimiser enabled.

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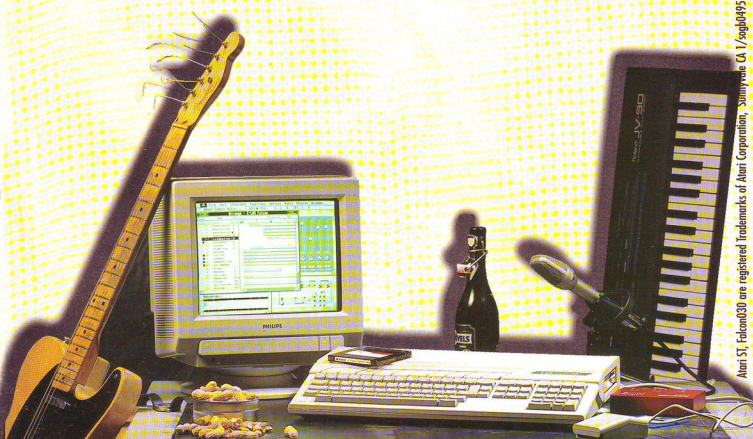
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Face to Interface



The most important GEM programming tool, apart from a compiler, is a good resource editor. Ofir Gal investigates Interface...

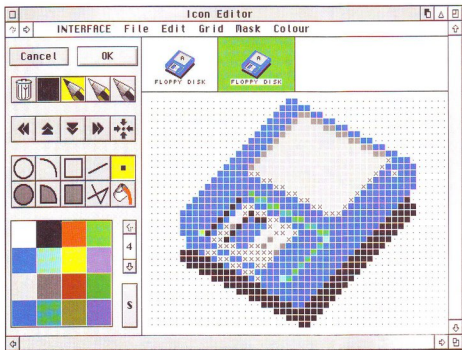
Interface has been hailed as the best ever resource editor for the Atari platform. This pack of programming tools has been used to design many of today's best GEM programs and is finally available in the UK.

The package consists of two double-sized floppy disks and a manual. Unfortunately, the current manual is in German, but an English language version is on its way. Even so, Interface can be used without reading a word of documentation, mainly because it is such a user-friendly program. Apart from the main program, there are several source code libraries on disk, including NRCC and MyDials.

One of the main strengths of the program is that it is up-to-date with all the latest AES features. It copes with colour icons and knows all about 3-D objects. The user interface features non-modal windows, keyboard shortcuts and many 'em Fly features. One option allows you to work in a modal environment, which is faster.

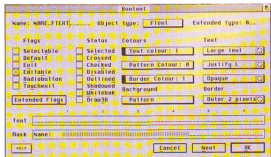
Interface installs its own desktop by default. The basic layout is somewhat similar to KResource, but much more polished. The drive icons are placed at the top of the display and a ten button toolbar at the bottom. The buttons change their functionality, depending on the current operation, but typically offer quick access to operations like open, save, test, object info and the like. The Interface desktop also features a clipboard and a trashcan and when the desktop-like design is unsuitable, such as in a multi-tasking environment, it can be switched off.

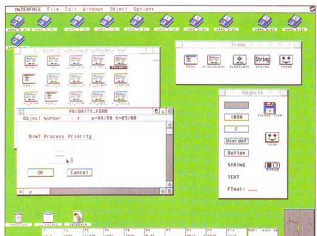
To create a new resource file, simply select New from the File menu; a blank window opens. Open the New Trees and New Object windows. As Interface



A fully featured colour icon editor is integrated into the main program. The ability to import Windows icons is a sure way of obtaining a vast number of 'em!

The object edit window uses a modern and friendly interface to make your work as simple as possible. One notable feature is the ability to change the object type, in this case from FRONTTEXT to TEXT.





features a non-modal design, you can leave these windows open all the time and use them like toolbars. Create your first object tree by clicking on the tree type you want and drag it into your main resource window. A double click opens a window with the new tree. New objects can now be dragged onto the tree window in much the same way.

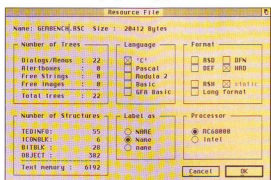
Object editing

Each object can be selected, cut, copied or pasted, and moved freely from one tree to another. A copy of the object is created if you hold down Shift while dragging it; holding Control down while clicking on an object selects its parent. Clicking and quickly releasing the mouse displays a pop-up menu with some common operations like align to grid, hide, erase and edit. Selecting Edit brings up the object parameters dialog window. All the standard features are available here – object text, flags and states as well as colour, border and fill style.

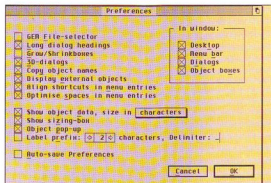
The info bar in the tree window displays the name and index of the object under the mouse so there's no need to open an object edit window just to get some basic info. A very useful feature is the ability to select multiple objects and then start editing the first. The object edit window sports a Next button that takes you to the next object and Interface also allows you to change the flags and states of multiple objects globally. A press on F9 at any time quickly tests the object tree.

Image and icon objects can be edited by selecting the Edit button in the object edit window. This opens the best icon editor ever sported on an Atari program. You can quickly create a mask for the icon or generate a medium resolution version

Interface features a non-modal design, allowing you to view and edit several windows at the same time. Objects can be dragged from one window to another.



Interface can generate header files suitable for a number of programming languages. Users of HiSoft BASIC are not catered for, but can easily use the conversion utility that is included with BASIC itself.



The user options give a good idea of the flexibility. A built-in file selector, non-modal Interface and custom desktop can all be configured.

INTERFACE 2.30

Publisher: No! Software
UK distributor: Compo Software Ltd
Contact: 01487 773582
RSP: £69

Requirements: Any TOS system with 1Mb of RAM

Pros: The ultimate Gem programmer's tool
 • powerful and versatile • colour icons support
 Cons: A little slow in screen redraws
 • no English documentation

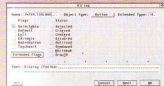
automatically by halving its height. The icon editor allows you to create 2, 4, 16 and 256 colour icons. One point worth noting though is that you must run in 256 colours or more to access all possible icon resolutions. The icon editor also reads IMG files as well as Windows 3 icons and can export the icon as a header (ICN) file.

Verdict

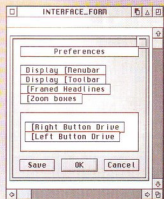
Interface is an absolute must for anyone programming GEM applications. Even without using the more specialist libraries, you will find that programs like WERCS and KResource pale in comparison. It is also extremely reliable and works well under all versions of the operating system. The only problem is that an English manual is not yet available but, according to Compo Software, one is imminent. If you are serious about GEM programming, get Interface now!

MyDials

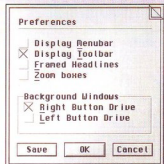
Interface includes the MyDials library for Pure C, GFA BASIC and Omikron BASIC. Using the library enables you to display keyboard shortcuts in buttons, create flying dialogue boxes and use sound radio and check box buttons. The library is integrated into the Interface test tree routines so that you can immediately see the results.



Create a button with an extended type of 18 and set the selectable flag. The keyboard shortcut is assigned by adding an open square bracket before the shortcut character.



A typical dialog box looks like this while being edited. Extended object types are used to create the custom objects.



Press the Test button to see what the dialogue box really looks like. Notice the 3-D look and the by now familiar check boxes that are not available as standard AES objects.



If you forget the various codes to use for the MyDials library, this table is available by pressing the Help key.

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APPLE AUTHORISED RESELLER

Q & A

Ofir Gal and his team of experts set about solving your problems...

Where is TOS?



Q Please explain to me something

about TOS that I have not yet understood. I always thought that TOS and GEM were loaded into RAM at boot-up. I've tried to search for them in RAM using a disk/RAM monitor program and can see some parts but not others. If TOS remains in ROM, how do patch programs work and how is it possible for alternative operating systems to be loaded from disk?

Stuart Campbell, Fort William

A TOS is stored in ROM chips and works from there so as not to use up valuable RAM memory. So, it is not loaded into RAM. What TOS does is to have a series of storage locations called exception vectors and system variables located at addresses \$0 to \$600 (0 to 1536 decimal) which have specific meanings. Most contain addresses of important places in the ROM where certain functions or information lie. Whenever these are needed, a program (including TOS itself)

looks at the value contained at the exception vector or system variable and goes there to carry out the function. Some patch programs work by changing these values to point to another address where their own routine lies.

There are two types of alternative operating systems: other versions of TOS and TOS-compatible operating systems (such as MultiTOS and MagIC), and other non-TOS operating systems (such as Spectre Mac emulator). The former are completely loaded into

Send Us Your Questions

Can't find anyone to answer that nagging question? Then drop us a line. Our team of experts are on hand to investigate and solve almost anything you can throw at them. Just send your letters to:

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While every effort will be made to answer your question within the pages of either Atari World or Atari Pro, please note that individual correspondence cannot be entered into.

Compatible Falcon



Q I've been an avid Atari user for several years

now. My system is a 4MB STE, with an SM124 monitor and 180Mb SCSI hard disk (using the ICD Link). I've been thinking recently about upgrading my set-up to the Atari Falcon but am concerned about software compatibility and whether or not I'll need to buy another hard disk. It's a very confusing situation which I'd like you to advise me about.

Douglas Hilliard, London

A As a follow-up to a similar question in last month's issue, Doug, let me clear up any misapprehension about Falcon compatibility. The Falcon is compatible with all correctly written Atari programs. In practice this means that 99% of all serious programs will work on your Falcon. If you have any very old versions of commercial software then you may need to upgrade to the latest ones. A tiny majority of PD software does not work - but then a lot of PD software doesn't work correctly on an ST! The only problem is with games software, most of which isn't compatible, but there are products like Backwards that can get up to 70% of ST games running on the Falcon.



Most Atari software is Falcon compatible - and many PD games, such as Colours, reviewed this month, are Falcon-specific...

Vec	Addr	Name	Value
32	8000	TRAP #0 Instruction:	328055FE
33	8004	TRAP #1 (CEMDIS) Instruction:	1 12008F
34	8008	TRAP #2 (RES/VS) Instruction:	0 500FA4
35	800C	TRAP #3 Instruction:	0 23005E
36	8010	TRAP #4 Instruction:	0 24805FE
37	8014	TRAP #5 Instruction:	0 3140007E
38	8018	TRAP #6 Instruction:	0 33827694
39	801C	TRAP #7 Instruction:	0 278055FE
40	8020	TRAP #8 Instruction:	0 F6CC
41	8024	TRAP #9 Instruction:	0 288055FE
42	8028	TRAP #10 Instruction:	0 78238A5D
43	802C	TRAP #11 Instruction:	0 228055FE
44	8030	TRAP #12 Instruction:	0 218055FE
45	8034	TRAP #13 (XDIS) Instruction:	0 20800
46	8038	TRAP #14 (XDIS) Instruction:	0 80E0F
47	803C	TRAP #15 Instruction:	0 208055FE

Profile 2 gives you a thorough rundown of your machine's internals...

Address	HexDump of Memory
000000	68 2E 81 84 08 FC 09 38 02 2C 93 52 83 08 51 FE
000004	84 08 51 FE 08 07 08 06 08 51 FE 07 08 51 FE
000008	80 51 FE 08 51 FE 08 08 02 08 08 02 08 08 51 FE
00000C	8C 08 51 FE 08 51 FE 08 08 51 FE 08 08 51 FE
000010	18 08 51 FE 11 08 51 FE 12 08 51 FE 13 08 51 FE
000014	14 08 51 FE 15 08 51 FE 16 08 51 FE 17 08 51 FE
000018	18 08 51 FE 18 08 FC 07 08 08 FC 06 08 08 FC
00001C	08 07 08 08 FC 07 08 08 FC 07 08 08 FC 07 08
000020	28 08 51 FE 28 08 08 08 58 FA 23 08 51 FE
000024	08 08 51 FE 25 08 51 FE 26 08 51 FE 27 08 51 FE
000028	08 08 08 08 08 08 08 08 08 08 08 08 08 08 08
00002C	2C 08 51 FE 08 08 58 08 08 08 08 08 08 08 08
000030	30 08 51 FE 31 08 51 FE 32 08 51 FE 33 08 51 FE
000034	34 08 51 FE 35 08 51 FE 36 08 51 FE 37 08 51 FE
000038	38 08 51 FE 39 08 51 FE 3A 08 51 FE 3B 08 51 FE
00003C	3C 08 51 FE 3D 08 51 FE 3E 08 51 FE 3F 08 51 FE

... while the PD program ST Tools enables parts of the memory to be examined as well as disk files - but be careful!

BASIC bug



In the age of 68, I use the ST for the record-keeping of the local branch of the USA, University of the 3rd Age. For this purpose I use the excellent HiSoft Power Basic. Other users of Power Basic may be interested to learn of a bug in the INSTR function of version 1.2.1. INSTR returns the position of a small string within a bigger string; for instance, INSTR ("cat", "a") is 2. The bug shows if the last letter of the first string is the same as the first letter of the second string.

D. Gold, Herts

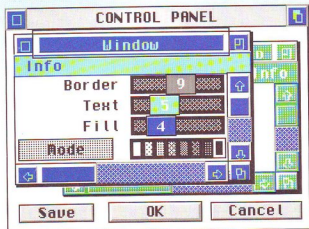
I have just tried reproducing this bug in HiSoft BASIC 2.1.0 and it appears that the bug has been fixed. You may like to contact HiSoft for an upgrade. Ofir Gal

MagiC moments

TIP It is possible to change the window colours, as in TOS 2.06, under MagiC. Use the WCOLORS CPX module that is available from PD libraries.

Also, if you have NeoDesk3 or TOS 2.06, and do not want to boot into MagiC every time, try this. Move the MAGBOOT.PRG file from the AUTO folder into the root directory. Now drag this icon onto the desktop and give it a title like "Go MagiC!". Set NeoDesk to autoboot, and save the desktop. Now when you next boot your machine, you should have the "Go MagiC!" icon on your desktop. Simply double click on this and the computer will reboot with MagiC. If you want to go back to TOS, do a cold reset. Also, you could install a program like COLDBOOT.PRG on the MagiC Desktop, with a title like "Go TOS!".

Andrew Ward, West Yorkshire



The Window colours CPX from Atari works well under MagiC, allowing you to customise the colours of the GEM window elements.

As your hard disk has a SCSI interface it should plug directly into your Falcon, although depending on your hard disk driver and formatting you may need to reformat. If you want to save even more money, and don't mind losing your STe, then you might like to think about buying a 1Mb Falcon, a memory adapter (from Systems Solutions) and using your STe memory in it. Ask Systems Solutions first though, since not all SIMM memory is suitable for FalconWING. Graeme Rutt

BASIC help

Q I am writing to ask for your advice with regard to HiSoft BASIC 2.10. I am new to HiSoft BASIC programming and I previously followed your tutorials in ST Review. I have recently purchased HiSoft BASIC 2 and it is rather confusing to say the least. I have tried to follow the tutorial inside to the letter, however things don't go right for me.

Although I've written to HiSoft, can you recommend a good BASIC tutorial? I have read that BASIC 2 is compatible with Microsoft QuickBASIC. Do you think a book on QuickBASIC could explain the art of programming in an easier fashion?

At the moment I use STDS BASIC and I have knocked out a couple of programs without too much fuss, but GEM programming is a bit confusing. I am eager to learn to work in HiSoft BASIC.

Ade Wherry, Ayrshire

A I too had problems getting started in GEM programming. I would recommend going through the HiSoft GEM Toolbox tutorials and slowly trying to figure out how it all works. Unfortunately, there are no books that deal with GEM programming in BASIC specifically, but The Atari Compendium (available from HiSoft) may be useful. This book covers the operating system in detail and also includes sections describing GEM in particular.

HiSoft BASIC is compatible with QuickBASIC but only partially. Because QuickBASIC is designed for PCs, there are no equivalent GEM functions. In Atari World we will continue to support



The HiSoft GEM Toolbox is a collection of routines for GEM programming.

programmers with tutorials and articles. This issue is mostly dedicated to C programming, but we will most certainly be looking at BASIC in the near future. Ofir Gal

CD-ROM Drives



Q I'd like to add a CD-ROM drive to my machine, a 4Mb STe. I want to use Kodak PhotoCD discs and some of the clip art CD-ROMs that are available. What type of CD-ROM drive should I buy and how do I connect it?

Robert Percy, Chelmsford

A You have a number of options regarding CD-ROM drives, which one you take depends very much on your experience with connecting hardware devices and also your current configuration. The basic requirements are a SCSI adapter, driver software, the correct cables, and the CD-ROM drive itself. If you have a hard disk it's possible you already have a SCSI adapter - ask the hard disk supplier if you don't know.

Whether you buy each item separately or not is very much up to you. If you are on a tight budget then it's possible that you could save a little money by buying a separate CD-ROM drive. Some box-shifters are offering very attractive deals on CD-ROM drives, especially on the older double-speed and ancient single speed types.

However, if you want a single package that's guaranteed to work, and care about after sales service, then you should look at System Solutions' CD-ROM pack for STe/STF machines. It comes with all the required parts for a

The excellent Stormtracker, an example of a program that puts the STe's enhanced sound system to good use.

reasonable £299. This includes a double-speed CD-ROM drive which can also handle multi-session PhotoCD work. Graeme Rutt

Why an STe?

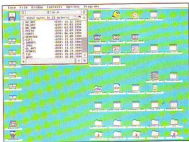


Q I've often wondered what the difference is between the ST and the STe. I believe it has some extra colours but I can't see any extra graphics modes on my friend's STe computer. Can you tell me what the differences are?

Thomas Monk, London

A There are a number of differences between the two machines. There are more colours available in the palette (4,196 instead of 512) yet you can still only use 16 of them in low-res mode. The sound system is much improved: as well as the standard Yamaha "beep" chip of the ST range, the STe boasts a pretty good stereo sample play-back chip. It also offers a blitter chip and hardware scrolling, and while the benefits of such extras weren't put to use when the STe first shipped, a number of programs - mainly in the art and sound fields - have emerged that take advantage of them.

Another advantage that is easy to overlook is that the design of the STe allows easier upgrading of the machine. For example, to add TOS 2.06 to an STFM will set you back £54; on the STe it's a mere £39. Graeme Rutt



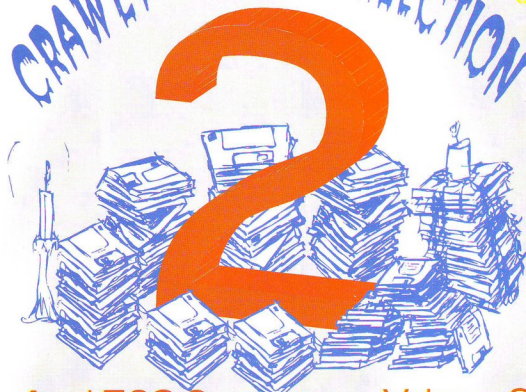
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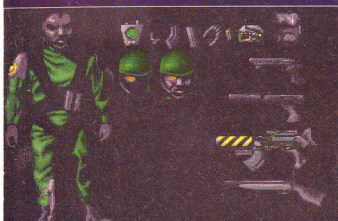


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ST *Source*

Issue 2 June 1995

THE PRACTICAL GUIDE TO WORKING WITH YOUR ST

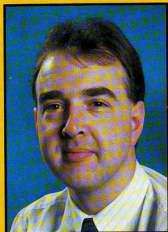
Neat 'n' Tidy

Inside

- 2** **Start Here** – what is a desktop? Why do you need one?
- 4** **Extra, Extra** – read all about the best features of a replacement
- 6** **Boy's Own** – find out what Atari's TOS 2.06 has to offer
- 9** **Play the field** – a round up of all the alternatives
- 12** **Roll Your Own** – follow our tutorial on working with Thing...
- 14** **Language Barrier** – make your ST a jargon-free zone!

Everything you always wanted to know about alternative desktops for your ST...

Don't miss our Reader Disk with the Thing desktop!



DIY desktops

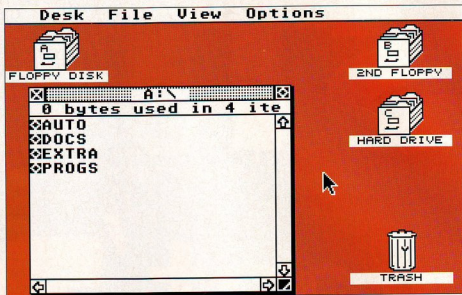
First of all, welcome to the second issue. If you've subscribed as a result of reading issue one or from enjoying this issue, thanks for your vote of confidence - you won't regret it.

As we promised, there really is something for everyone in this magazine. However, *ST Source* is aimed directly at the beginner and it's here that new users will feel most at home. You won't be treated like a fool and you won't be made to feel small. All you'll get is help and advice from expert users like Joe Connor and Graeme Rutt. No flannel and no frippery.

The good thing about Atari World is that we're the first magazine that can take a single subject and cover it in minute detail. This month we're delving deep into desktops - how they work, what they can do for you and where you get them. We've even included a detailed tutorial on Thing, the replacement desktop on our Reader Disk.

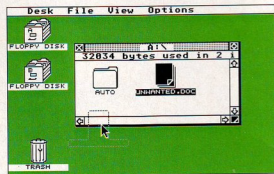
If you've ever wondered why people install replacement desktops or how you could do some things more easily, it's all here, ready and waiting. And so is the third issue - so fill out that subscription form!

Andrew Wright, Assistant editor



Desktop

What is a desktop? And why do you need one?
Andrew Wright has some answers.



Top: A customised ST desktop

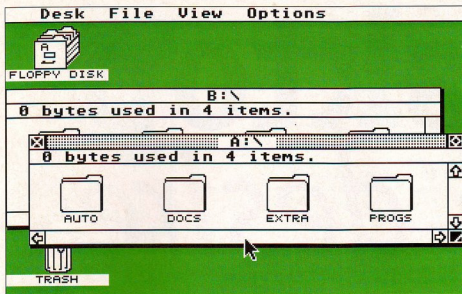
Bottom: Desktops make file handling much more intuitive

To many new users, it might seem a little strange to put a feature on replacing a desktop inside a computer magazine. Let's face it, it sounds more like a hammer and nails job than a simple disk operation.

In this case, the term "desktop" has an entirely different meaning. Far from being the coffee-cup-cluttered workspace you spend so much time hunched over, the computer's desktop is really the heart of the machine.

Now that most computers have ditched the old flashing prompt as a means of communicating with humans, most of the models sold today have what are called graphical user interfaces.

These GUIs - pronounced "gooeys" - represent the biggest step forward we've ever seen in computing terms because the simple point and click method of carrying out routine tasks has made computers much more friendly and accessible.



The default GEM desktop on an Atari ST/Ste

Tidying tips

Unlike their real life counterparts, computer desktops have to be kept tidy. You can hide scraps of paper for years on a real desk – at least you can on mine – but try treating files that way on the GEM desktop and you'll probably never see them again.



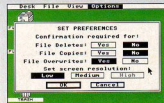
Figure 1 – icon view



Figure 2 – text view

There are two ways of looking at your files and folders, the icon view or the text view. Most experienced users prefer the text view as you can see more files at once but if you're happy looking at the icons then that's fine. Figure 1 shows icon view – files are represented by icons in more or less square windows. In Figure 2 the windows have been moved (using the top window bar) and resized (using the small box in the bottom right corner) so that the contents of two floppy or disks or folders can be viewed side by side at the same time.

Once you get some practice in, you'll move round your Atari's desktop like greased lightning but some things will slow you down. One of these is your computer constantly asking you for confirmation before it carries out any action. You can turn off confirmation for deleting files, copying files or over-writing files but remember, that way you don't get a second chance if you actually delete the wrong one.



Confirmation options – best used when you've grown confident you know what you're doing!

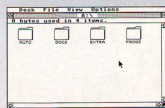
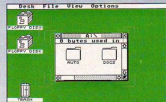
und

Down to size

Windows can be irritating objects if you don't arrange them how you want them and then make sure they stay that way. You can do this by saving the desktop (under the Desktop's Options menu) so that whenever you boot your machine with that `DESKTOP.INF` file in the root directory, the windows will be in the same place.

Note that if you have a version of TOS prior to 2.0x, the `DESKTOP.INF` file can store the positions of four windows. You may never need that many open at once but it's a good idea to open four, position them as you want them, close two or three of them and then save the desktop. That way, if you ever open four windows again, they will open in the places you want them to.

Sometimes there are many more folders and files in a window than you can possibly display on screen at once. This can be awkward if you're looking for a particular file. One way to quickly glimpse a window's contents is to use the button (sometimes termed a gadget) in the top right-hand corner of the window. Clicking on this will expand the window to fill the screen. You can locate a file – or at least check that it is or isn't there – and then click the button again and the window shrinks back to its original size.



Clicking on the expand button makes the GEM window leap to full screen size. Another click shrinks it back again.

In an Atari the desktop is called GEM. In the ST and Ste models the default desktop has two drive icons (floating cabinet drawers) and a trashcan (waste bin) on a green background. The analogy with a real office environment is fairly obvious.

The main advantage of such a working environment is that most actions are intuitive and easy to remember.

Using the mouse, you drop things in the bin, drag things around your desk and files things away in folders and drawers.

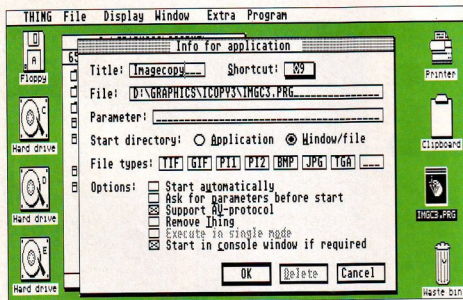
On the other hand, the basic GEM desktop is just that – basic. You can change the position of the icons to suit your own way of working or you can change the background colour but there's little more to it than that.

But there is an alternative: to put real power in your mouse pointer, you need either a replacement desktop, or to upgrade your computer to TOS version 2. We're here to help you decide...

Desktop

desires

Andrew Wright gets down to the meat and shows you just what a replacement desktop can do...



On many desktops the windows look no different at all until you dig beneath the surface. You generally get a choice of icon or text view, but far more useful is the ability to alter the display fonts. A smaller font means you can see many more files in a window at a given screen resolution. Some desktops, such as Ease, let you display text in larger point sizes, making them much more legible.

Windows get in the way sometimes and it helps if your replacement desktop has commands to clear them away quickly. For example, in TOS 1.x you have to navigate back up through folders to the root directory before you can close a window. Many programs, like Teradesk, have a Close Window command that shuts down the windows completely with a single action.

Thing even lets you cycle between open windows (useful if one is hidden at the back), close one down or close them all down. You can also select which open window to top from the same drop-down menu.

Having looked at some desktop basics, it's time to move on and look at what replacement desktops have to offer. Replacement desktops are programs that can be run from the GEM desktop in the usual way but they replace part of the operating system, namely the part that contains

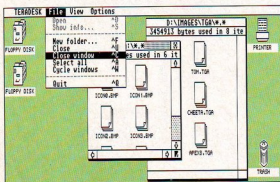
the Atari's built-in desktop. The result is a completely new desktop but in fact most of them look broadly similar - you'll see the same green background (on a colour monitor) and icons for each drive and the waste bin.

The most obvious difference is that the icons have changed. Instead of the standard TOS filing cabinet drawers,

alternative desktops tend to have separate icons for floppy and hard drives as well as additional desktop icons for the clipboard and printer. This means, for example, that you can drag and drop files onto the printer icon for hard copy.

Thing (which is on this month's Reader Disk) offers keyboard shortcuts, a very useful feature.

Teradesk's Close Window command.

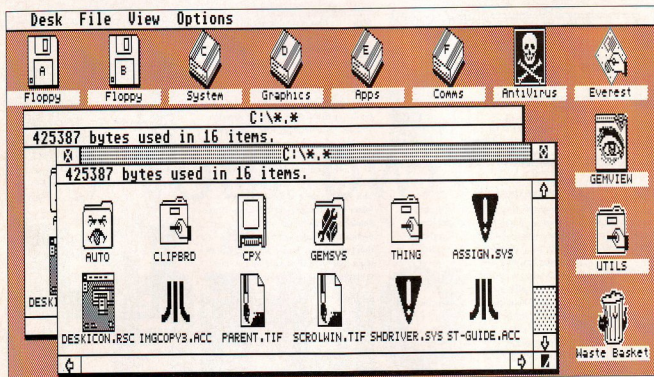


Is it for me?

Replacement desktops have a number of advantages. They add more functionality to your everyday working environment so you can do simple housekeeping tasks much more quickly. On the other hand, they can use up almost all your spare memory and take a lot longer to load than the built-in desktop that is stored entirely in ROM, particularly if you're booting from a floppy disk.

Our round-up will tell you more, but in general 1Mb is the minimum memory for a replacement desktop and a hard disk is preferred because of the extra loading time.

New ROMs



The desktop in all its glory – user defined icons, program icons and a rather interesting trashcan icon!

TOS 2.06 is in the incongruous position of being something more than just a replacement desktop – it's a full replacement for your old TOS and you have to open up your machine to install it.

This means that whenever you switch on your machine the new desktop is available immediately – you don't need to load it first. The desktop itself can't compete with other disk-based replacements in terms of features but it comes pretty close.

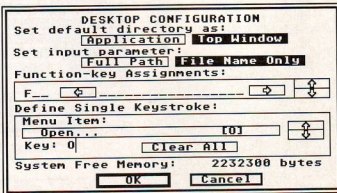
One of the most appealing additions to this version of TOS is the ability to place program and data icons on the desktop. Adding an icon is easy; just drag a file or program out of a file window and drop it on to the desktop.

To change the graphic used for the icon you

Configuring the desktop is a breeze with this dialogue box that controls default program launching and keyboard shortcuts.

simply click on the Install Icon option and choose from a range of different graphics. The same function is used to change the different shapes for the disk, printer and trashcan icons.

TOS 2.06 does not include an icon editor but they are available in the public domain. In fact you'll find that most public domain libraries also carry a range of ready made icons. Buy the disk, copy the file over and the Install



for old

Graeme Rutt looks at the fastest, most flexible option for floppy owners – an upgrade to TOS 2.06.



Icon function will automatically use the new graphics.

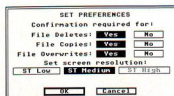
Drag 'n' drop

Launching a program by double clicking on a data file has long been a function of TOS. This version refines the process by providing you with a whole range of options covering every possible eventuality. You can even tailor the way a program launches, which gets around a number of problems there have been in the past.

The partner of this function is the drag 'n' drop protocol – new for TOS 2.06. Instead of double-clicking on a file with a certain extender to load a particular program you can drag any one file on top of a program, loading the program along with the dropped file.

Keyboard shortcuts are also available on the desktop – a real boon for those of us who don't like reaching for the mouse at every opportunity. TOS 2.06 enables you to change the keyboard shortcut for each menu item and you can assign different function keys to load different programs.

Control over the display inside windows has hardly been touched since earlier TOS versions. Sure, you can use different icons now and you still have the old choice between icons or text and the way they're sorted, but very little else has changed apart from the fact that you can alter the window background colour and pattern as you can



Preferences are hardly changed, maybe an area that could have been strengthened?

Fine tuning the way a single program launches has never been easier.

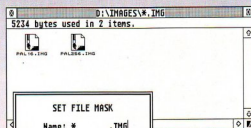
the desktop. The main difference is the file filtering – an exceptionally useful method of only showing those files you want in the window. Bring up the dialog box, set the file mask and away you go.

Unfortunately, there's no way of storing your favourite masks for later use and no way of using more than one mask at a time.

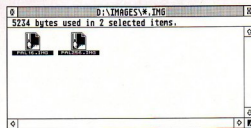
File filtering



Here we have a directory full of Images. They come in a wide range of file formats but I want to work with the GEM Image files, extender *.IMG.



After setting the file mask to *.IMG, only those files that have that extender are displayed. The others are still there – very just not shown.



We've selected the *.IMG files using the Select All command rather than rubber-banding or Shift-clicking as we would have had to do in earlier TOS versions. It's now possible to rename, copy, move, delete or perform any other file operation on the selected files.

TOS 2.06 offers a few more extras. You can select all the files in a window with a simple click of the mouse or keyboard combination but there are no other ground-shaking features. However, it is wrong to think of TOS 2.06 as a replacement desktop alone. It's a new TOS, now the standard operating system on the ST/STE, and it's a fast, clean almost totally bug-free system.

The fact that TOS does not come on disk shouldn't be overlooked. It's there as soon as you turn on your machine and it doesn't take up any more disk or memory space. Replacement desktops such as Ease and NeoDesk only really come into their own when you own a hard disk. If you're an Atari owner who depends on a floppy drive and your desktop is found wanting, then TOS 2.06 must be the choice for you.

An inside job

As TOS comes on two chips, upgrading your computer means opening it up and performing a little minor surgery. However, the procedure is far from difficult and in most cases requires no soldering at all.

If you're worried about this, or if, like me, your hardware skills are on the same par as your ballroom dancing techniques, then you can always pay for someone else to install it. As well as selling TOS 2.06 Compo will install it for £20 plus postage and packaging.

Which option you go for depends on your computer and your personal requirements. If you've got either an Ste or a Mega Ste, you can buy the two chips for £29, pull out the old ones and replace them with the new ones.

If you want to keep your old TOS, to make sure all your old software will still work, or if you don't have an Ste, then you can go for Compo's T-Board. This board plugs on top of your CPU though you may need some soldering depending on your machine. To run TOS 2.06 you must reboot with a small, supplied program in your Auto folder. The T-Board costs £54.

The final option, for Ste users who want to keep both versions of TOS, is the Ste Switch. This is a new gizmo, designed by Compo, that has a hardware switch instead of an Auto folder program to switch TOS. It costs £39 and it should be available by the time you read this. You can get in touch with Compo by telephoning 01487 773582.

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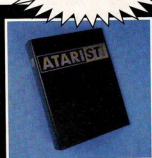
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Desk to desk

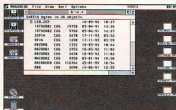
Looking for a new look desktop? You can spend anything from the price of a floppy disk to fifty quid or so – and still not get what you need. Andrew Wright and Graeme Rutt look at a broad selection of replacements that should fit every bill.

MagiC

MagiC is normally thought of as a multi-tasking operating system. Indeed it's probably the best on the Atari though it doesn't yet run on the Falcon. On the other hand, the fact that it also gives you a replacement desktop shouldn't be overlooked. It replaces TOS completely, giving you faster disk access and quicker screen updates – a single program runs faster than under your normal TOS.

MagiC's desktop is functionally similar to TOS 2.06, with a few extras like the ability to change your font size, two extenders from which to automatically launch programs and other MagiC-specific additions. Because it's a multi-tasking system you can carry on using the desktop while you're running a program.

MagiC stays in memory when you reboot and can be configured from a desk accessory which means that it works well without extra disk swapping on a floppy-based system. The big speed

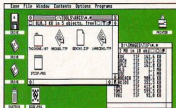


MagiC offers a limited replacement desktop along with useful speed enhancements.

gains, multi-tasking and enhanced desktop may make this the best choice if you've a few bob to spare.

Ease

Ease was designed to enhance the more limited desktop built into MagiC but it has a number of features that make it perfect for multi-tasking under MultiTOS or as a straightforward replacement for GEM. It will run in 1Mb (at a squeeze) and is arguably the nicest looking desktop of all.



The Ease desktop – neat and functional.

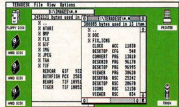
An Ease window has four extra buttons: one to close it quickly without exiting folder after folder; one to size the window to fit the contents; another to switch between text and icon view; and the fourth to cycle through other open windows.

Using Ease you can also iconise windows, a useful feature for multi-tasking and for keeping the contents of a frequently-accessed, nested folder close at hand.

You can change any or all the Ease icons using the comprehensive editor and even specify different GDOS or SpeedoGDOS fonts in different windows. Text can be viewed in any font too and even printed out directly from the desktop. Programs can be launched from icons on the desktop or from a special menu. With or without MagiC, Ease is certainly the desktop to aspire to.

Teradesk

Teradesk is one of the most popular replacements around, if only for the fact that it's freeware. The latest release, version 1.40, offers similar functions to Atari's TOS 2.06 and uses up less than 30Kb of RAM when running programs so it's ideal for 0.5Mb machines.



Teradesk – chunky icons...

The icons themselves are a little plain but a good selection is included so you can change most of the ones that don't suit you. The windows are almost identical to those under the standard

GEM desktop but Teradesk has many more options for viewing and locating files, including multiple file masks, unsorted file lists and the ability to select all the files in a folder. Dialogue boxes can be fixed or movable, and monospaced GDOS fonts can be installed for viewing files or text.

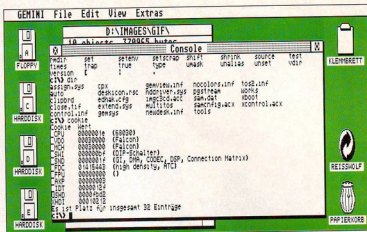
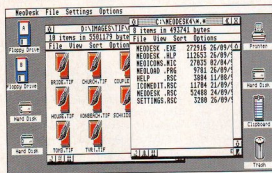
It has the fewest features on offer but it is well worth trying out if you're still not convinced about the worth of a replacement.

NeoDesk

As far as replacement desktops go, NeoDesk is a real veteran, especially when compared with the raw recruits like Ease. The younger ones may be leaner and fitter but NeoDesk has years of solid experience behind it, something that might just give it the edge when it comes to the crunch.

NeoDesk is just as good looking as Ease and probably better designed although some of the dialogue box options are too well hidden. Icon editing is very easy and there are plenty of features to keep you interested, including dozens of configuration options so

NeoDesk wins friends just by looking good.



One of Gemini's best features is the excellent Mupfel command line editor.

you can get the desktop looking just the way you want it.

NeoDesk 4 adds support for multi-tasking and when coupled with Geneva you've got a pretty powerful system on your hands. One unique feature is that the desktop can be placed in its own window and each file window has its own individual menu bar, which makes it superb for multi-tasking or task switching. With Geneva and NeoDesk on one hand, and Magic and Ease on the other, Atari users are certainly spoiled for choice.

Gemini

Gemini's big claim to fame – apart from the length of time it has been on the Atari scene – is the excellent, tightly integrated Mupfel command line editor that runs in a console window. The clean, well-designed interface is a little odd and hasn't proved popular in the past, but version 2 is due out shortly

and may well win a few more friends. Indeed, version 2 looks like maturing into an excellent desktop and work is already underway in translating the documentation into English. The icons and dialogue boxes are smart and functional and the program can use GDOS or SpeedoGDOS for the display. There's an icon for the clipboard and two dustbins – one permanent and one recoverable. You can also display files in large icon, small icon or text mode, as on the Apple Mac. Indeed Gemini's start-up message looks distinctly Mac-like so there's no doubt where the author's inspiration came from.

On the downside, Gemini doesn't have a menu delete feature, needs a lot of memory and can't search through drives, but that takes very little away from such a nice-looking, attractive desktop.

Buyer's Guide

	TOS 2.06	NeoDesk 4	Ease	Magic	Teradesk	Gemini	Thing
Price	£49.95	£49.95	£49.95	£69.95	Free	Shareware	Shareware
Supplier	Compo	Compo	System Solutions	System Solutions	Goodmans	Goodmans	Goodmans
Contact	01487 773582	01487 773582	0181 693 3355	0181 693 3355	01782 335650	01782 335650	01782 335650
Desktop icons	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Extra window controls	No	Yes	Yes	Yes	No	No	Yes
Changeable icons	Yes	Yes	Yes	No	Yes	Yes	Yes
Desktop printer icon	Yes	Yes	Yes	Yes	Yes	Yes	Yes
File masking	Yes	Yes	Yes	Yes	Yes	Yes	Yes
File search	No	Yes	Yes	No	No	No	No
Select all	Yes	Yes	Yes	Yes	Yes	Yes	Yes
User selectable window fonts	No	Yes	Yes	No	Limited	Yes	Yes
Movable dialogue boxes	No	Yes	Yes	Yes	Yes	Yes	Yes
Unload facility	N/A	Yes	Yes	No	Yes	No	No
Minimum RAM	None	1Mb	1Mb	1Mb	0.5Mb	1Mb	1Mb
Rating on 1Mb machine	8	7	7	6	6	3	4
Rating on 2-4Mb machine	8	8	8	9	6	5	6

- Thing and TOS 2.06 have been included for comparison – see the appropriate features in this issue for more information on both of these products.
- Extra window controls covers additional buttons and gadgets. Changeable icons means you can choose from a broad selection. An unload facility means that the desktop "shrinks" into a small amount of memory when you run another program – of course it takes longer to reload when you quit the program but this is a good option for 1Mb machines.
- Ratings give you an idea of how much you would gain by installing the product, relative to the standard Atari's TOS 1.x desktop which would score 5.

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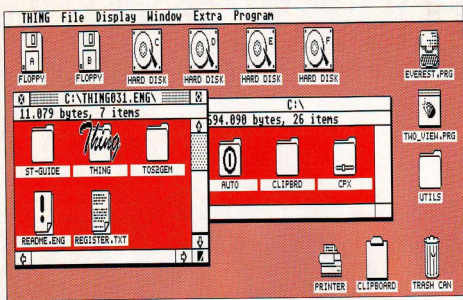
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Thing looks good and works reliably because all the really clever stuff is hidden under the bonnet

Join Joe Connor for a fling with Thing, the latest shareware desktop to reach the UK...

Do your own Thing

The Atari's built-in desktop might be simple and dull but at least it is stored permanently in your machine's ROM (read only memory). Alternatives are just the opposite - feature packed, addictive and extremely memory-hungry! The upshot of this is that you'll need at least 1Mb of memory to run the special version of Thing that is available on this month's reader disk. If you only have 0.5Mb of memory you'll need a memory upgrade before you can run any replacement desktop with the exception of Teradesk.

First of all, it is important to make a back up copy of your original Thing

Icons rules are controlled by an INF file. THINGICN is used to manage which icons are used by which file types.

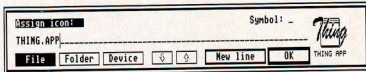
master disk. If you lose the default settings it's easy to restore them from your back up. Thing can be started from the desktop by double clicking on the THING.APP icon. If you find yourself using Thing regularly, it can be installed to load automatically each time you boot your machine. To do this from the Atari desktop, highlight the THING.APP icon then select Install Application... from the Options menu and set the Boot status: to Auto. Save the desktop, reboot, and you should arrive at the Thing desktop without lifting a finger!

Feature-rich

With the release of the MegaSTe many of the features previously available in replacement desktops were incorporated into TOS. If you're running an ST/STe machine you can consider replacement desktops such as Thing, NeoDesk, Ease, Gemini and Teradesk as alternatives to a TOS upgrade. Thing supports TOS versions from 1.4 onwards and provides most of the TOS 2 desktop features plus many extras.

In addition to the basic drive, trash-can, folder, program and file icons, Thing adds a clipboard, printer and parent icons. Each different file type can be assigned its own icon using the Edit icons... option from the Extra menu.

Program, folder and file icons can all be dragged from windows onto the desktop, where a duplicate appears. To run the programs all you do is click on its desktop icon. You can also launch a program by dragging an appropriate

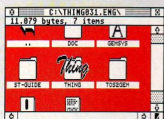


Mission critical

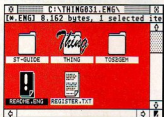
Thing offers flexibility, productivity and extra features in exchange for over 0.5MB of memory. Only you can decide if this is a fair swap. I've found it's the little things that count. Because I spend a lot of time at the desktop, seemingly minor features are sorely missed when taken away. Here are a few examples...



The parent icon saves opening a second window when copying or moving folders and/or files to their parent directory.



Windows can be scrolled vertically, in real time, using a click and drag right mouse action.



Select files using the autocolorator, start entering a mask into the info line and Thing does the rest!

data file onto the desktop icon.

Designing the ultimate desktop is one participation sport everyone can enjoy from the comfort of an armchair.

Thing things

The Window menu includes a list of open windows from which any window can be topped (raised above the other windows and made active). If you're looking for a particular file type in a given window press the asterisk (*) key to activate the autocolorator. Now press full stop (.) followed by the first letter of the file type you're looking for.



One of the most useful features of any desktop is the ability to drag and drop files onto programs to start them up.

Even if a window is completely buried you can easily top it using the Windows menu.

Information where and when you need it. A progress bar takes over after selecting the OK button.

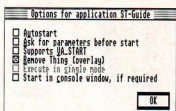
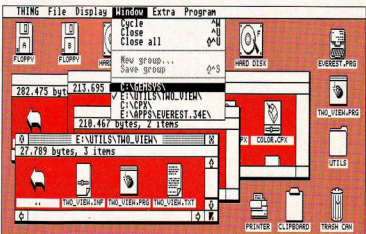
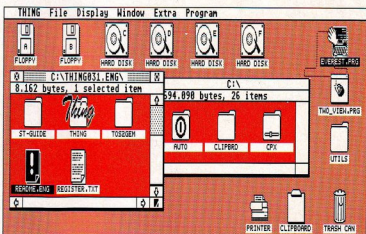


The Atari desktop supports a single file type for each installed application - 1 managed no less than eight!

If any matching files are found, Thing automatically completes the extension highlighting the files for further attention.

The Atari desktop's Show/Print/Cancel dialogue box offers pretty rudimentary file output to the screen or printer. If you inadvertently display or print anything other than a plain ASCII text file, all hell breaks loose! Thing takes a different approach by calling external programs. There are plenty of superb file viewers, printer managers, search and copy utilities around so rather than program new ones, Thing acts as go-between, calling external programs as required.

It's up to you which programs to install but you're going to need a file viewer and a printer manager. I suggest you take a look at MasterBrowse,



If you run short of memory you can set Thing to unload from memory when running other programs.

1stGuide and ST-Guide as file viewers and Idealist or GEMSpooler for your printer manager.

To install a program select New in the Applications... option from the Extra menu which displays the Info about Application dialogue box. Click on the Program button and locate the desired program using the file selector. Enter a single asterisk (*) in the View: field for a file viewer or the Print: field for a printer manager then exit the dialogue using the OK button.

Thing is set up and ready to use so now is a good time to save your desktop. You'll find Save settings... under the Extra menu option. Don't forget that this month's Reader Disk offers a complete version of Thing, already pre-configured and ready to run using some of the best external utilities around.

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