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ATARI

ST

REVIEW

ISSUE 31 OCTOBER 1994 £3.75 OVERSEAS £4.00



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ATARI ST REVIEW Issue 31

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ST REVIEW ISSUE 31
OCTOBER 1994



Editor: Vic Lennard
Art editor: Liz Maddox
Illustrations: Paul Van Linden
Production editor: Judith Chapman
Games editor: Tina Hackett
PD Zone: Nial Grimes

Contributors:
Manfred Bäcker, Mark Baines, Denesh Bhabuta,
Maurice Collins, Joe Connor, Steve Delaney,
Jon Ellis, Ofir Gal, Nial Grimes, Tina Hackett,
David Howell, Dave Jones, David Nilson,
Jane Plessey, Mike Robinson, Paul Rossiter,
Graeme Rutt, Ian Waugh, Andrew Wright.

Photography: Ian Fox
Hannah Gal

Ad manager: Emma Barr
Ad production: Barbara Newall
Marketing manager: Lucy Oliver
Marketing assistant: Glen Urquhart
Production manager: Sandra Childs
Circulation director: David Wren
Commercial director: Denise Wrght

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Managing director: Ian Bloomfield

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COVER FEATURE

WORD TO THE WISE

PAGE 19



Choosing your day-to-day word processor is probably the most important decision you have to make in terms of software.

Currently, there are three heavyweights to choose from: Papyrus, reviewed back in issue 28; That's Write 3 and Protex 6.5, both reviewed in this issue.

It appears to us at ST Review that the three of these do not, in fact, compete for the same product area. Papyrus borders on a DTP product with its fills and patterns; Protex 6.5 is an out-and-out word processor with a nifty page preview mode; That's Write 3 falls somewhere in between, supporting both internal printer and Speedo vector fonts. Read our unbiased reviews of the latter two and decide for yourself – first in ST Review as always...

ST SOURCE

... the source of all information! This is where you'll find the best tutorials, your opinions and our answers to your questions...

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Unless you own both colour and mono monitors, you're likely to need a screen emulator...

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A new series that helps you to start working with a program and then gives you a host of masterclass hints and tips. This month, Calamus 1.09N...

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More help with last month's cover disk program, Eclipse.

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A second new series, this time dedicated to giving you the right advice to make an informed buying decision. This month we look at word processors.

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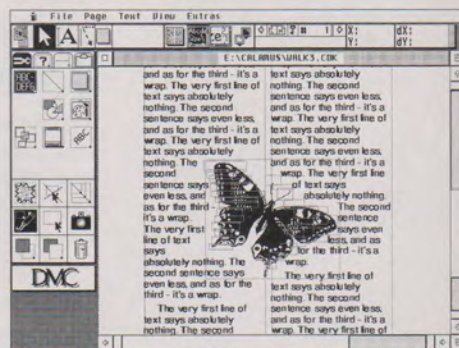
Three pages of answers to your questions and useful hints 'n' tips from our writers and you, the readers...

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Many of our back issues have run low – fill any gaps in your collection now!



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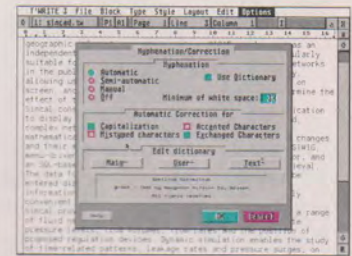
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Silmarils is back with *Ishar 3* – see our review on page 50.



ON THIS MONTH'S COVERDISK

ADDRESS

... probably the best name and address program ever! Our cover disk version is complete in every respect – see page 12 for the start of our tutorials.

MASTERBROWSE

... probably the only text file viewer you'll ever need – see page 14 for our tutorial.

Plus see page 16 for...

- Assign* – auto ASSIGN.SYS creator
- BoxKite* – replacement file selector
- EdHak 3* – demo of the file editor
- One Jack* – program launcher

and more...



MEET THE FAMILY

As you've probably noticed, **ST Review** is very much team written by a large number of freelance journalists. This has a distinct advantage over the conventional editorial structure of editor, deputy editor, technical editor, staff writers and so on. When personnel are employed on a salaried basis, a minimum number of pages has to be produced in order to justify that salary. This can lead to the awkward situation of an in-house writer being commissioned within areas of relative weakness. While the technical knowledge may be there, the practical side may be found wanting.



So let me introduce you to some of the writers whose work you've been following for, perhaps, a couple of years now. Ofir Gal is one of the best technical Atari brains in this country. A professional programmer and musician, with his band, **Kry**, awaiting its first single release on the Columbia label, Ofir writes both from the experienced eye of an end-user and the insight of a programmer. Andrew Wright is a professional computer journalist who is as much at home creating designs for PR companies as writing for Microsoft's in-house magazine. His vast experience with typography and layout is tempered only by his cynical attitude towards programmers!

Nial Grimes ran **The PD Library**, one of the first in the UK, for two years. Taken in tandem with reviewing over 800 pieces of PD and shareware in **PD Zone**, Nial must be one of the country's leading voices in this field. He also designs business stationery for various companies, hence his DTP and graphics input to our magazine. Ian Waugh has been reviewing music products since 1980 and has probably written about every major piece of music software on the ST. As a practical musician, he currently has two albums on release and has also written three books concerning making music on computers.

Jon Ellis is a professional C and Assembler programmer who works for a well-known pharmaceutical company and Paul Rossiter is a hardware specialist running his own company. Graeme Rutt programs professionally in Assembler and spends half of his life surfing around the 'Net!

It's funny - many of **ST Review's** authors are vastly experienced and yet they remain enthusiastic about a machine upon which most have been working for years. Hopefully that devotion comes across in their writing.

There is little point in using only proven freelancers; many of **ST Review's** writers started by contacting me and being commissioned for a one-page article. Fancy your chances? Then drop me a line with, say, a 300 word review of your favourite piece of software and you'll be given full consideration.

Finally, I'd like to thank all of you who introduced yourselves to me at the recent Bristol and London Atari Shows, especially the young lad who walked up to me and asked for my autograph!

V. Lennard

Vic Lennard, Editor

JAGUAR ROLLS IN

Jaguar has finally made it to the High Street in decent numbers. Rumbelows are carrying stock in all 370 of their stores with a price tag of £249.99. *Tempest 2000* is being offered at £27.50 (half the recommended price) to anyone purchasing a Jaguar from them. The four other current Jaguar titles are in stock and *Wolfenstein 3D* should be available any day now.

The only other High Street store currently stocking Jaguar is London's Oxford Street branch of HMV; other HMV outlets are expected to follow suit in the near future. Jaguar is also available through specialist computer stores supplied by distributors SDL and ZCL. The latest news from SDL is that the Jaguar has reverted to its original £229.99 price point after a temporary increase to cover the freight costs of bringing in its first consignment by air.



Gentle gameplay
- now you see him...



... now you don't! *Wolfenstein*
isn't for the squeamish!

JUMPING JANUS

CGS Computerbild (081-679 7307) will be distributing Janus, the hardware-based ST emulator for the PC, in the UK. This comes supplied on a pluggable board that fits into the PC's ISA slot.

The board houses a 16MHz 68000 chip, TOS 2.06 ROMs and has space for up to 32Mb of RAM. When running on a 66MHz 486, tests have shown that the performance is about four times that of a TT. Janus can access a DOS-formatted hard drive partition so there is no need to set aside a separate partition for ST files.

Janus makes full use of the PC's video capability and a maximum resolution of 1024 by 768 pixels can be attained, subject to the hardware's capabilities. In "local mode", Janus operates in ST high resolution and CGS claims 100% compatibility on all software tested to date including *Calamus*, *Didot Professional* and *That's Write*. Janus also runs in "dual mode": tasks are shared between the 68000 processor and the PC's hardware. In this mode, all three ST resolutions are supported and compatibility is said to be very high. MIDI software is not supported at present.

The next software version is under development and will allow a GEM window to run inside a Windows-based one. Complete with TOS 2.06 fitted, Janus costs £299 without any on-board RAM.



Face to face
- the Janus board with
its 16MHz 68000,
TOS 2.06 ROMs and
on-board SIMMs.

TRUEIMAGE RE-MARK

Shortly after going to press last issue, HiSoft found that a portion of *TrueImage's* code had been accidentally commented out so removing it from the program. This, along with an improvement to the memory allocation, led to a recheck of the program with marks now reading as follows:

EASE OF USE	✓✓✓✓✓✓✓✓✓✓
DOCUMENTATION	✓✓✓✓✓✓✓✓✓✓
EFFECTIVENESS	✓✓✓✓✓✓✓✓✓✓
VALUE FOR MONEY	✓✓✓✓✓✓✓✓✓✓

85%
OVERALL

EXHIBIT, EH!

The latest spate of Europress-sponsored Atari Shows were well received by exhibitors and the public alike. Held on July 30 in Bristol and July 31 in London, a host of new products were unveiled over the two days.

System Solutions' stand often had queues three or four deep, which is hardly surprising as both the Medusa and PAK 68/3 were on display. The Medusa's jaw-dropping performance impressed everyone who ventured onto the stand, while the PAK 68/3's turn of speed showed that this is going to be the hardware ST accelerator. *Ease, MagiC's* desktop partner attracted interest as did version two of *Cubase Audio Falcon*, received literally the day before the first show, with its sixteen tracks of direct-to-disk



Hard 'n' fast – new output boxes for Cubase Audio from System Solutions.

digital audio. To go with this, System Solutions are now selling an eight audio out device (FA-8, £351.33) and a digital interface (SPDIF, £233.83), both built by Steinberg's suppliers, SoundPool. Also on demonstration was *Midicom*, the budget networking software, and plenty of hardware including Falcons, monitors and Apple CD-ROM drives. "For a show in the middle of Summer, this was surprisingly successful," commented Karl Brandt of System Solutions.

Compo had *SpeedoGDOS 5* (see our preview on page 34) on sale along with another four new products: *MUSICOM 2*, *TrakCom*, *That's Write 3* and *Interface*, the latter currently with a German manual. *ScreenEye*, the real-time digitiser, was on display and the Service area had a busy couple of days upgrading numerous machines. Jeremy Hughes, of *Imagecopy 3* fame, guested at London with version three of his best-selling program and Theo Breuers, the Compo chief, was also in evidence.

Titan Designs has certainly suffered from the non-release of *ChromaStudio*. The program was expected to act as a front end for *Exposé*, its digitising hardware.

Bristol and London Atari Shows prove successful...



Totally infatuated – Obsession won many friends and a top score of over ten million!



Young at start – plug in a Jaguar and even little six-year-olds had fun!

However, a brand-new product appeared at the show which should ensure a future for its video hardware. *Apex Media* is based on *Cyber Paint* but with a comprehensive colour palette and various powerful facilities, including multiple grabbing and animation. Dialogue boxes come twisting into view thanks to the program's "spinnies", a rather innovative feature.

Aside from the usual Digital Arts products such as *DA's Picture* and *DA's Vector*, CGS Computerbild sported the first Janus board in the country. Janus is a hardware Atari emulator for the PC with a 16MHz 68000 processor, TOS 2.06 ROMs and space for up to 32Mb of RAM. *Chagall* appeared to run happily on the system over the two days.

ST Handbook was previewing a couple of interesting new games: *Hero*, a platformer with ultra-smooth scrolling, and *Team Soccer* with

digitised sound, realistic control and lightning fast scrolling courtesy of the STe's hardware. And apart from selling PD disks by the ton, Merlin were previewing *Obsession*, the new game from Unique Developments Sweden. This marvellous pinballer was the centre of attention with over a hundred people taking up the challenge to get the high score and win a Jaguar. See the box for the lucky winner and runners up.

"Have goods, will travel" should be Brad Koda's motto! The man behind Best Electronics adorned his stands with hundreds of rare and use-



Caspian capers – the independent software company's latest project, Zero 5, made a big impact at the Show...



Little boxes – the new Gasteiner hard drives pack capacity into a small-sized unit.

COMPETITION WINNERS

First prize of a Jaguar, *Rock 'n' Roll Clams*, *EZ Art Professional* and subscriptions to *ST Review* and *ST Handbook* went to Mark Abel of Putney, London with a score of 10,379,200.

Second prize of *Rock 'n' Roll Clams*, *Muzzy* and subscriptions to *ST Review* and *ST Handbook* went to Andy Cole of Frome, Avon; third prize of *Stark Raving Bonkers* and subscriptions to *ST Review* and *ST Handbook* went to Thomas Haines of Southwick, Sussex.

MULTIPLE SOLUTIONS

System Solutions (081-693 3355) has a number of new products both on release and in development. They have confirmed that they are now importing the Medusa T40, the Swiss-manufactured 68040-based TT clone that runs at a lightning fast 26 MIPS (million instructions per second). The processor is clocked at 64MHz and is supported by a 32-bit wide bus. Designed for professional use, Medusa has a price tag to match: a cool £2,995, not including VAT!

Midicom, a networking package that allows up to seven Atari's to be connected to each other, is in the final stages of development. Data can be transferred via the MIDI, RS232 or LAN ports. Drive N is set up for the network and each computer has its own folder within this drive. Inside this you find more folders, each corresponding to one of the drives connected to the remote computer(s). Programs can be run from any drive attached to the network or copied from one drive to another on separate computers without ever touching a floppy disk. *Midicom* operates in the background – you can copy files from one computer to another without having to exit the application you are currently working with.

Speed of transfer depends on the port being used and the Atari machines being used. The MIDI port probably offers the fastest speed on a standard 8MHz ST/ST2 but this is outstripped by the RS232 on a TT or Falcon which can handle at least 115,200 baud (bits per second). The ST requires additional hardware to exceed its 19,200 baud limit but can only be boosted beyond 38,400 baud if an accelerator board is fitted, in which case it can match the transfer speeds of the TT and Falcon. A transfer rate of up to 153,000 baud has been successfully achieved in trials with machines running at 16MHz. Tests are also in progress for using the parallel port to connect machines but results are not yet available for this.

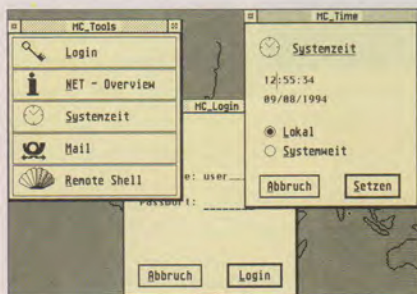
Midicom is expected to cost around £50 and should be available in a couple of months. Depending on how many computers you intend to link into the network, the additional costs will be limited to the number of cables required to connect the machines together.

AT-Key, a keyboard interface that allows you to connect any PC keyboard to your Atari, is another new product. The interface costs £49.95 and various bundling deals are offered with PC keyboards of different specifications. Alternatively, you can source your own. AT-Key is available now and designed for use with a tower system or DeskTopper as shown in last month's issue.

The CaTTamaran is a 48MHz processor upgrade for the TT. Manufactured by Cybercube Research Ltd in Canada, it boosts performance of both the processor and co-processor to 48MHz. Performance is said to outstrip that of the fastest 68030-based Macs. CaTTamaran is available now and costs just £89.

Finally, the STe version of the T28 accelerator board is now out at a price of £199. This gives identical performance to the STFM version (now reduced to £169) and includes an adaptor that allows PC emulators to be plugged in.

Towering high – the Medusa on the System Solutions' stand at the recent Atari Shows.



Well connected – Midicom appears to be an affordable networking option for Atari computers.



WHAT'S IN A NAMENET!

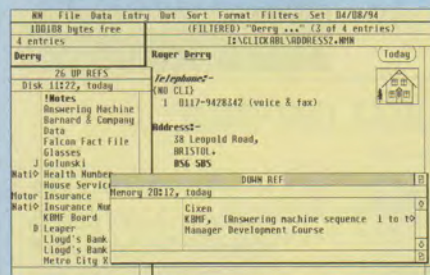
NameNet 3, the latest version of Roger Derry's Address Manager, is fully equipped to handle the new telephone numbering system for the United Kingdom which was introduced on August 1. The new numbers will run in parallel with the old until April 16 next year when the old system will cease.

NameNet 3 is supplied with a data file that allows existing *NameNet* databases to be converted automatically to the new system. This can be done "on the fly" or permanently.

Another innovation happening later this year is the introduction nationally of caller identity services. These allow the receiver of a call to tell which number is calling them even before the telephone is answered. People who, for example, have ex-directory numbers or use a different line for outgoing calls may wish to suppress this information. *NameNet 3* can be set automatically to add the suppression code on a global or per entry basis.

Registered users of both the shareware and Professional versions can upgrade to the latest version by returning their master disk to: Roger Derry, 38 Leopold Road, Bristol, BS6 5BS, UK. Registered shareware users should enclose a cheque or postal order for £5. Users of the Professional version should enclose a return self-addressed stamped envelope or £1 in stamps.

The Shareware version of *NameNet* is still available from Roger Derry for £15. The Professional version is available from System Solutions for £39.95. A useable demo version is available for £2 from Roger Derry.



Sir name – NameNet with "on the fly" conversion to new codes in place. This entry also has "Calling Line Indication" suppressed.

IN BRIEF

● **Europress Publications**, publishers of *ST Review*, is to produce a new monthly publication linked to the ITV show **Movies, Games and Videos**. The magazine will carry the same title as the all-year-round TV programme: **Issue one comes out on September 22 with a cover price of £1.99**. The ITV show currently attracts around three million viewers; an initial print run of 60,000 copies of the magazine is planned.

● **The recent CES Show in Chicago was the last of its type to be held in the city**, with the new CES Interactive being moved to Philadelphia. CES Interactive is scheduled to take place from May 11-13, 1995 causing a direct clash with rival event, Electronic Entertainment Expo (E3) which takes place at the same time in Los Angeles. It is unlikely that both events will proceed, especially since the CES has always been used as the launching pad for the latest products from leading manufacturers. CES Interactive already has the backing of Disney, Time Warner Interactive, Konami and Nintendo, but E3 has yet to reveal the companies pledging support to its event.

● **PhoneDay is April 16, 1995**. This is the date when all area codes in the UK will change. In most cases, it is merely a case of replacing the "0" in the area code with 01 – for instance, London numbers will change from 081 to 0181. The only exceptions to the rule will be Bristol (0117 9), Leeds (0113 2), Leicester (0116 2), Nottingham (0115 9) and Sheffield (0114 2). The new area codes are already in operation although dialing the old code will still work correctly until PhoneDay. It would be wise to reprogram stored numbers in your telephone, fax machine and communications software now, in order to avoid confusion.

● **Best Electronics**, the world's biggest supplier of Atari spares, has just gone to print with issue 10 of its catalogue. It is currently updating its UK mailing list – if you want to be included and sent information on the availability and cost, drop a line to Best Electronics, 2021 The Alameda, Suite 290, San Jose, CA 95126, USA. Tel: 0101 408 243 6950; Fax: 0101 408 243 8274.



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ATARI ST EDUCATIONAL 16.49 URBAN STRIKE VIRTUA RACING X-MEN 34.99

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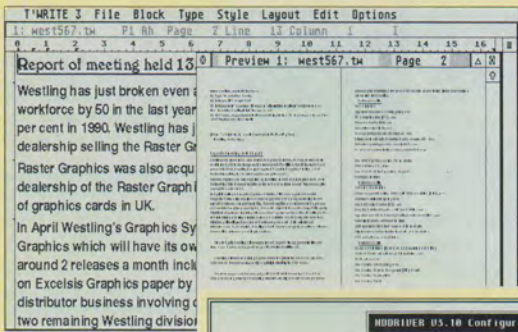
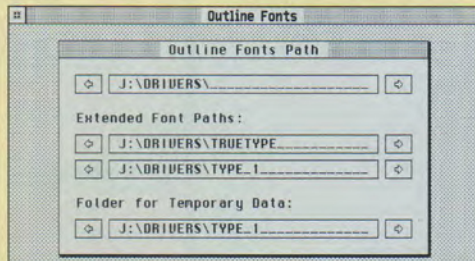
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NEWS UPDATE

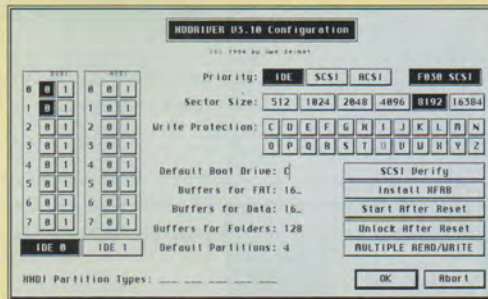
Catch up on all the latest commercial, shareware and public domain upgrades...

Fontastic – SpeedoGDOS v5 gives you access to industry-standard TrueType and PostScript fonts for the first time...



The Write time – upgrading to That's Write 3 from version 2 will set you back a mere £35...

Drivin' home – faster hard disk access is likely to be the result of upgrading to HD Driver v3.10.



COMMERCIAL Report by Ofir Gal

After months of waiting, System Solutions (081-693 3355) has finally made *ExtendOS v1.3* available. The new version boasts multi-session support for PhotoCDs and improved compatibility with various CD formats and *MagiC*. Needless to say, various other bugs have also been eradicated. The update is free for all registered users: just send your master disk and a stamped addressed envelope.

Also from System Solutions is *HD Driver v3.10* which is also a free upgrade. The new version appears to offer faster disk access with ACS1 to SCSI host adaptors.

Compo Software UK (0487 3582) has launched the new *SpeedoGDOS v5* (see page 34 for preview) which supports TrueType and PostScript Type 1 fonts. This new version is faster than v4 and has an improved set of configuration utilities as well as a number of new printer drivers, including the LaserJet 4 and full colour support for several colour printers. The upgrade cost is £29.95 and is available to all Speedo users.

That's Write 3 is finally here! The new version includes numerous new features, most notably Speedo font support which means that the program now handles scalable fonts as well as standard GDOS and printer fonts (see full review on page 19). Other improvements have been made to the spell checker and the whole user interface has been revamped. The upgrade costs are £35 from *That's Write 2* and £65 from *That's Write 1.5*.

Hardly a month goes by without an update to *Diamond Back 3* which is now at v3.12, the only change from v3.11 being improved SCSI tape drive compatibility. The update is available from HiSoft (0525 718181) for the usual £5 or free for Gold Support users.

CGS (081-679 7307) has new versions of *DA's Layout*. The mono version is now at v3.3, *DA's Layout CD* is up to v4.3, and the latest true colour version is v5.3. No details of the new features or prices were available at the time of writing: please contact CGS directly for more info.

PD AND SHAREWARE Report by Nial Grimes

The *Persistence of Vision* Raytracer must be one of the most popular public domain programs ever released. It's available for almost every machine on the planet and this month sees the release of *POV-2* for the ST. It supports many new features, including improved anti-aliasing and phong shading. What's more, the whole thing has been speeded up a little! Floppyshop now have the standard ST and Falcon/TT enhanced versions in stock, and both are supplied with a shell program, so you don't have to get involved with a command line interface.

While on the topic of graphics, *Line-Up 3* is now on the market. This utility is designed to align the red, green and blue frames grabbed by video digitisers, so reducing misconvergence. The first version worked very well, but this release is said to be a complete overhaul and a full review will appear in *PD Zone* as soon as we have a copy.

The ever-popular *ESS-Code* has also received the upgrade treatment this month. Version 6.1 now supports MIME format (recognised by the extensions ".M" or ".MIM") and the command line support has been extended for those who don't appreciate the comforts of a GEM interface.

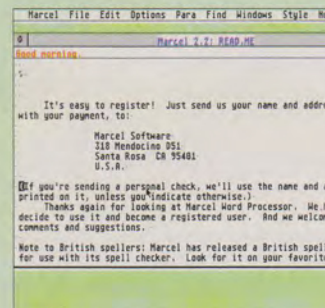
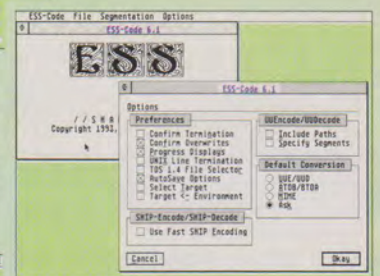
Anybody looking for an affordable word processor would do well to check out the latest incarnation of *Marcel* – version 2.3. In addition to a sizeable spelling checker, this new release includes support for a number of new file formats including *WordPerfect* and *1st Word Plus*. It's certainly looking a lot more competent these days.

And finally, a small correction following last month's issue. *GEMView's* new slideshow mode can indeed be run full-screen by pressing the <Esc> key. My apologies to Dieter Fiebelkorn for the inconvenience caused by this oversight (although, personally, I think it's all a conspiracy just to make sure that *GEMView* gets at least one mention in every single PD Update column!).

Pretty pictures – Persistence of Vision is now faster and more powerful than ever before.



Coded messages – ESS-Code 6.1 is now fluent in the fast-emerging MIME format.



Word up! – Marcel 2.3 features an effective spelling checker and support for foreign file formats.

System Solutions

The DeskTopper

NEW. A solid metal case to replace the plastic top of ST(FM/e) and Falcon computers. Only **£69.95** **FreeKeys** - separates the keyboard from the computer **£39.95** **DeskTopper & FreeKeys** **£99.95**
Please phone for more information.

CD-Rom Systems

Falcon System: Sony CD-300+ Drive, SCSI II Cable, ExtenDOS **£289.00**
Complete ST(FM/e) System: CD-300+ Translater, ExtenDOS **£339.00**
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Includes printed manual and registration

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ICD Link II - in Stock **£89.95**
ICD Pro Utils **£39.95**
Falcon Tower Kit **£159.95**
Falcon 4Mb, 32Mhz Tower **£799.00**
Falcon 4Mb, 32Mhz Desktop **£799.00**
Ask for details **£759.00**

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Fax: 0753-830344

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All prices include VAT
For small items, please add £3.50 P&P E&OE
Multiple or large items, please add £10.00 courier charge.

Monochrome Monitors

The award winning SM14 is a perfect replacement for the Atari SM124/5 monochrome monitors: it exceeds Atari's original specifications. The 14" high resolution, paperwhite FST (Flatter, Squarer Tube), gives a perfectly centred, crisp, sharp image without blurring at the edges.

The SM14 comes without, and the SM14s with, a speaker. The SM14f is for the Falcon. A Tilt and Swivel stand comes as standard.

The special version for STfm/Mega ST installed with Overscan, the screen enhancer, gives a 40% bigger display.

All monitors come as a plug-in-and-go unit, complete with Atari plug, and no adaptors are necessary.

"Essential Buy, 90%"

ST Review, May 93

SM14/f without audio **£129.95**
SM14s with audio **£149.95**
OverScan ST with SM14 **£39.95**



ATARI ST
ESSENTIAL BUY

MiniS - Hard Drive System

The MiniS Hard Drive System comes with drive capacities ranging from 40Mb up to 1800Mb. This full SCSI system is hardware compatible with all Atari computers, Amiga, Mac, PC etc. They are unrivalled in size, noise, speed, and style and come with a thru port for expansion.

It is the only Hard drive awarded an Essential Buy of 92% - Atari ST Review Christmas '93, and a Gold Award of 93% - ST Format Feb. '94

- ★ Quiet fan ★ Internal Power Supply 100-240v
- ★ 2 Year Warranty ★ Small (2.5x6x8.5in) (WxHxD)
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- ★ Now with HD-DRIVER FREE

	TT/Falcon	ST(FM/e)
40Mb	-----	£199
127Mb	£229	£269
170Mb	£259	£299
270Mb	£339	£379
340Mb	£399	£449
540Mb	£599	£639
1.0Gb AV 10ms	£899	£939
1.7Gb AV 10ms	£1199	£1239

Please add £20 to ST(FM/e) if the ICD Link II is required.
Heavy Duty professional cases with 60W Power Supply, add £50.
All Prices include VAT



ATARI ST
ESSENTIAL BUY

GOLD AWARD
ST Format

Falcon 030 Systems - 32Mhz

The Falcon is fast becoming the preferred choice for 8 track digital recording, with powerful programs such as Cubase Audio using it to its full potential. The DSP chip opens up a whole new world of Sound and Graphics. System Solutions now supply 32Mhz Falcon 030 computers from stock.

PowerUp2 is a brand new 32Mhz accelerator for the Falcon, available now. PowerUp2 doubles the CPU

clock speed and does not take up the internal expansion slot.

We supply systems for Music, Desk Top Publishing, Image Manipulation, Animation, Desk Top Video, fax & modem use etc. Please phone for your personal quotation of a tailor-made Falcon 030 System.

PowerUp2 kit **£59.95**
PowerUp2 fitted **£99.95**
Falcon 030, 4Mb Memory **£599.00**
with PowerUp2 fitted **£659.00**



MagiC - Multitasking Operating System

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

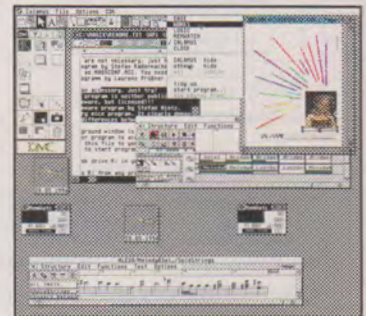
MagiC Desk, a replacement Desktop and a powerful command shell have been included. MagiC runs on all ST, Mega and TT computers with 512Kb, but 2Mb is recommended for a

useful working system. The Falcon version is expected later this year.

"If you want a multi-tasking system that works simply and reliably, then MagiC is for you." ST Review, June 1994.

MagiC (Intro price) **£59.95**
MagiC and NVDI v2.5 **£69.95**
MagiC and Kobold **£99.95**

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



NVDI 3

NVDI version 3 features:

Enhanced Speedo Support, with the ability to use True Type fonts, Up to 9 times faster than Speedo GDOS v4. Works with all TOS versions on all Atari computers.

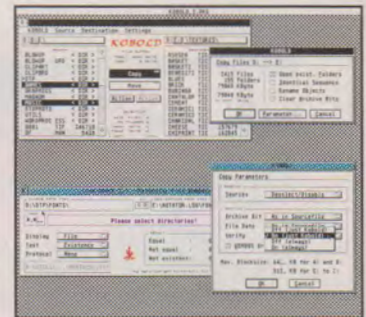
Cubase and Notator compatible. 'Compatibility is remarkable and we have yet to find a program that is not compatible with NVDI'. ST Review

NVDI version 2.5 **£29.95**
NVDI & Kobold **£69.95**

Kobold

Kobold is a high speed file manager. Its unique handling of the Atari file system gives unrivalled speed when copying, moving and deleting files. Copies 1000 files, (10Mb) in 45sec, (GEMDOS 5:35min) Use Kobold for Backups, Formatting Floppies, Move/Copying, Updates, Timed Jobs, etc.. It also includes a script learn function to automate repetitive functions. Can be run as an .ACC or .PRG

Kobold 2.5 (Intro Price) **£49.95**



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All repairs are carried out by qualified personnel. If you would like a quote, please ask for an estimate. Need it back in a hurry? Then ask for our professional next-day service. Call us to discuss your upgrade requirements. We fit all quality upgrade products available. We can collect and deliver by courier.

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Tel: 0753-818816

London Service Centre:

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SE22 8RS. Tel: 081-693 1919

Atari Workshop is
the only UK company
with TWO full-time
Atari Service centres.

Call the professionals
now for your personal
quote.

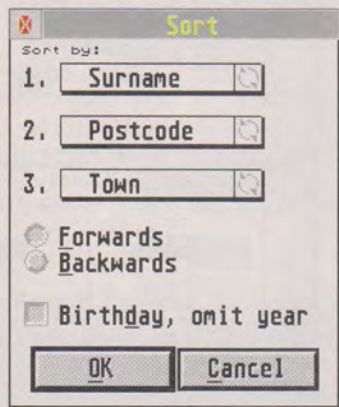
ATARI
WORKSHOP

We've really pulled out all the stops this month with a special edition of *Address*, just for *ST Review* readers. All aboard for the Joe Connor tour...

SMART ADDRESS

The requirements of a name and address database is simple enough: it needs to run as an accessory to access data from inside other applications, it must "talk" to your favourite applications so that data doesn't have to be manually transferred and it has to be compatible with everything else you use. A tall order!

Address meets these requirements and, as you can see from the screenshots, it's also one of the cutest applications around. Unlike some of



A three-stage sort should be more than enough to isolate the required records!

GETTING STARTED

Use *STRBAKUP.TOS* to copy the cover disk and then delete everything apart from the *ADDRESS* folder to create a working disk.

Address can be installed as a stand-alone application or a desk accessory. To load *Address* as an accessory, rename *ADDRESS.APP* to *ADDRESS.ACC* and move it along with *ADDRESS.RSC* to the root directory of your boot disk or partition.

the "end of line" duds often given away on magazine covers, *Address* is a live product actively supported by the German author, Carsten Setje-Eilers. He even agreed to leave our *Special Edition* fully functional – so take advantage of the Registration offer and support this shareware author.

Address works on all Atari models with 1Mb of RAM or more and at any resolution greater than 640 x 200 pixels (ST Medium). Mono icons replace the coloured icons when less than 16 colours are available.

MOVING DATA

There are several different ways of exchanging data with other applications. In a multi-tasking environment (*MultiTOS*, *MagiC* or

Geneva), you can "Drag & Drop" files directly between applications which is about as intuitive as you could dream for! Mere single tasking mortals (*like me... Ed*) can either use the *XAcc* transfer protocol, which works well with *That's Write* and *Write ON*, or the *Atari Clipboard* which works with most modern

applications. If all this was double dutch to you, then have a gander at our step-by-step guide. So let's go for a guided tour around the two main windows...

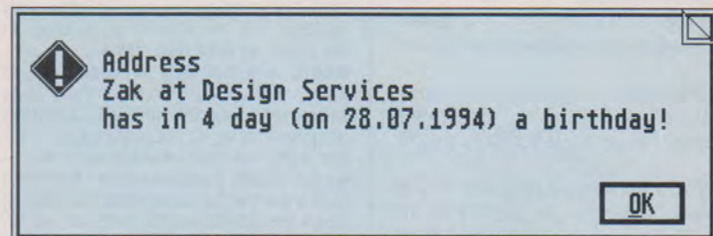
SETTING UP A LIST

The main screen is the List Window. Load up our *CONTACTS.ADR* file from the *TUTORIAL* folder and use it to follow this rundown of the main icons on the left, from top to bottom:

Load: Loads *Address* data files – the Load menu option has the same function.

Save: Saves *Address* data files – the Save menu option carries out the same function.

Clipboard: Copies either the



This optional boot-time reminder makes it hard to forget the birthdays of your nearest and dearest...



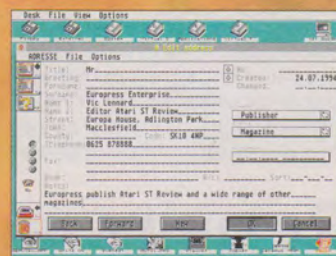
STEP BY STEP GUIDE

DATA OVER EASY

Follow this recipe for perfect results every time!



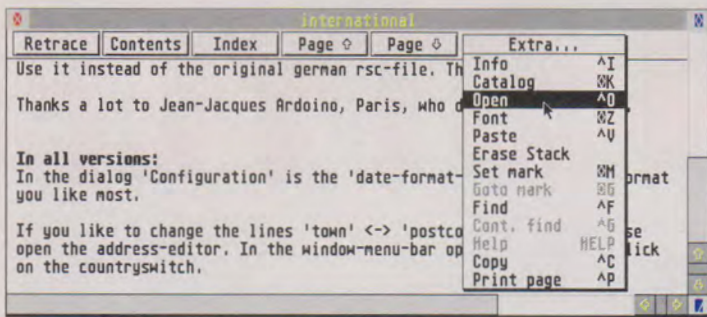
1 On opening *Address*, the List Window is displayed. We need to enter some data to work with so select the Edit icon (shown highlighted) to bring up the Edit Window.



2 Enter your data into the empty fields or load *CONTACTS.ADR* via the File menu in the List Window. Select "OK" to complete data entry and close *Address*.



3 Using the *XAcc* filter, data can be exported directly to *Write ON* or other compliant program. The "Test Output" button makes it easy to check the output from the active filter.



Selecting Help menu options calls the ST-Guide hypertext, if present.

selected records or the entire list to the Atari Clipboard. If the Clipboard isn't found, one will be created on drive A (if running from a floppy) or partition C (if working with a hard disk).

Editor: Opens the Editor window and loads the first selected record in the list ready for editing.

Import/Export: Opens the import/export dialogue box. Address lists can be formatted and exchanged with many other applications.

Select: Three small adjacent symbols are used to select records from the list. The leftmost icon displays the *Select By Class* pop-up menu: select the desired class to highlight the corresponding records in the address list. It's possible to select further records in the list without deselecting the existing selection by holding down the <Shift> key.

If you double-click on the icon, an editable dialogue box opens from which the class names can be changed. The middle icon is the same as for the left-hand one, except that records are selected by Status instead of Class. The right-hand icon deselects all records in the list.

Sort: Displays the three-stage Sort dialogue box which sorts records according to the first selected field. If more than one record is found, these are sorted again using the second selected field. If there is still more than one matching record then these are sorted a final time using the third

selected field. Select the *BirthDay*, *Omit Year* checkbox if you want to sort birthdays without considering people's ages.

Print: Outputs an address list. Address uses 1st Word-compatible printer drivers and a selection of popular drivers is included on the disk along with a utility to create your own.

Wastebasket: Deletes highlighted records. If "Warnings" is active in the **Configuration**, you get a final chance to change your mind!

Beneath the *List Window*, the Find area is used to isolate a specific group of records. Select a field in the pop-up menu for a specific search or select the "All Fields" option for a wider search.

Typing the first few characters from a record will often be enough to isolate the desired record and highlight it ready for selection. The buttons along the bottom of the List Window function as you'd expect with the "All" button selecting every record that matches the search string; the Next button moves to the next matching record.

EDITING ENTRIES

Double-click on an entry in our test file to go to the Editor. This is where your input takes place – and here's a run through the left-hand icons:

To Address List: The displayed record is merged and sorted into the list.

Activate Address List: The List Window is made active.

Search Using Mask: Searches for matching data in other records. Click on New to open an empty record, fill in any fields you wish to search for and then click on the icon. Address uses the record as a search mask and displays the first record that matches the fields you entered.

Continue clicking to display other matching records, if any. To redisplay the mask for another try, or to delete it, hold down the <Alternate> key and select the icon.

Print: Outputs the current record using the current export format. It's a good idea to check the output before committing to hard copy by using the Report option.

Wastebasket: Deletes the currently displayed record. The Back and

FIVE TOP TIPS...

● "Address tells me that I can't add any more records!" The accessory version needs to know in advance how much memory to reserve. Change the number of records in the Configuration menu.

● "How do I clear the existing database?" Select Load to display the file selector, clear the entry in the Filename field and then select "OK".

● "Is there a shortcut for moving between fields?" Deselect the "Return As GEM" checkbox in the Configuration to use the <Return> key to move to the next field.

● "Can I print address labels?" Select the Print checkbox and the text entered in this line is printed in underlined style above your address data – handy for adding a header or return address.

● "How do I change a fieldname?" Double-click on the field and edit the ensuing dialogue box.



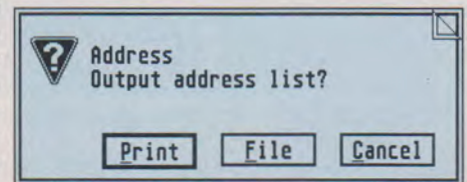
Forward buttons work as you'd expect and by holding down the <Control> key when selecting either button, the next selected record in the list is displayed.

dials the number. It's also possible to add a Mercury PIN number to the modem dial string.

Next month we'll take a closer look at the import/export options, which should help you get your existing data successfully into Address.

THE OUTSIDE WORLD...

Using a modem connected to the serial port you can dial any telephone, fax or modem number. Up to four numbers can be stored and dialled in each record. Toggle the desired button to the left of the numbers followed by a single click on the telephone icon which changes to Off Hook, resets the modem and



Either the entire list or just selected records can be printed or output as a file.

MORE FOR LESS

If you've enjoyed this special edition of Address, why not register to obtain the full package! This includes:

- A personal key to remove the Intro screen
- Address master disk containing Address and the ST-Guide hypertext system used to provide comprehensive on-line help
- Access to UK support and update service

To register your copy in the UK, just fill in your details and forward a cheque or postal order for £15, made payable to Joe Connor, to:

STR Address Registrations, 65 Mill Road, Colchester, Essex CO4 5LJ

Please write clearly – your personal key is generated from your name!

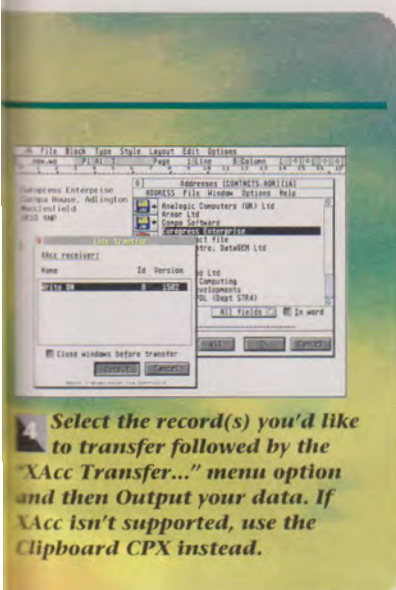
Please send me the registered version of Address. I enclose a cheque/postal order to the sum of £15 made payable to Joe Connor.

Please deliver my goods to:

Name _____

Address _____

Postcode _____ Daytime phone _____



Select the record(s) you'd like to transfer followed by the "XAcc Transfer..." menu option and then Output your data. If XAcc isn't supported, use the Clipboard CPX instead.

VIEW IN STYLE

MasterBrowse is a full-featured text viewing utility – Denesh Bhabuta makes the introductions...

GETTING STARTED

Installation is covered in the *INSTALL.TXT* file, but here's a brief rundown...

Floppy disk:

- Copy the cover disk with *STRBAKUP.TOS*. Delete all files from this working copy apart from *MBROWSE.TOS*.
- Double-click on *MBROWSE.TOS* to extract all files and then delete *MBROWSE.TOS*.
- Create two folders entitled *AUTO* and *VIEWER* and double-click on *INSTALL.APP*.
- Set "Destination" to *A:/VIEWER/* (don't forget the last "/") and click on "Install".
- Delete all files outside of the *VIEWER* folder and reboot.

Hard disk:

- Copy *MBROWSE.TOS* to your hard disk and double-click on it.
- Create a folder called *VIEWER* on partition D and then double-click on *INSTALL.APP*.
- Set "Destination" to *D:/VIEWER/* (don't forget the last "/") and click on "Install".
- Delete all files outside of the *VIEWER* folder and reboot.

MORE FOR LESS

If you find the coverdisk version of *MasterBrowse* useful, then please register your copy. For this, you will receive a six program pack:

- A personalised, optimised, latest version of *MasterBrowse*. The author is quite active, and often produces new versions.
- The latest registered version of *ESS-Code*, a program that allows you to encode and decode files in a variety of formats.
- *AutoDate II*, for keeping track of the date and time.
- *AccPad*, a notepad desk accessory.
- *MasterPrint*, a fully-featured printing utility.
- A registered version of *ShadowTerm II*, an excellent comms program.

To register your copy in the UK, just fill in the details and send a cheque/postal order for £14, made payable to Denesh Bhabuta, to:

STR MasterBrowse Registrations, Denesh Bhabuta, CyberStrider, 203 Parr Lane, Unsworth, Bury, Lancashire BL9 8JW.

Please send me the registered version of *MasterBrowse*. I enclose a cheque/postal order to the sum of £14 made payable to Denesh Bhabuta.

Please deliver my goods to:

Name _____

Address _____

Postcode _____ Daytime phone _____

File	Edit	Window	Markers	Position
Open Document... ^O	Select All ^A	Cyclic Window ^M	Load Bookmark List... ^L	Top Of Document ^T
New Document Batch... ^N	Remove Block Markers ^M	Window Title... ^W	Save Bookmark List... ^S	Bottom Of Document ^B
Close Document ^C	Copy ^C	Identify MasterBrowse ^I	Clear Bookmark... ^C	Find... ^F
Close All Documents ^O	Paste ^P	General Options... ^G	Clear All Bookmarks ^C	Find Next ^N
Print Document... ^P	Delete ^D	Output Options... ^O	Print Block... ^P	Find Previous ^O
Save Document... ^S		Display Options... ^D	Save Block... ^S	Push/Pop Position ^P
Save Document Batch... ^S		Shortcuts... ^S	Expand Block ^E	Jump -> Search Pos... ^J
Batch Access... ^A		Save Options ^S		Jump -> Bookmark ^B
Quit... ^Q		Save Options As... ^A		Jump -> Block Start ^S
		Load Options... ^L		Jump -> Block End ^E
		Select Display Font... ^F		Jump -> Line... ^L
		Help... ^H		Jump -> Page... ^P
		Context Help... ^C		
		Window Information... ^I		

MasterBrowse offers a comprehensive set of menus...

How many times have you been reading a very long file, and needed to refer to a paragraph you've just passed? Or perhaps mistakenly pressed the <spacebar> twice? Back to the beginning...

MasterBrowse saves you this hassle by providing scrollable windows – you can move up and down a document as you like. It also allows you to do much more, with details in the *MBROWSE.DOC* on the disk, but let's look at a few features that make *MasterBrowse* the only text file viewer you'll ever need!

SEARCHING

MasterBrowse has a powerful string searching facility that uses wildcards. For instance, if you enter "com[mp]ute", *MasterBrowse* will stop searching after "commute" and "compute" – useful for spell-checking with words like "reali[sz]e". Entering "[a-m]ig", searches out "big", "dig", "fig", "gig" and "jig", but not "pig", "rig" or "wig", as the first letter of these is not within the specified range.

If you type in "micro**", *MasterBrowse* will find all words starting with "micro" – "microbe", "microchip", "microdot" and so on. If you enter "wor?", you'll get all four-letter words starting with "wor" – "word", "work", "worm" and others.

"!" is the "refusal" operator – enter "[!a-m]ig" and "pig", "rig" and "wig" are the results. Other words such as "big" and "dig" are ignored.

PRINTING

You can print the whole document or just a block, with page headings, page numbers, line numbers, a small description of the file or block, a synopsis or any combination of these. Underlining, bold, italics, internal printer fonts, double-sided printing – the works!

BLOCKS 'N' BATCHES

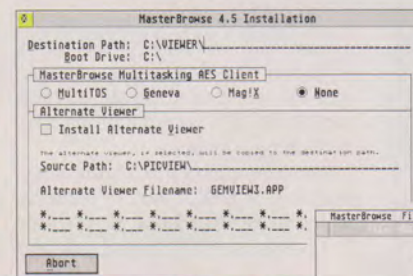
Mark blocks with the mouse; click once with the left button on the line you want marked. If you want to mark multiple lines, just click on one line, drag the mouse to where you want the block to finish and save to disk, print, or write to the clipboard. From here, you can import the text into another program.

MasterBrowse can be configured to remove all block markers after completing a block operation and the block can also be displayed in a separate window or added to an existing file.

There's also a powerful batch utility. Load all the files that you work with into *MasterBrowse*, and then select "Save Document Batch..." from the File menu.

When you want to work with those files again, select "Open Document Batch..." and they all load back for you to continue working. Neat, eh! You can keep as many batch files as you wish.

You'll find a lot more useful facilities once you start working – enjoy...



Basic installation is simply a matter of setting the two paths at the top.

Version	Release Date
Version 1.0	March 25, 1992
Version 2.0	April 28, 1992
Version 2.4	May 19, 1992
Version 2.5	June 02, 1992
Version 2.5a	June 03, 1992
Version 2.5b	June 04, 1992
Version 2.6	June 28, 1992
Version 2.6a	July 08, 1992

Searching, block management, printing... MasterBrowse offers all of these.



P-P-Pick up a Bargain from HiSoft

Owing to the phenomenal success of our newer products, we've found ourselves over-stocked with some of our earlier titles. Here is your opportunity to obtain quality HiSoft software at rock-bottom, clearance prices...

Lattice C 5.52

The premier C development system for the Atari range of computers, this pre-Falcon version has all you need for classy C programs - editor, ANSI compiler, linker, resource construction set, medium level debugger, global optimiser to hone your code for speed or for code size, extensive libraries and complete documentation.

If you've always wanted the best C package but couldn't quite justify the cost, then here's your chance...

Very limited stocks, 1Mb required.

£39.95

FirST BASIC

Endorsed by Atari UK as the official BASIC for the Atari computers, this package offers a modern, structured programming language, integrated with an easy-to-use editor and complete 350-page documentation with extensive tutorials (the *Your FirST BASIC* book) at an incredible, never-to-be-repeated price.

FirST BASIC includes libraries for easy access to the AES and GEM so that you can take full advantage of your ST.

Runs on all STs, STEs and TTs.

£7.95

Harlekin 2

Widely regarded as the most complete desk accessory for the Atari, Harlekin offers a quality collection of utilities such as text editor, calendar, alarm clock, font/key editor, RAM disk, RS232 control, printer spooler, disk tools, printer filter (to build your own driver), macro processor and, of course, the renowned Manager, a powerful time management system.

Now you can own the Harlekin 2.06 package (boxed, with manual) for a very affordable price. *1Mb recommended.*

£9.95

Devpac Ver 2

Devpac has always been the 68000 assembler system that every programmer wanted to own - an integrated system with super-fast macro assembler, easy-to-use editor, swift linker and comprehensive debugger with single-step, breakpoints and much more.

Now you can buy the complete Devpac 2 package, while stocks last, for an amazingly low price. This is our final, final clearance offer on this superb, Gold-rated product. *All STs, STEs and TTs.*

£9.95

Power BASIC

Coming from the same stable as HiSoft BASIC, the only supported BASIC for the English market, Power BASIC is a complete, compiled development system which allows you to produce good-looking, structured and, above all, very fast programs, either to memory or directly to disk as stand-alone machine code.

This is not an add-on to FirST BASIC, it is a fully-integrated and complete BASIC compiler, at the right price!

All STs, STEs and TTs.

£19.95

Order by phone (0525 718181) with your credit/debit card, or using the order form below. Add £2 P&P in the UK, £5 in Europe, £10 elsewhere. All offers good while stocks last or until 31/10/94. All packs carry special upgrade vouchers to latest version products, normal upgrade pricing not guaranteed. © HiSoft 1994.



HiSoft C

Ideal for learning the popular C language, HiSoft C is an *interpreter* that allows you to develop your skill at your own pace, with immediate response and no compilation and linking overheads.

HiSoft C is based on the definition by Kernighan & Ritchie (the founders of the language) and is fully integrated with its own editor, GEM toolbox and source debugger. The manual is extensive, easy-to-read and includes a step-by-step tutorial, guiding you through the C language. *All STs, STEs.*

£9.95

All prices include UK VAT.

Order Form

Please rush me the following software for my Atari computer

Product	Price	P&P

Signed: _____

Cheque/PO

Name: _____

Address: _____

Card No: _____

Expiry and Issue #: _____

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High Quality Software

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Fax: +44 (0) 525 713716

MORE IN STORE!

Seven utilities for your delectation...

ALHELP

FREWARE • DAVE JONES • ALL RES.

Keep track of free memory...

AlHelp is a simple utility that uses less than 1Kb of memory. Copy it to your Auto folder, reboot and press <Alternate><Help> to see the amount of free RAM in your ST displayed in the top right corner of the screen. The program has a few other useful features that are listed in the file *ALHELP.S* along with the source code.

AMC GDOS

FREWARE • ARND BEISSNER • ALL RES.

A fast GDOS replacement...

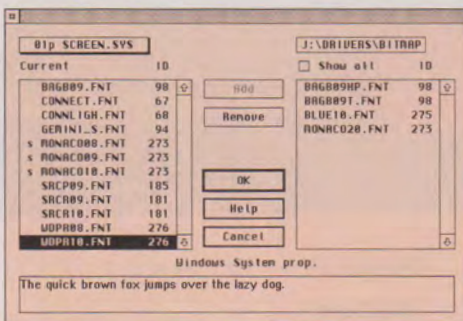
If you are using GDOS, you might like to give *AMC GDOS* a try. Simply copy it into your Auto folder and rename *GDOS.PRG* to *GDOS.PRX* to disable it. *AMC GDOS* then installs after a reboot.

ASSIGN

FREWARE • DIRK ZABIWALSKI • HIGH/MED. RES.

Configure your GDOS set-up...

When running *Assign*, you'll be prompted for the location of your GDOS *ASSIGN.SYS* configuration file. Select it via the file selector and click on "OK" to continue. The program then lists the fonts assigned to each GDOS device driver – see the GDOS article on page 37 for full details of font installations. You may rename the program to *ASSIGN.ACC* to install as a desk accessory.



Assign makes GDOS configuration editing easy! The program runs as a desk accessory or stand-alone program and can even display the fonts currently installed.

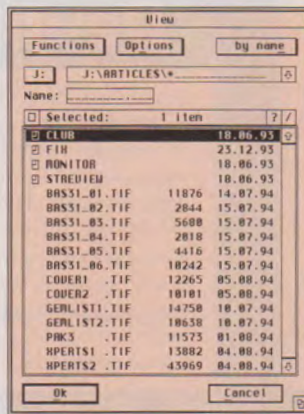
BOXKITE

SHAREWARE • HARALD BECKER • ALL RES.

Replace your File Selector...

BoxKite is a replacement file selector from Germany, similar in many ways to *Selectric*. Its main advantage is the ability to be resized so displaying more files on-screen. To install, copy *BOXKITE.PRG* into your Auto folder and reboot. The next time a program accesses the file selector, *BoxKite* will be displayed.

The program offers many features such as folder creation, copying, moving or deleting files, file search, preset paths, masks and more. Read *BOXKITE.DOC* for more details.



BoxKite is an excellent replacement file selector with a few features not even Selectric offers!

various options. Select "Open" and load in the *README30.DEM* file which describes the program's features. Although the demo version does not allow you to save, it's still useful as a file viewer.

ONE JACK

POSTCARDWARE • STECTRE SOFTWARE • HIGH/MED. RES.

Unique program launcher...

One Jack is most useful for hard disk owners. Instead of having to look for programs all the time, install them into the *One Jack* menu, click on the program name and run the appropriate *JRUN* program.

To install, copy all files in the *ONE_JACK* folder to the root directory of your boot partition and reboot. Now define the first program by selecting the *One Jack* accessory from the Desk menu and clicking on a slot. The file selector appears: select the program and exit. When you want to run the program, open the *One Jack* accessory, select it and run *1_JRUN.PRG* from the desktop. The *readme* file explains this in more detail.

USING STRBAKUP.TOS

Always back up your cover disk and keep the original in a safe place. Run *STRBAKUP.TOS* and follow the on-screen instructions; the program even formats the disk for you. *STRBAKUP.TOS* is not recommended for any other use.

DJSCRFIX

PD • REUBEN THOMAS • ALL RES.
Fix some TOS 1.04 bugs...

TOS 1.04 has two annoying bugs: some windows over-scroll when you click on the scroll arrows and the DeskJet does not respond if it is switched on after the ST. The solution is to install this tiny desk accessory – the double-scroll bug is fixed automatically and select the desk accessory to reset the printer port.

EDHAK 3

DEMO • DOUGLAS COMMUNICATIONS • ALL RES.

View files at any time...

EdHak is a text editor that can also be used to edit the system memory and runs as both a stand-alone program or a desk accessory by renaming the file. Double-click on *EDHAK3DM.PRG* to try the demo out – move the mouse over the menu title to reveal the

GENERAL DISK PROBLEMS

In the unlikely event that your cover disk won't load or gives you any other problems, disconnect any peripherals, switch your computer off for at least 20 seconds and try again. If this doesn't solve the problem, return your disk, with a stamped addressed envelope, to:

P.C Wise Ltd,
Dowlais Top Business Park,
Dowlais, Merthyr Tydfil,
Mid Glamorgan CF48 2YY.

PC Wise will test your disk and send a replacement as quickly as possible. You can contact the PC Wise Helpline with any urgent problems concerning faulty disks on 0685 350505 between 10.30 am and 12.30pm, weekdays.

Should you require technical help, call the *ST Review Helpline* on Friday afternoon between 2pm and 5pm on 0625 859766.

Movies games Videos



THE OFFICIAL MONTHLY
MAGAZINE OF THE TOP TV SHOW



COMING SOON
TO A NEWSAGENT NEAR YOU!

What's hot in the heatwave!

TOP MARK



Again I'm sitting here in hot sunshine and a temperature of over 93 degrees Fahrenheit - I'm starting to get used to this! Our shop is closed for two weeks and I am enjoying the free time. But even during holidays, I cannot resist using my computer to log on to my favourite BBS and try out some new software.

Two weeks ago, I went to a meeting between Atari dealers and the bigger German software developers. Most of the active dealers where there: Adequate Systems, Compo, Digital Arts, no! Software, OverScan and Steinberg. Adequate Systems was represented by Klaus Garms, who is one of the *Calamus SL* programmers. As nobody knows *Calamus* better than Klaus, he started making new modules and drivers for SL. The demonstration was impressive and showed the merge and paint modules that are currently being developed.

The demonstrations used a touch tablet with a pressure sensitive surface. This means that you can draw in the manner

of a pen, brush, felt pen, charcoal - any manner that you would normally use on paper. Drawing tools can be configured to behave just like real drawing instruments.

The merge module gives the option of converting any vector or text object into a bitmap and then manipulating through masking, blending and the like to allow it to be merged into other graphic objects. The paint module extends the painting functions of *Calamus* and, as usual, manipulations are carried out in final output resolution. This allows you to control every pixel (if necessary) on the final output screen.

Compo Software (Theo Breuers) announced *Componium*, a compositional program using musical notes. This will work on the Falcon and STe/TT as well, using the DMA sound system to play back sampled sounds.

Theo Breuers also introduced a new font CD with 500 PostScript Type 1 and TrueType fonts for use with *SpeedoGDOS 5*. These will be useable in the next release of *That's Write*. Also, two new *Speedo* font packs were introduced: *Office* and *Gold*, each with 100

fonts. Digital Arts (Günther Kreidl) explained the various products being created for the high-end, professional user. *DA's Movie* and *DA's Vector* build a powerful video and animation tool. The Falcon ScreenEye video interface can be accessed directly and, in combination with external rendering software, professional computer movies can be generated.

no! Software (Jörg Zabell) introduced the practical and technical side of *SpeedoGDOS 5* and the future development. He also reported on the progress of *LDW-PowerCalc 3* and *Arabesque 2*. The advantages of *Interface 2.3* over other resource construction sets were mentioned, as well as an overview of the capabilities of Compo's *T-Phone* and the full voicemail system.

Patrick Jerchel from OverScan showed the preliminary Afterburner (the 68040 board for the Falcon) and released some interesting technical details. Afterburner can work with any Falcon (even one with an accelerated processor clock) and has two extension slots for add-ons like

ScreenEye or Falcon Speed, the PC emulator. It can also handle RAM of any speed, so slower (but much cheaper) memory can be used. The new version of Overlay supports multiple file chaining which means that shows of unlimited length can be created. Existing shows can be used as modules.

Steinberg (represented by a sales and support manager) gave an impressive demonstration of *Cubase Audio* featuring 16-channel hard disk recording (eight channels with DSP effects). A new release of *Avalon* is planned for early next year. When asked for its preferential platform (Atari, Mac or PC), the answer was that all three are treated the same...

Until next month...

Manfred Bäcker is 27 years old and works in a computer shop in Cologne. He's been programming Atari computers since 1985 and is active on various bulletin boards in Germany.



WRIGHT ISSUES

I was quietly beavering away the other day when the telephone rang. Nothing unusual in that - the damned thing rings all day long. More often than not it's a bit more work so I shouldn't really complain but a train of thought is a train of thought after all. Now where was I? Oh yes, the telephone.

To cut the long story short - and keep the size of my column to less than four pages - it was a friend I'd made at a recent Atari show. He'd just bought a brand new removable drive and was having trouble getting it to work with his ST. I asked him where he'd got it and he explained it was a mail order firm I'd never heard of. Couldn't they help? No, they didn't know anything about STs.

Great, I thought. I've no idea why he can't get his drive to

work, at least not while he's 200 miles away. Perhaps when BT's videophones are a household item, remote technical support will be the in thing. You can imagine it can't you: "Er, just hold the back of the hard drive up to the 'phone will you? Yes, switch it off first. A bit to the left. Ah, yes, I see the problem - it's that little switch on the right. Yes, that one. NO! Not that one. OK, just pop it in its box and send it back..."

Anyway, this friend had done what far too many Atari owners are tempted to do these days. He'd saved a few pounds by shopping around - and spent a lot more trying to sort it out.

Ask yourself why Atari-based companies like System Solutions charge slightly more for their products. It's because they have specialist knowledge and can make sure the kit you buy works

Keep it in the family...

with your Atari. If you try and shave a few quid by going to a bulk supplier, with the best will in the world, they're unlikely to be able to help you much. They make their money selling to PC and Mac owners ten at a time and rarely deal with Ataris. If the product is faulty, then fine. But if a drive refuses to work with your Atari because the parity is wrong or the connectors don't fit, you won't know and they won't know. And you'll spend a lot of money trying to get to the bottom of it.

OK, so we all buy our printers and toner cartridges from the cheapest supplier. No problem there.

But when it comes to specialist equipment like hard drives, CD-ROMs and monitors, it's certainly pays to keep it in the family.

Andrew Wright is a full-time journalist and reviewer and has been contributing to *ST Review* since day one. As you may have guessed, technical support is not exactly his forte...

*It's here!
Andrew Wright
finally gets his
hands on the
release version of
That's Write 3...*

THAT'S ABOUT WRITE



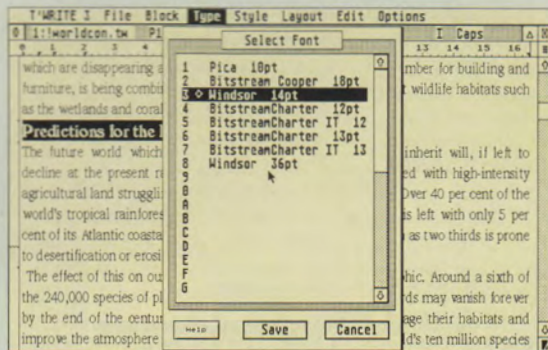
Few can deny that *That's Write* deserves pride of place in the annals of high-end ST word processing. With its wealth of features and clever use of graphic fonts for both screen and printer, it can hold its head up with the best of them while winning hands down on quality of output and power.

Competitors like *Protext* and *Redacteur* are a lot faster but they lack even a basic attempt at WYSIWYG, making them more useful to professional word crunchers than those who need to produce quick, good-looking documents. For all its style, though, *That's Write* is still much quicker than established graphics-based word processors like *Calligrapher*, which is why it has such wide appeal, from journalists and business users on the one hand to students and home users on the other.

Its newest – and perhaps most dangerous – competitor is probably HiSoft's *Papyrus*, with its ultra-modern interface and outline font support. The latter, which gives a word processor the same WYSIWYG capabilities as a high-end DTP package, represents a big step forward for Atari users.

That's Write 3, having finally made it onto the market, now uses those same Speedo format outlines – without the overheads of *SpeedoGDOS* – to produce text of a quality that has to be seen to be believed.

What's more, the arrival of *That's Write 3* on the scene is likely to have



Select a font, any font...

much more of an impact, given a sizeable user base itching to upgrade.

GETTING STARTED

Existing *That's Write* users can now upgrade for £65 from *That's Write 1.5* and £35 from *That's Write 2* while

new users wanting to switch from low-end, text-based word processors can get the full package for £129. This includes an updated manual and no less than five disks with a selection of thirteen Speedo fonts, including Times, Helvetic, Courier and Formal Script. Unfortunately existing *SpeedoGDOS* users won't find any

KEY FACTS

Product:

That's Write 3.1i

Company:

Compo Software UK

Contact:

0487 3582

Price:

£129 (£65 from *That's Write 1.5*,
£35 from *That's Write 2*)

SYSTEM

Minimum Memory:

1Mb

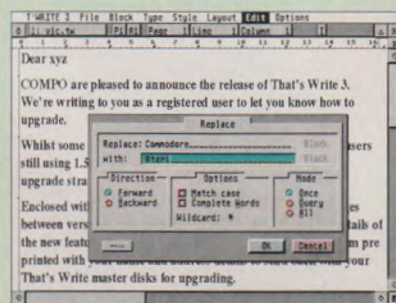
Resolution:

ST Medium/High

Computer:

Any

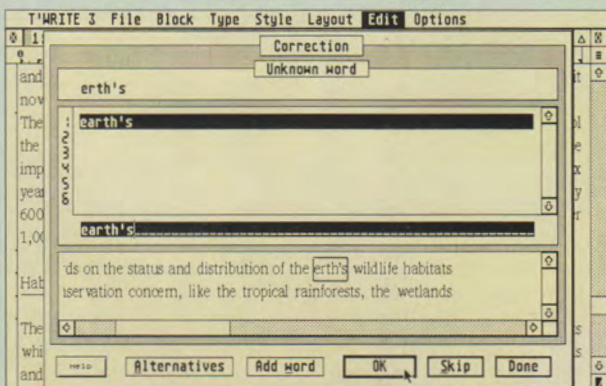
THE NEW NO! LOOK



The new no! Look interface.

The most obvious difference to *That's Write 3* is the interface. Compo have gone for consistency across all their applications, by opting for the no! Look system that adds a three-dimensional feel to all of the program's dialogue boxes and buttons. It has another advantage in that other Compo software like *That's Address* and *MUSICOM* will be able to share the same code, thereby using less memory. On a Falcon or an ST under *MultiTOS*, the no! Look interface is superb but on a standard ST there is very little to commend it.

There are other changes, such as a new triangular gadget for toggling the scroll bars on and off (replacing version 2's plus sign) and another for toggling the ruler on or off. A good deal more pop-up menus have been added too, including one accessed from the window close button and another by right clicking the mouse in a document window. This document pop-up provides access to a stand-alone scrolling "Go To" and "Document/Window" menu.



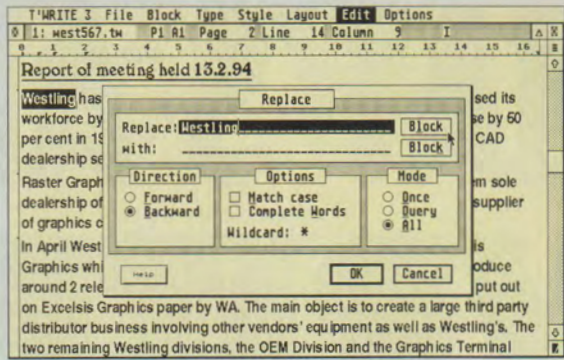
The spell checker is greatly improved and now displays a word's context.

new ones to add to their collection.

The *That's Write 3* set duplicates those bundled with *SpeedoGDOS* though you can add other Speedo fonts. Times and Helvetic are identical to Dutch and Swiss. The installation program has been updated and isn't quite as confusing.

The bug that displayed a dictionary error message on a 4Mb machines has also been eradicated for good.

Existing users can install the new program to a separate folder and then copy across their custom layouts, macros, user dictionaries, configurations and fonts manually. If you have a floppy-based system, you will end up with four work disks containing fewer fonts, though you can cut that down to three by doing away with the demo files. You can always add fonts later or use extended formatting to increase the disk



You can highlight a word and use it directly in the search and replace dialogue box.

capacity once the installation program has finished. In any case, only two disks are used frequently with the automatically installed dictionary being included on the third.

A separate option exists for high density drive owners but it doesn't work and should be fixed in the next interim release.

TYPE HANDLING

The heart of the matter, of course, is the Speedo font handling and this remains the biggest single improvement to *That's Write*. The code that actually rasterises the fonts is contained within *That's Write* so *SpeedoGDOS* itself isn't required. This is good news because it means you can output documents using Speedo fonts on a 1Mb system whereas *SpeedoGDOS* requires at least a 2Mb machine. Of course, it is possible to run into memory problems if the document is a big one.

Internal printer fonts and GEM fonts are still supported for compatibility with existing documents but support for the CFont program is gradually going to disappear, especially as *That's Write 4* will load TrueType and PostScript fonts too.

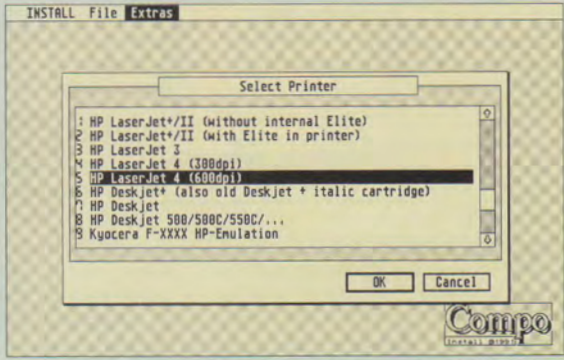
You can create fonts from Speedo outlines at any size from 1 to 144

NEW FUNCTIONS

Any section of text can now be marked intuitively with the mouse, character by character rather than line by line. This is a big step forward but the obvious thing has been missed - clicking somewhere outside the block should unmark it and it doesn't. You still need to press two buttons or select the menu option to do that.

Image handling is better and pictures need no longer be on their own line. You can place them side by side with text and they load much more quickly due to the caching system. There is even an image editing mode that allows you to cut, copy and paste parts of images either as ordinary lines or as overlays that can be freely positioned anywhere. Text flow around an image isn't directly supported though.

The spelling checker now shows

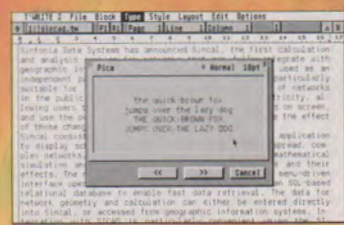


If *That's Write 3* doesn't have a driver for it, your printer hasn't been built!

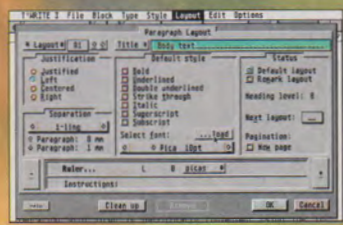
STEP BY STEP GUIDE

FONT FITTING

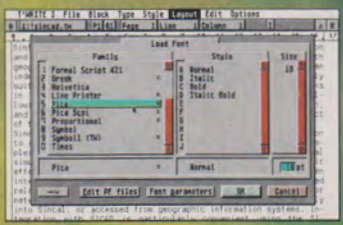
One of the hardest things in *That's Write 3* is getting your existing, non Compo-supplied fonts installed. Follow our step-by-step guide and you won't go wrong...



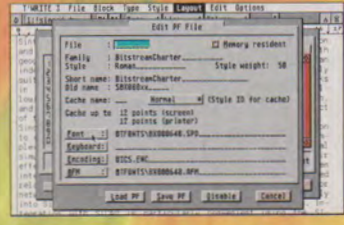
1 Having imported this file, all of the text has ended up in ten-point Pica. As the whole document is in the default paragraph style, we can change the font via the paragraph layout dialogue box.



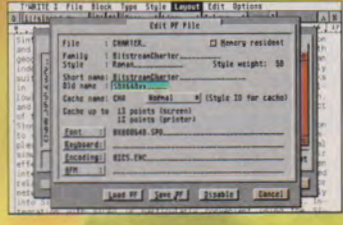
2 Start by altering the style to left justified, add a 1mm space between paragraphs and add a name for our new style. Then click on "...LOAD" to change the font.



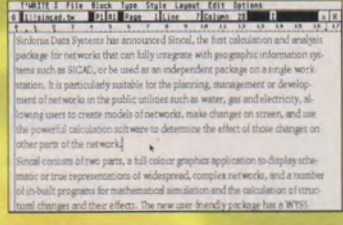
3 When the Load Font dialogue box appears, we can choose from those already installed by the program or add new ones. To do this, click on "Edit PF Files".



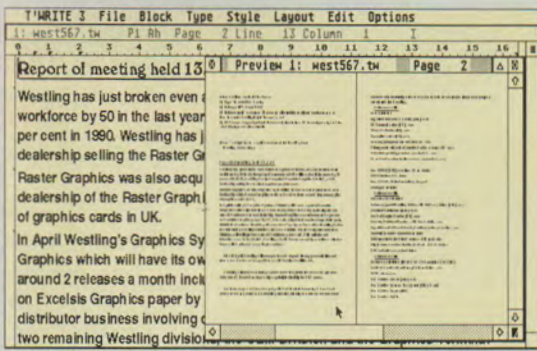
4 Compo-supplied Bitstream fonts come with PF files but if you want to install your own SpeedoGDOS fonts, click on the Font button and load the actual .SPD file.



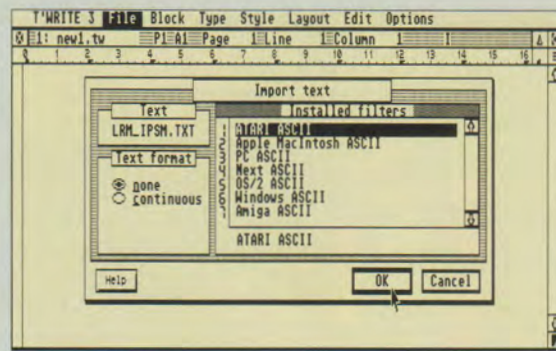
5 Change the file name and alter the path (BTFONTS has to be removed). Ensure that the "Old Name" line is altered - if all fonts have the same entry, only one of them will install.



6 Click on "Save PF", point to the main *That's Write* folder (not the BTFONTS one) and then click on "Cancel". Your text will reformat itself in your chosen Speedo font.



The print preview is much improved.



Importing an ASCII file in ST medium resolution.

the queried word in context and a list of possible alternatives though there is no thesaurus. The dictionary is very effective and passed every difficult test I could think of, finding the correct word on every occasion. It will also check for capitalisation errors and can present you with a list of all the queried words in a document. Hyphenation has been improved and word breaks are now checked with those in the dictionary. Automatic correction is a powerful addition to *That's Write*. For example, it can correct "hiy" to "hit", realising that "y" is next to "t" on the keyboard, but "hiu" will not be immediately

corrected except when the document is spell checked. With accent checking, the program will even convert words like cafe to café though you will have to add it to your user dictionary initially. Minor, but useful, improvements have been made to the paragraph style dialogue box. You can now specify which style should follow another so that, for example, body text always follows a subheading. You can also force page breaks before particular styles (such as section headings). Mail merge is also a lot more intuitive and uses the XACC protocol to exchange data with other programs that use it,

including its sister program, *That's Address*.

One area where *That's Write 2* was lacking was in the use of templates. These are skeleton outlines, now supported by version 3, that can save time when creating often-used documents such as letters, faxes and so on. For example, a letter template might have your name and address in the top right corner, the date at the top and even a few standard paragraphs or a footer at the bottom.

File management has improved in other ways too, with a text information dialogue box available for each document, including comment space for authors and editors, and faster image handling by storing and caching a scaled screen-size image as well as the full resolution one.

ASCII text import and export has been dramatically improved and you can now swap text files more easily between different computers. In the past, importing an ASCII file from a PC running *Windows* would have replaced a "£" sign with the "ú" character, for example, due to the differences in the so-called standard ASCII character sets. This is automatically corrected and the filter now supports transfer to or from Apple Macintosh, DOS, NeXT, OS/2, Windows and Amiga computers as well as standard Atari format.

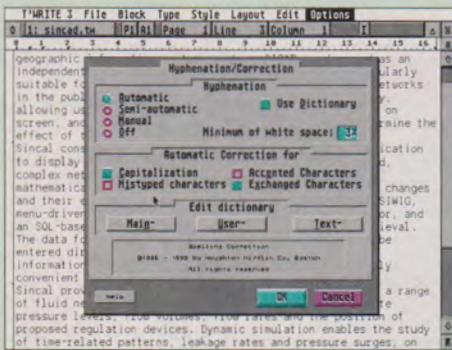
VERDICT

That's Write 3 is a big step up from version 2 but I can't help wondering just where it is going. There are some powerful, high end features such as tables of contents and indices, keyboard macros, embedded commands, outlining, multiple document handling and an excellent mail merge facility. There are also a few strange omissions that must puzzle many users. For example, you can't easily select all the text in a document in one fell swoop with a view to changing the font or whatever. You either have to use the mouse or block start and end commands or alter the default paragraph style.

That's Write has grown so much that many simple commands that are used every day have been buried in the interface. It badly needs a button bar for commonly-accessed features such as paragraph styles and text attributes – including alignment, style and point size. That would turn it into a much less daunting prospect for those who need to dip in quickly and write a short letter or two.

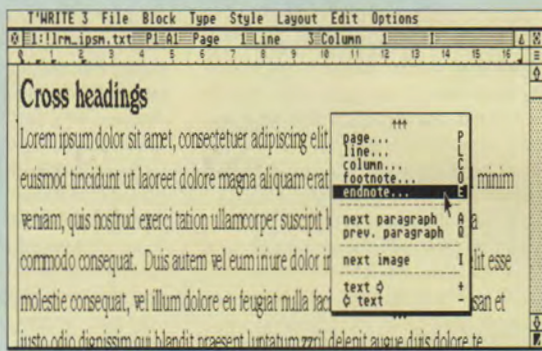
While it would be fair to say that the Speedo support gives it added printing flexibility, it doesn't make it any better at page layout. There are no graphic tools such as lines, boxes and fills. You can't even turn a single line of text into centred or right justified format without creating a new paragraph style. Neither can you reverse out headlines with white text on a black background.

That's Write is clearly aimed at a different market from the likes of *Papyrus*. It doesn't have any DTP pretensions but it maintains an excellent WYSIWYG approach, a surprising turn of speed and a complete set of printer drivers matched only by those supplied with *Protext*. Speed is a big issue, of course, and *That's Write* remains an excellent tool for business users, professional writers and serious home users who need features without frills.



Hyphenation and auto correction is excellent!

The scrolling "Go To" menu.



Very basic editing of images is possible.

SUMMARY

GOOD POINTS:

- Good font handling
- Improved paragraph styling
- Intuitive block marking

BAD POINTS:

- Some obvious features still missing
- Everyday commands hard to access

FINAL WORD:

"That's Write 3 is a winner in terms of printing and power but it's short on text style and layout flexibility."

PERFORMANCE

- EASE OF USE
- DOCUMENTATION
- EFFECTIVENESS
- VALUE FOR MONEY

OVERALL

78%

Xenomorf 2 turns your ST into a powerful animation studio. David Nilson dusts off his 3-D specs and enters the exciting world of object rendering...

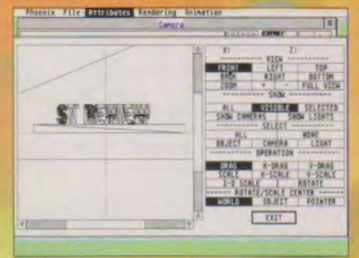
At one time, computer animation was a very artistic business. Unless you were prepared to spend many hours perfecting each frame, the results could easily look like "Rhubarb" on a bad day. Object rendering changes all of that. No longer do you have to worry about painstakingly drawing each frame by hand - just build a virtual 3-D world inside your machine and let the computer add all of the realistic shading, textures, shadows and colours. Sure it still takes time, but the ST takes the strain.

Xenomorf 2 is the sequel to the ST's best loved object renderer. New features have been added, the animation support improved and the interface treated to a total overhaul. Are we looking at the ultimate ST animation package or just another flash in the pan? Let's take a look...



STEP BY STEP

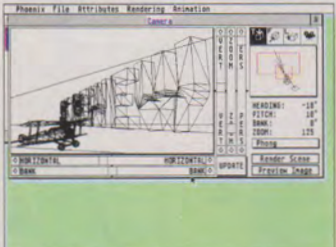
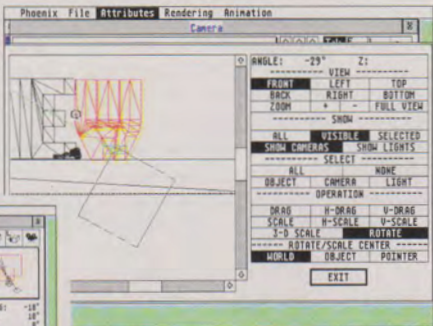
PLANE TO SEE
It's all very well looking at Xenomorf in theory, but just how easy is it to put together a scene in practice? Let's take a look...



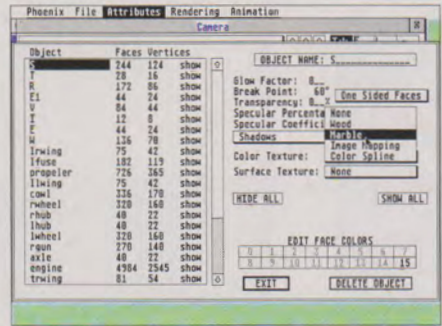
First merge the objects you are going to use into the scene. Open the positioning dialogue box and drag them into place one by one. Finally add some textures through the object dialogue box.

TRICK OF THE

All objects can be scaled, rotated or moved with the mouse - it beats dealing with coordinates!



A wireframe view of the current scene is displayed in the main window at all times. GEM slider bars are used for any alterations.



Each object can be assigned a texture and a bump-map - both can be animated over a number of frames!



SHADES OF CYBERSTUDIO

The first thing to understand about Xenomorf 2 is that it's not a complete animation solution in its own right. It forms part of a suite of programs built around CyberStudio. Objects must be designed externally, and then Xenomorf brings them together into a scene, adding lights, cameras and textures.

The installation procedure is as painless as they come - just copy the whole lot across onto your hard disk and fire the kiddie up. The only problem you are faced with is a truly evil copy protection system. Every single time the program is run, "word x" from "page x" of the manual must be entered.

Although you can see the reasoning behind including such a system to deter casual pirates, it rapidly becomes annoying and is almost unforgivable given that the thing is designed to work in conjunction with other programs.

Cast this problem aside though and Xenomorf really begins to shine. You are looking at one program that

can impress at a hundred paces! The interface is GEM based and a large Scene Editor window sits in the middle of the screen. From here you can adjust your viewpoint on the virtual world, zooming in, on and around the objects therein.

Physically constructing a scene is handled through a separate dialogue box. Objects are loaded individually and can be moved easily under mouse control. In this regard at least, Xeno is leaps and bounds ahead of packages like InShape that rely solely on coordinates. Patterns and images can also be applied to individual objects along with some stunning textures. When it comes to rendering

itself, there are four quality settings available, ranging from simple polygon to full-blown phong with shadows and on this latter setting you are looking at some seriously high-quality images. That is, if Xeno behaves itself. You see, in its current state, the package does seem to have a nasty habit of losing objects in a complex scene. Lexicor has been made aware of this problem and supplied with the relevant files for analysis.

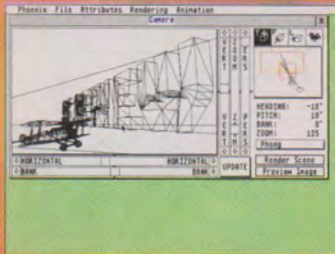
Obviously, files in CyberStudio's .3D2 format can be imported, and Xeno also supports .RD1 files, which can store all manner of information on the position of lights, textures and so on.

KEY FACTS

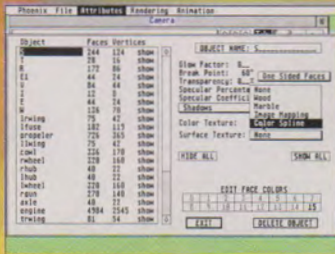
- Product:** Xenomorf 2 (aka Phoenix 2)
- Company:** 16/32 Systems
- Contact:** 0634 710788
- Price:** £99
- SYSTEM**
- Minimum Memory:** 1Mb (2Mb or more recommended)
- Resolution:** ST Medium or greater
- Computer:** Any ST/TT/Falcon

CYBERSPACE FOR SALE

Xenomorf relies heavily on other programs to provide the objects it renders and also to enhance its animation abilities. While Xenomorf 1 was supplied complete with CyberStudio, version 2 isn't. However, the whole range of Cyber programs are available from 16/32 at very keen prices. For example, CyberStudio itself (the only essential extra purchase) will set you back just £9.



2 Now go back to the main editing screen and find yourself a good camera angle by adjusting the sliders. Don't forget, you need to click on the window itself to update the display.



3 Move to the lighting dialogue box and add a couple of spot-lamps, making careful use of the "Object Centre" button to focus them on the plane and the logo.



4 Render the whole scene to disk as a true-colour image and this is what you get. As you can see, the current version completely ignores the marble floor and parts of the plane - c'est la vie!

LIGHT!

SPEED FREAK

Xenomorf is designed to make the most of every machine in the ST range. It can render in any resolution from ST low right through to Falcon true-colour. As the pictures are saved directly to disk, you can even render in full colour on a standard machine and a lower quality preview is provided to give you an idea of what's going on. Pictures are all saved in standard .GIF and Targa formats, which *GEMView* handles with ease.

Of course, the biggest problem that most computer animation packages face is speed, and *Xenomorf* fares reasonably well in this regard. Obviously, you can't expect workstation responses out of a standard ST, but by using the full range of render modes and only committing yourself to an animation when absolutely certain that it's

Adjustable colour splines allow a much greater range of textures than previously possible.



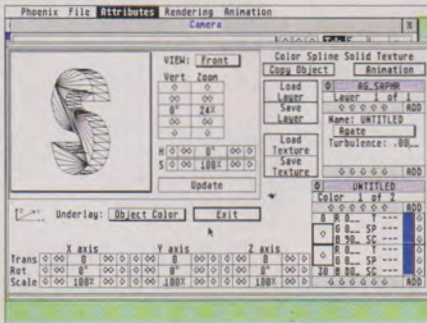
Images and even animations can be mapped onto three dimensional objects!

SUMMARY

GOOD POINTS:
 Wonderfully easy to use
 Good animation facilities
 Full support for Falcon

BAD POINTS:
 Awkward copy protection scheme
 Bugs in rendering routines
 Painfully slow on a standard ST

FINAL WORD:
 "A hugely powerful animation tool that improves exponentially with the speed of your machine, but virtually unuseable in its current state."



MAKIN' MOVIES

Xenomorf 2 saves all of its animations as individual frames, which leaves quite a lot to be desired in terms of storage requirements. Fortunately though, a myriad of support utilities are provided and by using these, it's possible to convert your creations into a more economical format.

The secret to reducing the size of animations is to use a format that supports "delta compression". Essentially, this means that only the changes between each frame are stored and it's possible to store simple sequences in an extremely small file. For ST owners the best choice is *Spectrum* .SPS format, which at least retains a good degree of the colour in the original pictures. Falcon owners are better off choosing .FLC, which is a standard inherited from the PC and so compatible with the leading animation packages on a wide variety of machines. Naturally, players for both of these formats are also included.

going to work, the development cycle can be quite fast. On a Falcon with maths co-processor, a relatively uncomplicated *phong* frame can be turned out in less than thirty minutes. The most exciting part of *Xenomorf 2* is its animation abilities. The simplest form of animation is *tweening*. In simple terms this means setting up a start and end frame and leaving *Xenomorf* to add the intermediate stages. As you can imagine, this takes both time and disk space, but the end product can be truly stunning!

Textures and image mapping also take on a new meaning with the addition of a little animation. For a start, traditional two-dimensional animations can be mapped onto three-dimensional objects in place of a normal picture; and when you give a "ripple" bump-map to an object, it really does ripple! By adding further members of the Lexicor family,

Xeno's animation armoury becomes even more impressive. *Chronos* adds the ability to morph objects and *Cyber Control* is also fully supported for complex animations.

VERDICT

The manual supplied to guide you through all of these refinements is an addendum to the original. Obviously this is ideal for hard-core *Xenomorf* fans, but it could be just a little bit confusing for newcomers. On the other hand, both are comprehensive and the tutorial sections are excellent.

Overall, *Xenomorf 2* has the potential of being an incredibly exciting piece of software. In fact, if it was able to cope with complex scenes as well as it obviously handles the simple stuff, this review would probably be adorned with an Essential Buy logo...

PERFORMANCE	OVERALL
EASE OF USE	65%
DOCUMENTATION	
EFFECTIVENESS	
VALUE FOR MONEY	

HUGE

selection from the finest range of software and hardware for TOS computers

- Atari STFM £Call
Configured to your needs
- Atari MegaSTe and TT £Call
Occasionally available
- BJ10e £4.99
Driver for Write ON
- Blitter Chip £Call
For most STFMs and Mega ST
- C-Font £9.99
Calamus font convertor for WO and TW
- COMPO CD ROM £Call
Demos of Commercial German software
- COMPO CD-ROM ROM £Call
Coming soon to connect a Mitsumi CD-ROM to any ST
- Componium £Call
New music software
- Dictionary Disks £34.99
German, French, Spanish... for That's Write
- Digital Box £Call
Digital interface for MUSICOM and TrakCom
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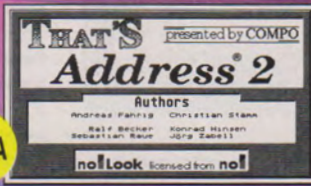


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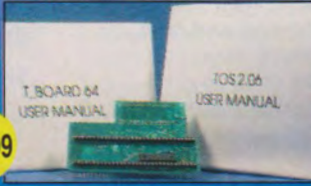
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


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KEY FACTS

Product:
Protex 6.5

Company:
Arnor
Contact:
0733 68909

Price:
£99 (upgrades available)

SYSTEM

Minimum Memory:
1Mb

Resolution:
ST Medium or greater

Computer:
ST/TT/Falcon (hard disk recommended)

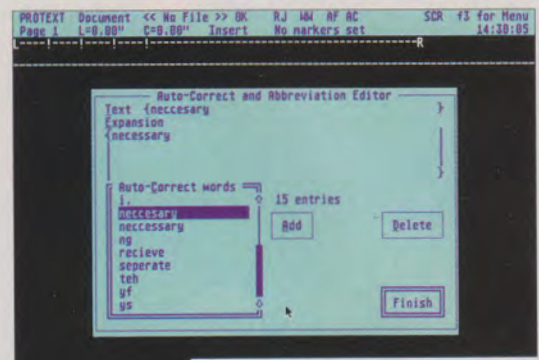
Protex is arguably the most popular word processor for the ST. Released at a time when packages like *1st Word Plus* and *Word Writer* were the only alternatives, Protex was an instant hit and has managed to maintain its competitive edge thanks to regular updates.

As any hardened fan will tell you, Protex is all about power and speed. The on-screen display may lack a little refinement, but at the end of the day it will happily crunch its way through many thousands of words without so much as a whimper in favour of a hardware accelerator.

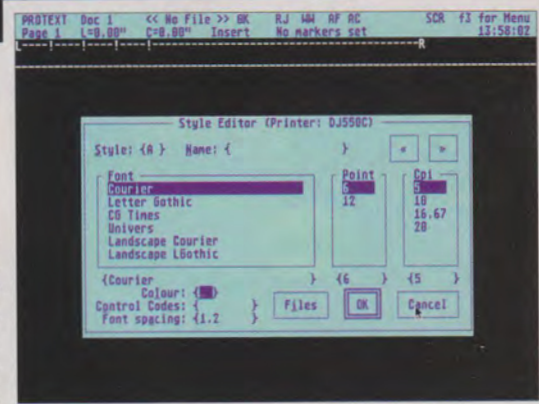
Having almost perfected Protex in terms of power, Arnor set about making it more flexible and the result was Protex 6. Version 6.5 continues this quest and even manages to pep-up the already impressive range of word processing features.

DIFFERENT STROKES

The first comforting sight that meets your eyes is the traditional Protex installation procedure. Firing up the program and typing "x install" is



Paragraph styles are now capable of storing colour information, printer permitting.



Common typing and spelling mistakes are easily remedied with the help of auto-correct.

WORD UP!



As the document processing war reaches fever pitch, word processor powerhouse Protex strikes back with version 6.5. Nial Grimes dives for cover...



Over and above the major advances offered by Protex 6.5, Arnor has also taken the opportunity to add several more subtle changes. For a start, the PostScript printer driver can now support graphical output (along with Epson compatibles and the HP series).

Secondly, paragraph styles have been given the gift of colour, printer permitting. Among the more obscure changes are the ability to call one macro from within another and it's now possible to include numbers and punctuation characters in glossary names. Also, settings are saved with all documents and defaults are pulled from a file called PROTEXT.SET. This allows a much finer degree of control over the layout of the document that is opened automatically when Protex is run.

enough to get you going and it's nice to see that Arnor has also taken the time to improve the default colour scheme on the Falcon (it now shares the same red on black set-up used by the ST). Configuration can still be a little bit tricky, but it's all plain sailing once you've managed to organise the file paths.

Although the most significant improvements in this version are of a graphical nature, some of the more fundamental word processing features have also been tweaked for

performance. An ideal example is the new spell-checking dialogue box, which now automatically displays suggestions whenever a suspect word is encountered. Equally funky is the ability to change all occurrences of an incorrect word in one sweep. Overall, this small change makes checking documents a much more fluid operation and once experienced, you won't be able to live without it!

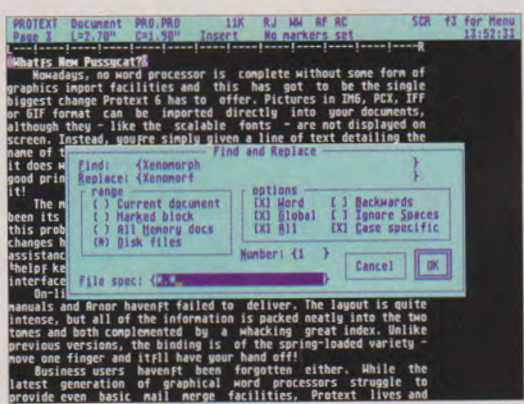
Also on a similar theme, an "auto-correct" mode has been bolted on.

This feature stores a mini-dictionary of correctly spelt words along with common mistakes and attempts to remedy problems as you type. We all have an Achilles' Heel or two when it comes to spelling, so it's nice to be able to weed out the *seperates* and *necessaries* of this world automatically. Auto-correct can also be instructed to deal with capitalisation, making sure that each sentence or proper noun starts with the required capital letter. The spell-checker integrates seamlessly with auto-correct, allowing words to be added to the dictionary with a single mouse click.

Auto-correct also comes in handy as an abbreviation manager. Arnor suggests using it in this way and by linking commonly-used phrases to one or two letters, you can save yourself a considerable amount of typing. In terms of speed, auto-correct coped admirably with the twenty or so words we entered and, given Protex's reputation, there's no reason to assume that it will slow down significantly when the pressure is piled on.

Even the simple search and replace dialogue box has not been allowed

Correcting typing mistakes across multiple files is a piece of cake with the help of the new, super-duper search and replace dialogue box.



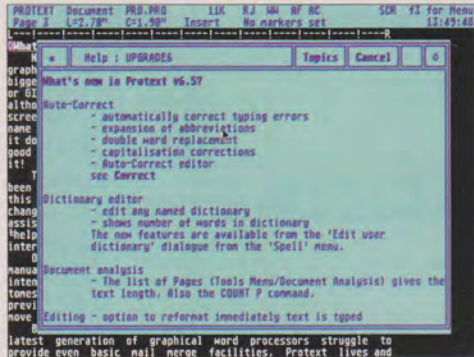
COVER ME!

Arnor has always been well-respected for its technical support, but from this release of *Protext* onwards it's no longer a free service. On purchasing the program, you are entitled to two months complementary support, after which you can opt to extend the facility for twelve months.

The cost of extended support is £35.25 a year and this entitles you to free *Protext* maintenance updates and any new printer drivers that have been developed.



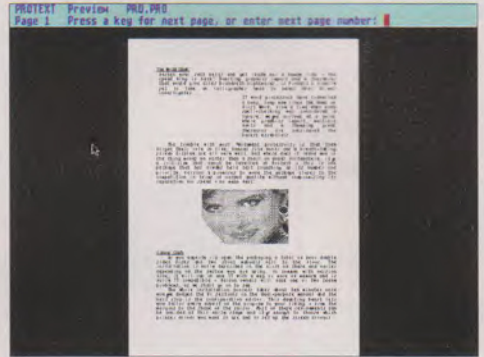
The medium resolution print preview is less than perfect, but at least it gives you a general idea of the page layout.



Protext's on-line help system has been beefed up to cover all of the new improvements in detail.



Macros can be nested (one deep) which is useful for combining a number of operations.



Given a good screen resolution, the print preview is superb – it even manages to deal with pictures!

to shelter from improvements. These days, all occurrences of a word can be wheedled out across multiple files – either in memory or on disk – and replaced with a suitable alternative. Ideal for those occasions when you spell a product name incorrectly throughout a whole review (not that we'd mention any names... Ed).

BIG BANG!

Ooh, but forget new spell-checkers for a minute – *Protext* now sports a graphical page preview! Yep, for the first time, you can now see your document in all its glory, without resorting to a test-print, including fonts, graphics and any flash formatting you may have used. It's quite nippy too, as long as the number of pictures are limited, and any page from a document can be displayed with a prod of the appropriate key. Although it's not possible to zoom in on a document, the display is clear in high resolution and it does give you a good idea of the overall formatting. Medium resolution is a little less convincing, but that's not entirely the fault of the software. Despite the graphical preview though, font handling still relies solely on hardware fonts, so a good printer is essential in order to produce stylish documents.

Bolstering *Protext's* graphical prowess even further is the ability to view images before they are imported into a document. If the picture contains more colours than the current resolution supports, dithering is used and the result displayed in black and white. Output remains in mono however and Falcon screen modes are not supported when it comes to

SUMMARY

GOOD POINTS:
 Hugely powerful
 Spell as you type
 Remarkably fast

BAD POINTS:
 Relies on printer fonts
 Unexciting display

FINAL WORD:
"If you are looking for a heavyweight word-processor that remains responsive on a standard ST and don't mind a slight lack of graphical refinement, Protext is the only choice."

colour picture display. The import dialogue box has also been treated to a "printer resolution" button which automatically scales a picture to suit your printer – very handy.

VERDICT

When you first catch sight of *Protext 6.5* it can seem like a minor upgrade, but begin to explore and you realise just how much effort Arnor has put into the features that have been added. The new spell checker alone saves a huge amount of time and auto-correct – once trained – can also play a part in speeding up your work cycle. Naturally, the on-line help system has been tweaked to take on all of the enhancements and all operations have a command-line equivalent, just in case you don't want to cruise the menus.

Protext 6.5 builds on its predecessor's impeccable reputation and remains the only serious choice for

journalists and writers. Until software fonts are added, you can't really recommend it as a document processor, but considering what you get for the price – the thesaurus, the gargantuan spell checker, the glossary, auto-correct and all of the other

The spell-checker is much more efficient than ever before, offering suggestions the instant a problem crops up.

Scaling pictures to printer resolution is a one-click operation, so you won't need that calculator from now on!

trimmings – you'd do well to question just how much you need scalable fonts and layout facilities. In summation, you'd be very hard pushed to find a package as powerful as *Protext* that runs as well on a bog-standard machine.



Images with more colours than screen resolution are displayed in dithered mono.

PERFORMANCE

OVERALL

EASE OF USE	✓✓✓✓✓✓✓✓✓✓
DOCUMENTATION	✓✓✓✓✓✓✓✓✓✓
EFFECTIVENESS	✓✓✓✓✓✓✓✓✓✓
VALUE FOR MONEY	✓✓✓✓✓✓✓✓✓✓

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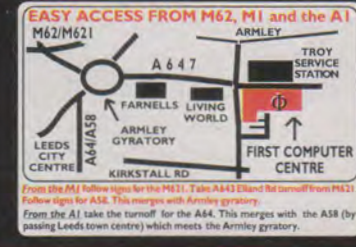
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1 meg external drive, high quality low noise drive. Inc PSU

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This 1 meg external drive comes with Virus checker, built in Blitz turbo and boot switch for drive B. Includes PSU

VIDI 12 ST BY ROMBO

As official dealers for Rombo, we are able to offer this excellent package at a great price. Vidi 12 ST replaces the famous Complete Colour Solution with a higher specification but a lower price!

Contents include multimedia digitiser, manuals and phono cable
only £79.99

Main Features:
Both colour & mono image capture, no separate RGB splitter or filters required, fully functional animation workstation, mix images to almost any resolution, all Atari colour modes are supported, many image processing effects, file formats include IMG, ART, IFF, IFF, SPL, SPC, NEO, BMP, TIF.

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ST Basic.....	£5.99
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ALL CHANGE!

True-colour morphing will soon be a reality on your ST, courtesy of Metamorphosis 24! David Nilson takes a look at the changing face of ST graphics software...



All together now: "I'm sick of seeing morphing on television". The technique of turning one object smoothly into another that once stunned a nation, is fast becoming old hat. However, take morphing out of the hands of the television engineer and place it on your ST, and suddenly all of the magic returns.

Metamorphosis 24, or *Morpher* for short, from Lexicor is a software morphing studio. It allows you to take any two objects and create a smooth animated link (or morph) between them and then save the results in full colour. What's more, all of this is possible on a standard 1Mb ST...

THE SHAPE OF THINGS TO COME

Morpher is another one of those programs that makes you glad you bought an ST. The GEM interface is a joy to use and takes full advantage of the 3-D effects offered by the Falcon. At the moment, only ST high resolution and Falcon screen modes are supported, but this may change in time for the full release. It's not a major problem though, as all morphs and animations are saved in up to sixteen million glorious colours. The method of on-screen dithering is also adjustable – pictures can look respectable even in mono. The first step in creating a morph is to load up



Four quality settings are on offer, ranging from "low" to "best" – and in the case of the latter, "breakfast, dinner and tea time" would be more accurate!



Morpher does take its time, but the standard of the resulting pictures is just superb – "normal" quality was used to create this image.



Control points are used to set up a morph and the whole process is refreshingly straight forward.

the start and destination pictures, and then to position "control points" over the top. These tell *Morpher* which parts of the pictures relate to each other; for example, an eye in the source must also be outlined in the destination. The currently active point is highlighted in red on both pictures, so it's a simple job to position the dot and then drag it to the relevant position in the destination window. Lines can also be added to link-up points, which make editing much easier.

In order to keep things running as smoothly as possible, *Morpher* allows points to be moved in either a foreground or background window – in other words, no tedious switching is required. Overall, the process is much more natural than working with a mesh and you can be up and running in a matter of minutes.

THE TIME BOMB

With control points safely in place, the next step is to view a single frame just to make sure that the time spent on a full animation will not be wasted. There are four quality settings, ranging from "Low" (read

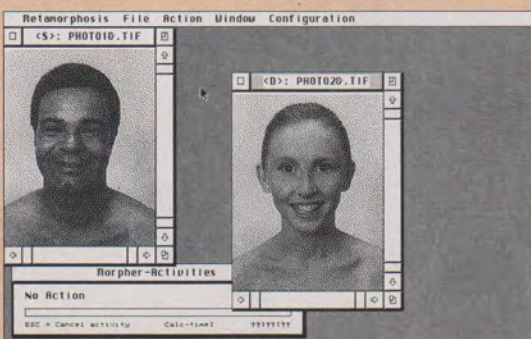
slow) through to "Best" (which gives boredom a new meaning) and a progress bar at the bottom of the screen keeps you up to date on what's happening. However, perseverance brings rewards and the resulting pictures are astonishing, especially if you take the time to view them through an enhanced picture displayer such as *PhotoChrome* or *Eclipse*.

Lengthy animations are best left to render overnight and memory shouldn't be a major problem, because each frame is saved to disk as it is completed. For both loading and saving, *Morpher* only deals with TIFF files, but the method of compression is adjustable and *GEMView* images seem to load without problems.

Overall, *Morpher* is a very easy-to-use program, and one that can produce astounding results on a standard ST.

With a little extra speed (and there will be a version to support the Falcon's optional co-processor) and the ability to run in low resolution it could become a classic – we'll just have to wait and see what the full product brings...

The current version of Morpher needs a minimum resolution of 640 by 400 pixels, but effective dithering leads to a good screen display.



A test frame can be rendered to ensure that the full animation will be up to scratch.



Nial Grimes is a freelance journalist who is slowly recovering from a recent bout of terminal dissatisfaction. He was last seen on Friday being bundled into the back of a stretched limo by two gorillas wearing large blue T-shirts, and hasn't been seen since...

IN PUBLIC

Enough is enough...

It can't have escaped your notice that the whole computing industry is suffering from a disease: a rare condition known as "terminal dissatisfaction". The symptoms are plain to see – techno-junkies around the globe are taking leave of their senses and upgrading or changing their machines, without a care for their actual needs. Today's top of the range PC is tomorrow's dinosaur and if you're not using the very latest version of *TextWaster*, your life is just not worth living!

Now, in the early days of computing, it was fair to expect that computers would change quickly – there were a lot of improvements that needed to be made and early machines simply couldn't meet the demands made by essential software. The graphical user interface placed huge strains on unsophisticated hardware, and colour displays

also took their toll. It was then that the ST appeared, with its fast 68000 processor and fully bitmapped display. Here was a machine that could carry easy-to-use software and run it at an acceptable speed – and still can.

Sadly though, the fever is beginning to spread its way into Atari-land. STs are being pushed into the loft as their owners rush out to buy the latest multi-thousand pound computer, in the belief that their word-processing life will be revolutionised. I wonder what they are going to do with the 2.45 seconds they save on a spell-check – think up a few excuses to give to the bank manager perhaps?

Now I'm not going to deny for a minute that some computing tasks require serious horsepower. Colour desktop publishing is only just reaching its optimum speed and computer-generated animation is still in its infancy

– yes, most businesses need a fast machine. However, the vast majority of people simply want a tool that can turn out a good-looking letter, allow a little pixel-painting and perhaps look after the home accounts. The ST has the speed and the software to do that! It can also handle most mono desktop publishing tasks and several thousand other things besides – this fact will never change, no matter how many super-computers hit the market and regardless of whether Atari focus their attention on the Jaguar.

Yes, the antidote for "terminal dissatisfaction" is freely available and it's called common-sense. Don't fall for the propaganda – analyse your needs and choose the machine that best suits them. More than likely you will discover that the ST sitting on your desk (or in the loft) is just about perfect...

Taking the lead...

TECH TALK

In my February column earlier this year I voiced my dissatisfaction with Atari's lack of support of the existing user base. I pointed out that an updated version of *MultiTOS* had been almost ready for release since the middle of 1993 and that similarly, a new version of *SpeedoGDOS* was ready to go. Due to Atari's pre-occupation with the Jaguar, little or no attention was being paid to ST and Falcon users. Much improved versions were being withheld from a frustrated user base who had paid good money for less than perfect versions of *MultiTOS*.

I was pleasantly surprised to get a direct response from Jim Jackson at Atari's HQ in Sunnyvale, California, most of which was printed in *Points Of View* a few issues ago. In his letter, Mr. Jackson

was clearly keen to help, but stopped short of making any specific promises. I don't know if the later release of *SpeedoGDOS v4.2* and the forthcoming version 5 had anything to do with my original column, but it is certainly a welcome move. Eric Smith, the main programmer behind *MultiTOS* has also lifted his head from the Jaguar CD-ROM project to announce that a new version of *MINT* will be made freely available by the time you read this (*hopefully... Ed*).

As you may know, *MINT* is the heart of *MultiTOS* and so all existing users will be able to upgrade free of charge. However *GEM*, the main part of *MultiTOS* that requires updating, remains locked away. Only registered developers have had the pleasure of using it – and it is indeed much faster and more reliable

than the current version. However, with systems like *MagiC* and *Geneva* now available, Atari has certainly missed the boat and effectively lost the lead in TOS development.

The *Internet* group known as the *GEM List*, which is now discussing extensions of the user interface and *GEM* in general, has been widely publicised via the networks.

I have personally informed both Atari Europe and Atari US about this, but there has been no positive response so far.

I was hoping to get some support from Atari; the presence of their developers would have helped the group achieve its aims more easily. I'll be forwarding a copy of this column to Jim Jackson in the hope that he can help. While there's no doubt that programmers around the



world are keen to continue supporting the ST, the lack of a guiding hand may result in total chaos.

Ofir Gal is *ST Review's* technical voice and a programmer of some note. Perhaps this explains why his articles continue to arrive alarmingly late – despite threats of a physical nature...

MICROVITEC 1438

If there's one good thing about Atari pulling out of the monitor market, it has to be the fact that a wider range is rapidly becoming available as third-party suppliers rush to fill the gap. One such example is the Microvitec 1438, an autoscanning monitor now being sold by Ladbroke Computing for use with all Ataris.

The UK-built Microvitec is a 14-inch monitor with 0.28mm dot pitch display and a pleasant looking grey case. It supports horizontal frequencies up from 15 to 40kHz and a vertical refresh rate of between 45 and 100Hz. What this means is that it can display almost any resolution on both the Falcon and the ST.

ST owners are supplied with a monitor switchbox enabling switching between high res. on one hand and low/medium resolutions on the other. Falcon owners don't need the switchbox as the Falcon works perfectly well in ordinary VGA mode, but if the RGB modes are to be accessed the ST switchbox does the job. It should also be possible to carry out a simple hardware modification to the Falcon video adapter to enable switching between all RGB and VGA modes but, as yet, Ladbroke's haven't carried it out.

The monitor features controls for adjusting the image size in the vertical plane and the position of the image in the horizontal plane as well as contrast and brightness. The actual physical screen measures 10.75 by 8 inches: in ST low/medium resolutions, the fully adjusted actual screen size is 9.2 by 7.2 inches while in high resolution it is 9 by 6.75 inches. Unfortunately, in high resolution the picture is only a fraction of an inch from the top of the screen which looks rather strange. In Falcon VGA modes, the picture takes up the whole of the physical screen, making this a good choice for those who own both an ST and Falcon or who see themselves upgrading to a Falcon in time...



GOLDSTAR 1520 DM

For Falcon owners searching for a decent display, a VGA monitor undoubtedly gives the best picture. Goldstar has just launched an impressive new range of monitors in the UK and despite the fact that most will end up mating with PCs, Falcon owners would be well advised to check them out, particularly as the street prices are likely to represent extremely good value.

The new 15-inch 1520DM retails for only a little more than many 14-inch models. It's a neat looking unit with beige casing and FST (Flatter Squarer Tube) tube to 0.28mm dot pitch. Scanning between 30 and 65kHz horizontally and between 50 and 120Hz vertically, the 1520 DM is a very impressive monitor indeed. The physical screen size is 11.25 by nearly 8.5 inches and thanks to the monitor's excellent controls you can adjust the size of the picture until it fills the physical screen entirely.

It is quite capable of displaying up to 1024 by 768 pixel resolution with a 75Hz refresh rate without interlacing, which means that Blowup and ScreenBlaster owners should have no trouble finding comfortable resolutions to work with. Best of all, the monitor has some astonishing picture controls. Not only can you alter the size and position of the actual screen display in both the horizontal and vertical planes but you can adjust it to compensate for bending at the edges and trapezoidality (where the image is narrower or wider at the bottom than the top). Once you adjust the picture, the set-up is automatically saved into one of 13 memory locations so each time you switch video modes, the same settings are used.

The Goldstar is a cracking monitor with a superb display, power saving standby feature and incredible picture control – the perfect complement to the Falcon's true colour display at a price that is hard to resist.

PERFORMANCE & KEY FACTS

Product: Microvitec 1438

SYSTEM

Company: Ladbroke Computing

Minimum Memory: N/A

Contact: 0772 203166

Resolution: Any

Price: £289.99 (£19.99 for switchbox)

Computer: ST/Falcon

EASE OF USE ✓✓✓✓✓✓✓✓✓✓✓✓

DOCUMENTATION ✓✓✓✓✓✓✓✓✓✓✓✓

EFFECTIVENESS ✓✓✓✓✓✓✓✓✓✓✓✓

VALUE FOR MONEY ✓✓✓✓✓✓✓✓✓✓✓✓

72%

PERFORMANCE & KEY FACTS

Product: Goldstar 1520 DM

SYSTEM

Company: Evesham Micros

Minimum Memory: N/A

Contact: 0386 765500

Resolution: Any

Price: £355

Computer: Falcon

EASE OF USE ✓✓✓✓✓✓✓✓✓✓✓✓

DOCUMENTATION ✓✓✓✓✓✓✓✓✓✓✓✓

EFFECTIVENESS ✓✓✓✓✓✓✓✓✓✓✓✓

VALUE FOR MONEY ✓✓✓✓✓✓✓✓✓✓✓✓

80%

SCREEN KINGS

Maurice Collins takes a look at two ways of getting a bigger and better look in...



How would you like your humble ST to outperform a Falcon – or a TT? Ofir Gal investigates the PAK...



POWER PAK'ED!



Processor: The brains of a computer. The ST uses a Motorola 68000 running at

8MHz. The Falcon and TT have the faster 68030 as used in the PAK.

Co-processor: A custom chip that is similar to a processor but designed to work with decimal numbers. Calculations can be ten times faster when it comes to the complex maths used in 3-D rendering or morphing.

Cache: An area of very fast memory that is used to temporarily store data. An on-board processor cache can easily double the performance.

Motherboard: The main board where all the computer components are located.

FastRAM: Also known as TT RAM, this memory board is connected directly to the processor so giving it more efficient access to memory.

Blitter: A custom chip designed to accelerate graphic display. It's found on the Mega ST, STe, MegaSTe and Falcon.

MHz: An indication of the speed of a processor. Modern PCs and Macs run at speeds ranging between 25 and 66MHz.

680x0: A family of Motorola processors used in many computers and laser printers. The ST uses the bottom-of-the-range 68000 while the Medusa and current Macs use the more powerful 68040.

So the ST's limits have been reached with the T28 and T36 boards? 'Fraid not – System Solutions have other ideas with the PAK 68/3, an accelerator board capable of running at up to 50MHz. Now that's power!

What began as a DIY project in a German ST magazine has now become the fastest accelerator for the ST, boasting a 68030 processor as found on the TT and Falcon running at speeds ranging between 32MHz and 50MHz. So how does the PAK work – and how well does it perform?

WHAT YOU GET

The PAK 68/3 comes as a single board measuring 150mm by 90mm that replaces the original 68000 processor. Since most STs have a soldered-in 68000, the legs have to be snipped and the chip removed. You then have to carefully desolder each leg, fit a socket and then simply plug in the PAK board. Due to its size, the original ST keyboard has to be removed and placed in a FreeKeys kit. System Solutions also offer the DeskTopper or even a Lighthouse tower system. Only Mega ST owners can fit the board without any modifications to the keyboard or the casing.

The board includes a second-user 68030 which can be clocked at 32, 40 or 50MHz, and a socket for an optional co-processor. The '030 has a small built-in cache, but the PAK designers have added a secondary

KEY FACTS

Product:

PAK 68/3

Company:

System Solutions

Contact:

081-693 3355

Price:

From £299 depending on configuration

SYSTEM

Minimum Memory:

0.5Mb

Resolution:

Any

Computer:

ST, Mega ST, MegaSTe
(STe option available shortly)

specially modified 32-bit version of TOS 3.06, which also helps to get that little bit of extra speed. An additional slot can take a standard 68000 for 100% compatibility, especially with games, and another slot is provided for future options including a FastRAM board which will push the speed of the system even further.

PAK 68/3 currently works with STFM's, Mega ST's and MegaSTe's, and a special adaptor is due to make the PAK STe-compatible as well. The ability to drive the PAK at speeds beyond 32MHz depends on the tolerance of chips in each individual ST. These were not designed to work at such speeds, but perform surprisingly well most of the time. During extensive testing it was found that most STs can run at 40MHz without any problems. Clocking the board at 50MHz shows up any flaws component-wise, but System Solutions can replace any chips that are not up to the job in the original ST motherboard.

cache with 32Kb of RAM on board – and this is the key to the PAK's power. There are also four ROM sockets, so allowing the use of a

This is how a 40MHz PAK 68/3 compares with a Mega ST equipped with a Blitter chip.

Test	Time	Ratio
GER Dialog Box:	2.255	243%
UDI Text:	2.958	187%
UDI Text Effects:	4.958	298%
UDI Small Text:	2.575	256%
UDI Graphics:	4.318	546%
GER Window:	0.795	203%
Integer Division:	1.235	1457%
Float Math:	2.185	518%
RAM Access:	0.688	1058%
ROM Access:	0.735	857%
Blitting:	1.695	187%
UDI Scroll:	2.525	169%
Justified Text:	2.838	192%
UDI Enquire:	0.898	298%
New Dialogs:	2.595	279%

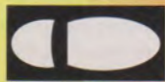
Statistics
 Display: 258K
 CPU: 978K
 Average: 442%

Reference
 Blitter
 FPU
 ST High
 ST Medium

PRACTICAL TESTS

So what difference does the PAK 68/3 make in real life? We test it – all timings in seconds.

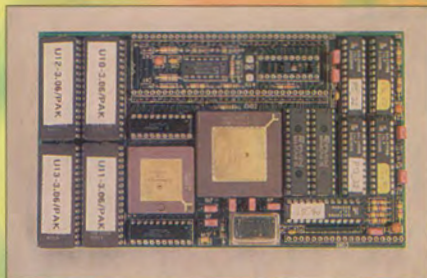
Practical Test Carried Out	MegaSTe (16MHz)	Falcon (32MHz)	PAK (32MHz)	PAK (40MHz)
Scroll long document in <i>Everest</i>	32	24	22	21
Change font of a ten-page document in <i>Atari Works</i>	34	24	15	14
Scroll long document in <i>Atari Works</i>	85	48	41	37
Load and dither a 256-colour TIFF in <i>GEMView</i>	18	12	8	7
Load and dither a 256-colour TIFF in <i>Imagecopy</i>	17	11	7	6
Scroll a long document in <i>Papyrus</i>	34	22	18	17



STEP BY STEP GUIDE

BEFORE THE PLEASURE...

... comes the task of fitting the board. The main hurdle is removing the old processor and installing a socket in its place.



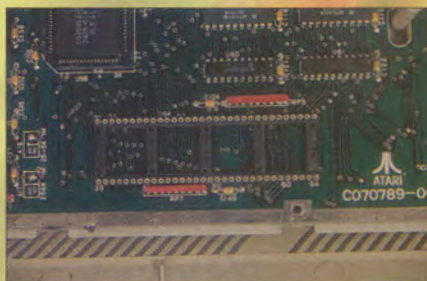
1 This is what you get – the PAK 68/3 board replaces your old 68000 processor and needs no extra wiring.



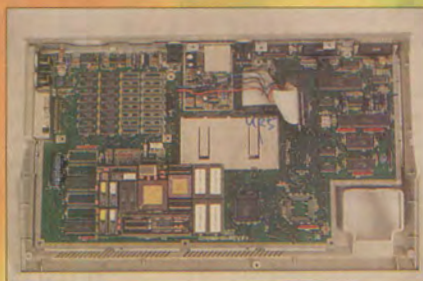
2 The first step is to disassemble your ST, removing the keyboard, floppy drive, power supply and all metal shields. The actual motherboard also needs to be removed.



3 Remove the old 68000 chip by snipping its legs and then turn the board over and desolder the legs.



4 Once the holes in the board are clear, position the supplied socket and carefully solder it into place.



5 The PAK board is now simply plugged into position. Reassemble the ST, leaving out the keyboard which will be fitted into the FreeKeys kit.



6 Place the keyboard in the FreeKeys case and attach the back of the unit. Finally, connect the keyboard

with the cable provided and sit back for a taste of real speed...

EXTRA FEATURES

Since the 68030 has a Paged Memory Management Unit on-board (PMMU), programs like *Outside* can be used to provide virtual memory so breaking the 4Mb barrier and allowing you to use your hard disk as RAM. *MiNT* and *MultiTOS* users can benefit from the memory protection capabilities of *MiNT*. To be able to use these features, you must also install the specially modified TOS 3.06; if these are unimportant, then TOS 2.06 will do just as well. The '030 also supports a co-processor, extremely useful when using programs like *In Shape*, *POV* or *Metamorphosis*.

SUPER-CHARGED

With the PAK installed everything is much faster, from booting up to printing or viewing images. The speed improvement varies depending on what your ST is doing – and it's fair to say that *GEMBench* results can be over-optimistic if not interpreted correctly. The PAK performs processor-intensive tasks extremely

well, such as dithering a colour image or rasterising a Calamus document. Processor tests in *GEMBench* show a speed increase of between 5 and 15 times and while screen display is still held back by the old hardware, performance is between two and three times faster than an STe equipped with a Blitter chip.

Our practical test table shows how the PAK performs compared with a Falcon and a MegaSTe. On the whole, the PAK can be said to be between 4.5 and 5 times faster than an STe with a Blitter, a little more if pushed to 50MHz. It is also about 2.5 times faster than a MegaSTe and about twice as fast as the Falcon or an ST equipped with a T28 board. In fact, it's even faster than a TT!

Compatibility is extremely good and all the programs we tried worked well, although there is bound to be the odd program that will not work.

Most games will also fail, but this is solved by installing the optional standard 68000 with an external switch to toggle between the two. This gives you the best of both

worlds: full compatibility or top speed.

VERDICT

The PAK 68/3 is quite remarkable – it's so fast that it has no competition. With the forthcoming availability of low-cost graphics cards for the ST, you could turn your standard ST into a power station capable of the toughest tasks. The FastRAM and virtual memory options will allow you to break the 4Mb RAM barrier and make multi-tasking a reality.

It's certainly not cheap. While the basic unit costs £299, you are likely to need at least another £100 if you want FreeKeys, a co-processor and a TOS upgrade.

If you need the speed, but not the

audio or graphics, of the Falcon, take a close look at the PAK 68/3 – nothing will better this for a long time, if ever.

SUMMARY

GOOD POINTS:

Installation couldn't be easier

Extremely fast

A full specification 68030 with virtual memory capability

BAD POINTS:

Does not fit inside a standard ST case

Requires TOS 2.06 or 3.06

FINAL WORD:

"A truly outstanding product for ST owners who want a powerhouse of a machine."

PERFORMANCE

EASE OF USE



EFFECTIVENESS



VALUE FOR MONEY



OVERALL

87%

Ofir Gal previews the new font system that is set to revolutionise word processing and DTP as we know it...

AbcdEfghiJklmn
AbcdEfghiJklmn
AbcdEfghiJklmn

A commercial font (Bitstream Charter) in all three formats. There is absolutely no difference in quality when printed at 24 point size on a DeskJet 500.

PRODUCT PREVIEW

When Atari decided to replace the failed *FSMGDOS* with a Bitstream font engine, developers were excited at the prospect of a top quality range of industry-standard scalable fonts. Such joy was short-lived: Atari had only implemented Bitstream's propriety format, Speedo. The official word was that although the full Bitstream font scalar could handle the industry-standard TrueType and PostScript formats, they were removed from *SpeedoGDOS* to reduce memory requirements. Atari also pointed out that the Speedo format was much faster and of higher quality.

Unfortunately, there is no way of converting other font formats to Speedo, although the reverse is easy enough with programs like *FontMonger* which is available for the PC and Mac. Bitstream guards the file format and as a result, ST owners were stuck with an unpopular and expensive font type.

THE SAVIOUR

Compo is a well known software and hardware company that is completely dedicated to the Atari range and, with Atari's permission, it is now

busy putting the final touches to its latest creation – *SpeedoGDOS 5*.

The main new feature is full support for the two most popular font formats – TrueType and PostScript Type 1. The latter is a firm favourite with Apple Mac users and is the accepted standard in most DTP bureaus.

The TrueType format is mainly used by PC owners and is quickly gaining industry approval. TrueType fonts are also much cheaper. Many PD libraries and bulletin boards have huge collections of both of these,

FULL SPEEDO AHEAD



Milford 8
Milford 10
Milford 12
Milford 18

Milford 8
Milford 10
Milford 12
Milford 18

Commercial TrueType fonts use superb "hinting" to produce excellent results, both on-screen (left) and when printed at very small point sizes (right).

Amerton Outline 8
Amerton Outline 10
Amerton Outline 12
Amerton Outline 18
Amerton Outline 24

Amerton Outline 8
Amerton Outline 10
Amerton Outline 12
Amerton Outline 18
Amerton Outline 24

This shareware TrueType font is fine when used at a headline size, but breaks up badly at smaller point sizes both on-screen (top) and in print (bottom).

some shareware, others freeware. The CIX BBS, for example, has a list of some 500 TrueType fonts and around 350 Type 1 fonts.

replacement for high quality commercial fonts.

OTHER FEATURES

In addition to these new font formats, *SpeedoGDOS 5* removes some of version 4's bugs and speeds up almost every operation. For instance, Bézier curve drawing is between two and four times faster than with version 4.

SpeedoGDOS 5 also makes full use of NVDI, unlike previous versions which simply ignored the acceleration it offered when it came to screen display.

All in all, *SpeedoGDOS 5* looks like a promising product indeed, offering you access to a vast range of low cost fonts.

As a result, we are likely to see quite a few existing DTP packages and word processors making use of this amazing new development and all Speedo-compatible software such as *Atari Works* should work with *SpeedoGDOS 5*.

VIVE LA DIFFERENCE!

A little experimentation with *SpeedoGDOS 5* leads to the conclusion that the Speedo format is indeed superior in quality and faster to work with, but only marginally so. The difference between the font formats is only visible at small point sizes on-screen. Speedo fonts look best; PostScript Type 1 fonts, worst.

However, when output to a DeskJet 500 it is simply impossible to tell the difference. All formats produce a superb printout which is probably as good as a DeskJet is ever going to produce! PD and shareware fonts are, perhaps, a little disappointing as you can see from the figures on this page.

That said, they are fine for headline text but it appears that for small point body text there is no

Maurice Collins demystifies the technology behind scalable font formats like TrueType...

THE HYPE BEHIND TRUETYPE

A few years ago you had little choice of typeface when you printed a letter or designed a DTP page. You could use the printer's built-in fonts when printing from programs like *1st Word Plus* or the GEM/GDOS fonts supplied with *Timeworks* and *Wordup*. If you really knew your stuff you could change them, of course, but the vast majority of us got on with the job using what we had to hand.

Then came scalable fonts. *Calamus 7.09* introduced the Atari world to a new font format that could be scaled to any size at all - and on the fly. Scalable fonts, otherwise known as outline or vector fonts, turned DTP upside down overnight. Headlines no longer had to be 12, 24 or 48 points high: as the fonts were stored as outlines, they could be scaled to any desired point size using the rasterising software built into *Calamus*. Even more importantly, they could be printed on any output device at any resolution from a dot matrix printer to a 2,500dpi typesetting machine while GDOS fonts had to be matched to the specific resolution of the printer.

Not long afterwards, *Pagestream* appeared, with a rather less flexible proprietary scalable font system, and was eventually updated to include

Compugraphic and PostScript font support in Version 2.x.

The most recent addition to the range is the Bitstream Speedo format as used by Atari's *SpeedoGDOS* but, in the PC world, one format in particular now dominates the market...

TRUETYPE

TrueType was originally an internal Macintosh font format but as the latest version of Microsoft Windows, the PC's graphical operating system, contains a built-in TrueType rasteriser, it has quickly become the most widely used font format in the world.

While typographers still argue the pros and cons of the three main formats (PostScript, Speedo and TrueType), each has distinct advantages. PostScript is still the prime choice in professional DTP circles and has the added advantage of being an open ISO standard so that anyone can create PostScript fonts and find adequate documentation to help them do so. The Speedo format, as its name suggests, was designed to rasterise more quickly but it is a closed format and you can't convert other scalable fonts to or from the Speedo format.

TrueType's advantages are mainly technical. The language in which the

HOW DOES A SCALABLE FONT WORK?

Figure 1 shows what happens when you try to fit a carefully designed font made up of Bézier and quadratic curves to a grid representing either a computer screen or a printer. The TrueType outline is converted into a bitmap but at low resolutions the finer detail is inevitably lost. Figure 2 shows the end result that is roughly equivalent to a 16 point font printed on a dot matrix printer. The effect is less noticeable in practice, of course, as the printer dots are rounded rather than square.

One way to get round the problem is to use what are known as "hints". These are programmed instructions contained in the font file itself that tell it what to do when printing at particular resolutions, and go a long way to ensuring that each character maintains its correct proportions when printed out or displayed on screen.



Figure 1: fitting a font with lines and curves into a grid.

Figure 2: the result when output to a dot matrix printer.



outlines and hints are stored is very easy to use and the font files can hold a lot of compressed data for hints on a wide range of output devices. By far and away the biggest advantage for Atari owners, however, is the price of type. Thanks to the huge number of PCs in the business world and the size of the market, good quality TrueType fonts are easy to come by and cost much less than PostScript equivalents.

There are also many times more typefaces available in TrueType format as a whole. Monotype's entire range now comes on two CD-ROMs and features over 3,000 typefaces.

This contrasts with the 250 or so available in Speedo format.

Perhaps the best part of the equation is the fact that both PostScript and Speedo are on the decline. PostScript is becoming more isolated at the top end of the DTP market while very few fonts are now being created in the Speedo format.

TrueType, on the other hand, is growing at a tremendous rate, with dozens of PD and shareware fonts being released each week and all the major vendors offering low priced bargain packs containing 30 or more fonts for little more than the price of a single PostScript font.

True Type Scalable Fonts (Suitable for Windows 3.1)

N = Mixed	O = No Naming Expected	F = Freeware	N = Nonspaced	N = Naming Information In	P = Public Domain	S = Shareware
aaco_... #19	27063	Alaco Antiqua Book				
aaco... #19	28563	Aacoorea				
activa_... #19	47676	Activa				
activa_b... #19	30359	Activa Bold				
advant... #19	27125	Advant - Romal				
adv... #19	24593	Advant - Romal Script				
afont... #19	16464	Afon - Font				
aha... #19	49853	Aha				
albatros_... #19	98765	Albatros				
almond... #19	18529	Almondria				
alpine... #19	23639	Alpine Medium				
ambro... #19	23639	Ambrosia				
amuto... #19	60526	Amuto - Outline				
amuto_i... #19	69915	Amuto - Outline Italic				
and... #19	12803	Andes the Regalia				
and_b... #19	18464	Andes the Bold				
andweda... #19	18559	Andweda				
ant... #19	10791	Ant - Medium				
ant... #19	18558	Ant - Medium Italic				
ant... #19	13143	Ant - Bold				
ant... #19	20216	Ant - Bold Italic				
apollo... #19	23051	Apollo Medium				
arch... #19	19530	Architect				
arch_b... #19	23352	Architect Bold				
arch_i... #19	23072	Architect Italic				
arch_bi... #19	23352	Architect Bold Italic				
arc... #19	17500	Arc				
arc... #19	40989	Arc - Long				
arc... #19	20435	Arc - Medium				
arc... #19	33765	Arc - Bold				
arc... #19	26554	Arc - Italic				
arc... #19	28464	Arc - Bold Italic				
arc... #19	29234	Arc - Medium Italic				
arc... #19	20864	Arc - Bold Italic				
arc... #19	18502	Arc - Medium				
arc... #19	27910	Arc - Medium Italic				
arc... #19	11693	Arc - Bold				

How readily available are TrueType fonts? Here's a snapshot of the CIX BBS Fonts file list - and these are only for the letter "A"...

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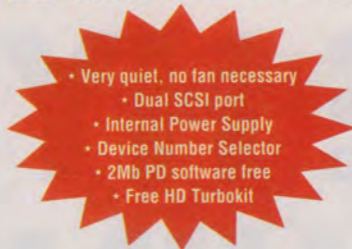
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<i>Please note all prices quoted are for main drive unit only. Add ICD LINK for use with ST or SCSI cable for use with FALCON</i>	
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SO TELL ME, WHAT IS GDOS?

... is a question you've probably asked yourself time and time again. Ofir Gal provides the answers.

Do you own a printer? If so, you're probably aware that there are two ways of producing a printed document. The fastest way is to send text via the desktop, a text editor or a word processor such as *1st Word Plus* but this is limited by your printer's built-in fonts.

The other method is known as "graphics printing" where fonts are created by a program and sent to the printer as a picture. Programs like

Calligrapher, *Calamus*, *Papyrus* and *Timeworks* all work this way but the printout is much slower.

Some of these also use a system known as GDOS to achieve this...

WHAT IS GDOS?

GDOS is sometimes referred to as the part of TOS that Atari forgot to put in its ROMs! It was later distributed on disk but received a mixed reaction from the public. Surprisingly, the idea behind GDOS is sound enough: its aim is to provide you with a simple way of using printers, plotters and even electronic cameras.

The system is supposed to allow all programs to use the same fonts and printer drivers. GDOS works by using a printer's graphics mode so removing the limitations of built-in fonts.

There are hundreds of fonts available in the public domain as well as several font editors. But GDOS did

Atari ST Review

Standard bit-mapped fonts cannot be resized properly and appear with jagged edges.

THE ASSIGN.SYS FILE

Getting your *ASSIGN.SYS* file set up correctly is the key to a successful GDOS installation. There are various utilities that can help, but the best way is to edit it by hand using a text editor like *Everest*. You could use a work processor, such as *1st Word Plus*, but make sure you save the file as pure ASCII text.

The first line of the file gives the full path for the fonts and drivers. It could be *C:\FONTS* or *B:\GEMSYS* – just make sure it tells GDOS where to look for the fonts. The following lines list the fonts that should be loaded for each driver. Under the GDOS scheme of things, the screen requires fonts as well as drivers. Consequentially, each screen and printer resolution is defined as a device with appropriate fonts and driver. There are no less than 10 screen devices although the most used are devices 3

for medium resolution and 4 for high resolution. Other device numbers are for use with TTs and Falcons or reserved.

Printers also have ten slots as devices 21 to 30. Normally you would only use device 21, although programs like *STraight FAX!* can make use of a second device. Other device numbers are rarely used, although some programs make use of the *MEMORY.SYS* device which should be installed as device 61.

All this may sound a little confusing but it's fairly straightforward to set up. The *ASSIGN.SYS* file ignores anything past a semi-colon – useful for putting comments in the file. An example *ASSIGN.SYS* file, which installs a Times Roman font at 10, 12 and 18 points and a single Swiss font at 12 points, is shown below.

```
;
; ASSIGN.SYS Created on 20/07/94
; For use with GDOS 1.1 and higher.
;
PATH = C:\FONTS                                ;the path for fonts and drivers
3P SCREEN.SYS                                  ;the medium resolution driver
ATTR10CG.FNT                                   ;Times font for medium res (10 point)
ATTR12CG.FNT                                   ;Times font for medium res (12 point)
ATTR18CG.FNT                                   ;Times font for medium res (18 point)
ATSS12CG.FNT                                   ;Swiss font for medium res (12 point)

4P SCREEN.SYS                                  ;the high resolution driver
ATTR10HC.FNT                                   ;Times font for high res (10 point)
ATTR12HC.FNT                                   ;Times font for high res (12 point)
ATTR18HC.FNT                                   ;Times font for high res (18 point)
ATSS12HC.FNT                                   ;Swiss font for high res (12 point)

21 FX80.SYS                                     ;9-pin dot-matrix printer driver
ATTR10EP.FNT                                   ;Times printer font (10 point)
ATTR12EP.FNT                                   ;Times printer font (12 point)
ATTR18EP.FNT                                   ;Times printer font (18 point)
ATSS12EP.FNT                                   ;Swiss printer font (12 point)

61 MEMORY.SYS                                  ;the memory driver
```

The *SCREEN.SYS* files do not really exist under a standard system as they are actually located in the TOS ROM chips – but they must be listed anyway. All other files must be in the folder shown in the *PATH* line. Following

a reboot, any application that supports GDOS will be able to display and print the fonts and point sizes listed. If you use *Timeworks* you must run *FONTWID.PRG* each time you edit the *ASSIGN.SYS* file.



bézier curve: a perfect curved line, usually found in vector drawing programs like *DA's Vector*.

Font engine: the part of the Operating System that allows the use of fonts, including GDOS and SpeedoGDOS.

GDOS: stands for Graphics Device Operating System but, frankly, who cares!

GDOS driver: a small program, with a *.SYS* extension, that allows a program using GDOS to communicate with a hardware device like a printer.

Path: a description of a file location. If a file is found on drive B in a folder called *DOCS*, the path would be *B:\DOCS*.

Resolution: the number of dots per inch (dpi) used to create an image. A decent laser printer offers 300-600dpi.

Root directory: the root directory of a drive is shown when you double-click on the drive letter from the desktop. A file that is not inside a folder is said to be "in the root directory".

WYSIWIG: "What You See Is What You Get". A WYSIWIG screen display is meant to be as near as possible to the final printout.

Atari ST Review

Many ST programs support outline fonts using SpeedoGDOS or a proprietary font engine. Outline fonts can be resized freely.

not win the full support of programmers or users. To name just a few of its many problems, it's memory hungry, cumbersome to install and slows down the system. As a result, developers of popular programs like *Calamus* decided to use their own fonts and printer drivers while others, like *Timeworks* and *Easy Text* went down the GDOS path.

This lack of standard helped create the current situation where programs cannot share the same fonts and printer drivers.

WHAT CAN GDOS DO FOR ME?

To use GDOS you must have programs that support it. Since the release of *SpeedoGDOS*, the number of compliant programs has grown steadily. The biggest advantage is the ability to use one set of fonts and a

single printer driver with all programs – but there are other benefits.

GDOS programs usually support a WYSIWYG display – what you see on screen is almost identical to the final printout.

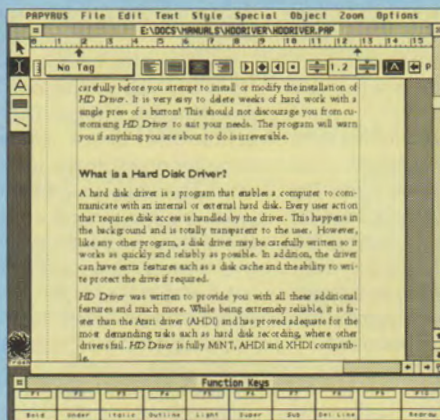
You can design your documents with greater accuracy and without the need for test prints. Programs like *Everest*, *CoNnect*, *Edith* and *ST-Guide* all use GDOS screen-only fonts quite effectively.

By using a font that is slightly smaller than the standard system font, you can squeeze a little more text on-screen.

WHY ARE THERE SO MANY VERSIONS?

Since its initial release in 1985, there have been seven different official versions of GDOS: 1.0, 1.1 (twice), 1.2, 1.3, 1.5 and 1.8. The second

Papyrus is one of several programs that use SpeedoGDOS to display outline fonts, allowing for a more flexible document layout.

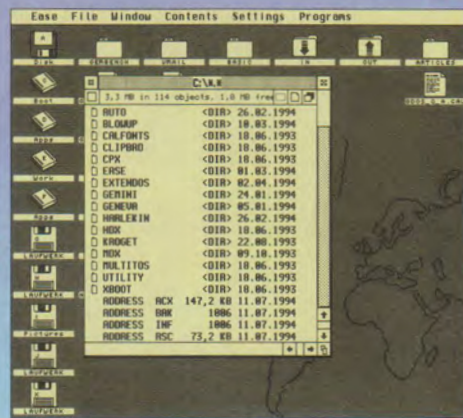
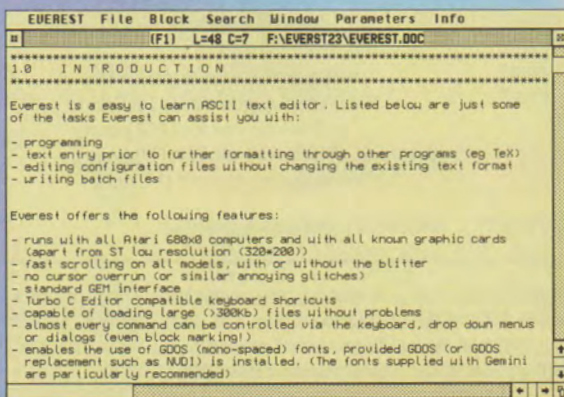


NVDI AND GDOS

Since *NVDI* has an optimised version of GDOS built-in, there is no need to use *GDOS.PRG* in the Auto folder. However, when installing *NVDI* make sure that the various *NVDI* drivers and fonts go in the existing GDOS drivers and fonts folder. Like GDOS, *NVDI* looks in this folder for both the screen accelerator drivers and GDOS fonts.

NVDI also supports *bézier* curves – useful in vector drawing programs like *Kandinsky*. If used with *SpeedoGDOS*, it must run before this in the Auto folder.

Everest uses GDOS screen fonts for display only so that you can install a smaller font and squeeze a bit more text on screen. *Everest* can only use monospaced fonts.



Ease, the replacement desktop program, can use GDOS fonts to display directory windows.

version of 1.1 was the final one and shows *GDOS Release 1.1* on screen at load up.

There have been several third-party attempts to tackle its deficiencies. *AMCGDOS*, released into the public domain by Atari Germany, is much faster and more reliable than the original Atari offering and identical in use.

GPLUS+, Codehead's version, included several enhancements – and some new bugs! It was later incorporated into *Calligrapher* because of its faster printing times and better performance.

NVDI includes an optimised version of GDOS that you can turn on or off at any time. While reliable and fast, it is not fully compatible with *Timeworks*. Its inclusion in *NVDI* has played a major part in the revival of GDOS support within German programs.

Atari has attempted to remedy the situation several times. *FontGDOS* was released under licence and is available from the FaST Club for a small fee. Its main advantages are a font cache that reduces memory requirements for fonts, and *bézier* curve support.

Many bugs have prevented it from becoming popular though. *FSMGDOS* was promised for a long time but never made it past the testing stages and was finally replaced by *SpeedoGDOS*, the best version of GDOS so far.

Its most important feature is the ability to use outline fonts which are freely scalable, removing the need for separate screen and printer fonts.

WHAT ARE ALL THE .SYS FILES FOR?

Any GDOS setup includes several files with the extension ".SYS". *ASSIGN.SYS* is a text file that lists all the fonts and drivers that GDOS should load at boot time. The *EXTEND.SYS* file was added with *SpeedoGDOS* and is best edited with the supplied *Outlines* accessory. The other .SYS files are usually printer drivers – *DJS.SYS* for the Deskjet 500 or *FX80.SYS* for 9-pin Epson-compatible printers, for example.

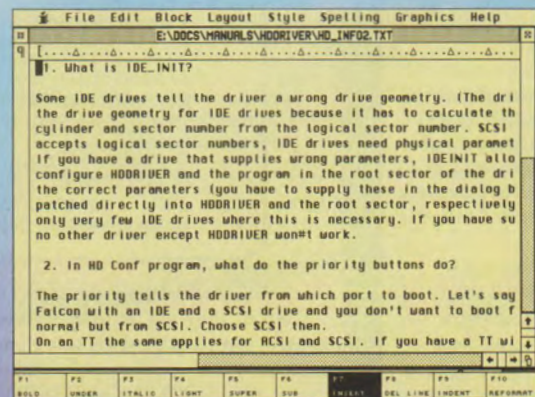
WHAT ARE .FNT FILES?

All standard GDOS fonts use a .FNT extension and there are usually a number of these for each font. A separate file is required for each point size plus a whole set for high resolution, medium resolution and the printer. A typical set-up for a Times Roman font would include the following files:

- High res fonts: ATTR10HC.FNT, ATTR12HC.FNT, ATTR18HC.FNT
- Medium res fonts: ATTR10CG.FNT, ATTR12CG.FNT, ATTR18CG.FNT
- NEC P6 dot matrix printer fonts: ATTR10NP.FNT, ATTR12NP.FNT, ATTR18NP.FNT

HOW DO I SET UP GDOS?

A correct GDOS set-up should have *GDOS.PRG* in the Auto folder and *ASSIGN.SYS* in the root directory of your boot drive. You should also have a folder where all your fonts and printer drivers reside. *SpeedoGDOS*



1st Word Plus does not support GDOS at all – it handles plain text using the printer fonts and the standard screen font.

SPEEDOGDOS

SpeedoGDOS is the latest incarnation of GDOS. It has many new features, but the most obvious one is the ability to display and print high-quality outline fonts. A number of programs already support *SpeedoGDOS*, including *Kandinsky*, *Papyrus* and *AtariWorks*.

SpeedoGDOS works best on a hard disk-based system as it employs a font cache to minimise memory requirements at the expense of extra disk access.

This allows you to install hundreds of fonts without having to worry about running out of memory and the cache size and other parameters can be changed using the supplied *Outline* program. *SpeedoGDOS* also supports *bézier* curves in a similar way to *FontGDOS* and *NVDI*.

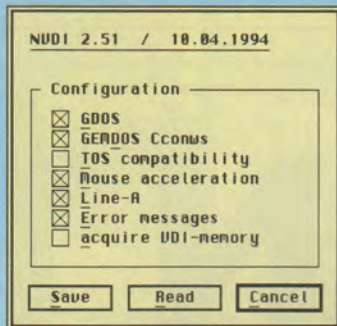
installations will also have *EXTEND.SYS* in the same location as *ASSIGN.SYS*.

WHY DON'T ALL PROGRAMS USE GDOS?

Some programs simply do not require any fonts or other GDOS features, although this is not the full story.

The main reason programs like *Calamus*, *Calligrapher*, *Pagestream* or *DA's Layout* use their own font engines is that until *SpeedoGDOS* arrived, GDOS was limited to fonts of fixed sizes. If you wanted a 24-point font, you had to have both screen and printer font files installed. Many packages use outline fonts that can be resized freely to almost any point size.

Another reason is the memory requirements of GDOS which loads every font file into memory at boot time, even if it is not going to be used, and its lack of speed.



NVDI can be configured to install its own brand of GDOS which is very fast and supports *bézier* curves.

WHAT ARE OUTLINE FONTS?

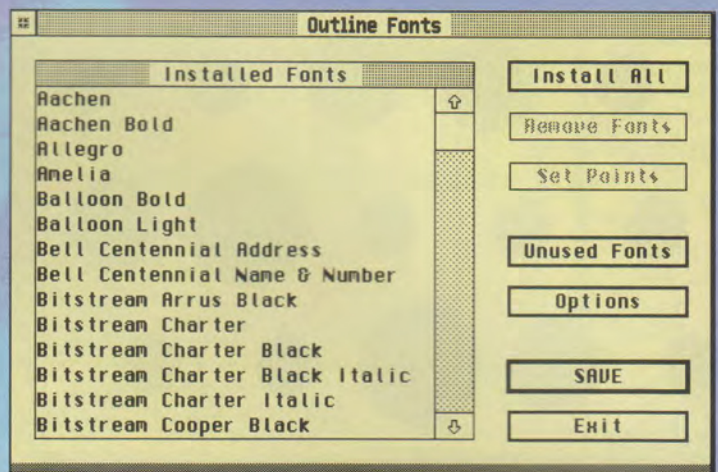
Standard GDOS fonts are bit-mapped – each font file can only produce a single point size. The file contains a description of the font, dot by dot, for a specific point size and resolution. Since screen and printer resolutions are different, separate font files are required for these.

TYPES OF FONT

- **Bitmapped:** made up from a series of dots and so designed to be used at a fixed resolution as any rescaling leads to visible distortion.
- **Outline:** made up of lines/curves and so can be rescaled and used at any resolution without loss of quality.
- **Screen:** used for screen display. At ST high resolution, 72 dots per inch are fitted on-screen although GDOS uses 90dpi screen fonts for clarity.
- **Printer:** designed for the specific resolution of a printer; a 300dpi inkjet printer requires a 300dpi printer font for optimum quality.
- **Monospaced:** all letters are of the same width; the ST system font is monospaced as are most printers' in-built fonts.
- **Proportional:** the width of each letter is adjusted to use just the right amount of space.

Atari ST Review
Atari ST Review

The top text is displayed with a proportional font while the bottom one uses monospaced. Notice how the proportional text looks nicer and uses less space.



SpeedoGDOS is supplied with a desk accessory that simplifies the installation of fonts. You can add and remove fonts quite easily instead of editing the *EXTEND.SYS* file manually.

Attempting to scale a bit-mapped font, say, from 12 to 18 points produces unpleasant text with jagged edges.

Outline, or vector fonts use a completely different method to produce the display or printout. Each letter is stored as a collection of straight and curved lines that can produce any point size or resolution on-the-fly.

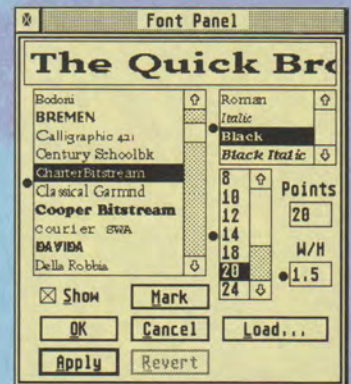
SpeedoGDOS supports both fixed size and outline scalable fonts. Each font only requires one file to produce any point size; you are no longer limited to a fixed set of font sizes.

HOW DO I GET MORE FONTS AND PRINTER DRIVERS?

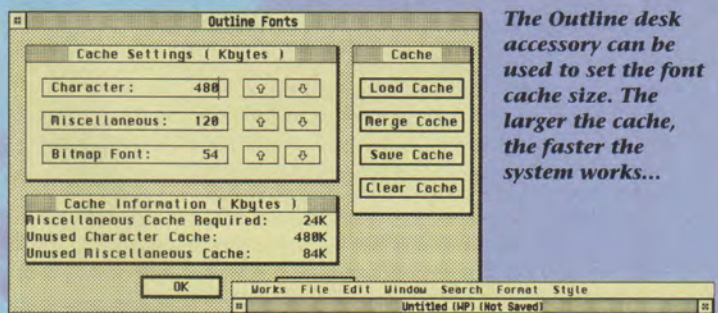
Several PD libraries supply bit-mapped GDOS fonts at very low prices. Also, programs like *Fontkit Plus* can convert *Calamus* and *Signum* fonts into GDOS fonts. When buying bit-mapped fonts, make sure they match the resolution of your printer.

Printer drivers are a bigger problem – be prepared to try a

number of PD libraries. Life is much simpler with *SpeedoGDOS* as a single font file matches all printers. There are no PD fonts, and commercial ones are quite expensive, but the quality is very high. Both *HiSoft* and *Compo* have a large selection on offer.



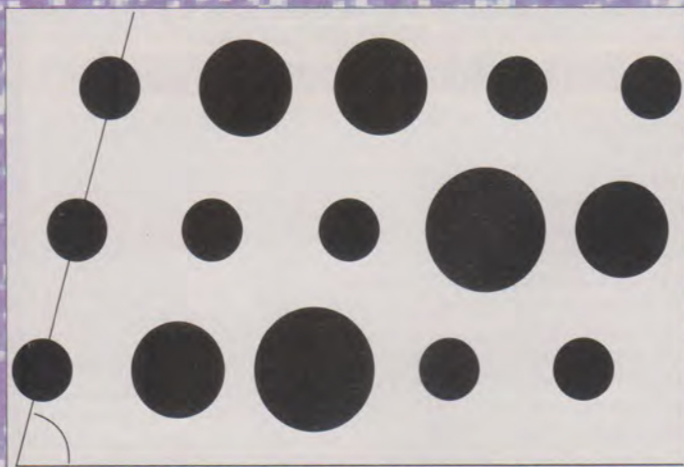
Papyrus has a very powerful font panel. Fonts can be sized freely and even stretched or squeezed to good effect, another useful feature of *SpeedoGDOS*.



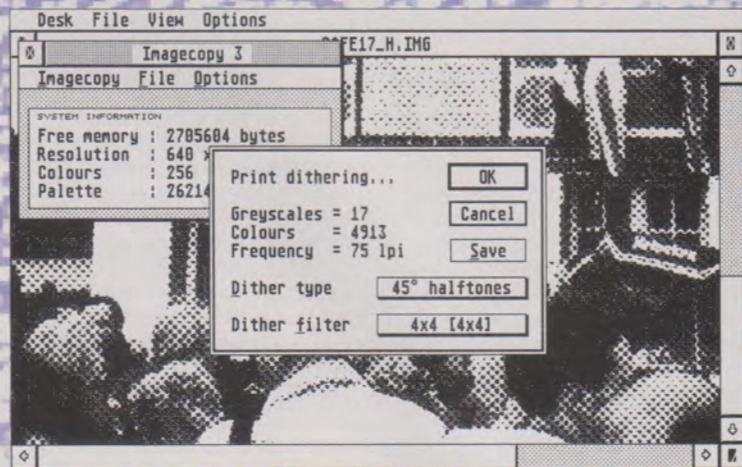
The *Outline* desk accessory can be used to set the font cache size. The larger the cache, the faster the system works...

AtariWorks also supports *SpeedoGDOS* fonts. The font handling is not as flexible or reliable as in other programs, but it still does the job quite well.

SpeedoGDOS
Outline Fonts



A close-up of a halftone showing the screen angle. Altering this from 90 degrees can make images appear less artificial.



Imagecopy 3 can produce halftones and is excellent for programs that can't create their own like Timeworks and Easy Text.

Andrew Wright concludes our look at scanning by considering how to use images in design...



SCAN THIS

With the theory and practical out of the way, it's time to take a look at what happens when you import your scanned image into a DTP program or word processor. If you're using a monochrome hand scanner, the result will be a black and white bitmap, though some programs such as *Touch-Up* and *TrueImage* will let you convert the dithered black and white image back to greyscale.

If you happen to have this facility, or own a colour or greyscale scanner such as the CGS colour hand scanner, you have many more options. True greyscale images are easier to resize, they can be enhanced or retouched using an image processing package and can

be turned into halftone screens to improve the quality of reproduction.

WELL TONED

A halftone screen is a pattern of dots or lines applied to a greyscale or colour image for commercial printing purposes. Mono halftones have two important attributes: screen frequency and screen angle. The former is measured in lines per inch (lpi), the latter in degrees.

In a greyscale image, each pixel has a value between 0 and 255, representing a particular level of grey. This means that a greyscale image can have up to 256 different shades of grey, ranging from white at one extreme to black at the other.

Now, there's no way you can represent this greyscale image dot for dot on a common or garden printer. A printer can place a black dot on the paper or leave it white, with no choices in between. As a result the printer is forced to carry out a process known as "dithering". It looks at an area of the image, usually a square matrix, and calculates the average grey value of each pixel. It then represents that part of the image using a pattern of scattered dots.

The main problem is that such a dithered image won't photocopy well and can't be reproduced on a professional printer because the dither pattern is too fine. To do that, you have to convert the image into a

BY EXAMPLE

To illustrate the value of halftones when reproducing images, take a look at the images below. The original greyscale has been halftoned in various screen frequencies using *DA's Layout*. Those of you with access to a photocopier can photocopy the entire page and examine the results.

Alternatively you can scan the page with your hand scanner set to the line art setting (scanning images this way isn't recommended normally but in this mode it actually emulates a rather poor quality photocopier).

You will notice that the original greyscale and probably the 90 lpi version both become posterised while the 65 and 43 lpi versions can be copied relatively accurately.

If you look at the halftones from a reasonable distance, the coarser ones should look slightly more realistic, if somewhat less precise. Why? Go back to the table showing the relationship between frequency and grey levels - the coarser halftones have more grey levels and therefore appear more natural to the human eye.



An original greyscale image (normally screened at 150 lpi in this magazine).



A professionally-screened image at 90 lpi



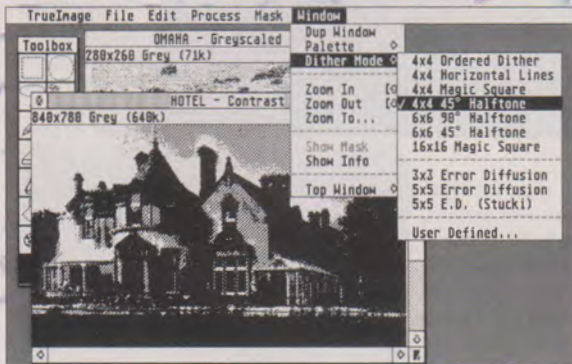
... then screened at 65 lpi...



... and finally at 43 lpi.

Screen Frequency (lpi)	Printer Resolution (dpi)		
	300	600	1200
30	101	256	256
60	26	256	256
100	10	37	145
120	7	26	101

Table 1: The number of grey levels in an image depends on the screen frequency (in lines per inch) and printer resolution (in dots per inch).



TrueImage has good halftoning facilities.

halftone. In offset lithography, the most widely-used commercial printing method, photographs and other greyscale artwork are re-photographed with a special kind of camera through a screen made up of tiny holes arranged in rows. The result is an image composed of lots of dots of varying sizes that create an illusion of different shades of grey but which can be printed using traditional printing processes. Dark areas are composed of large dots close together and light areas of small, widely-spaced dots but the maximum number of grey levels that will appear in the image is dependent on the number of dot sizes that can be printed, which is in turn dependent on the screen frequency.

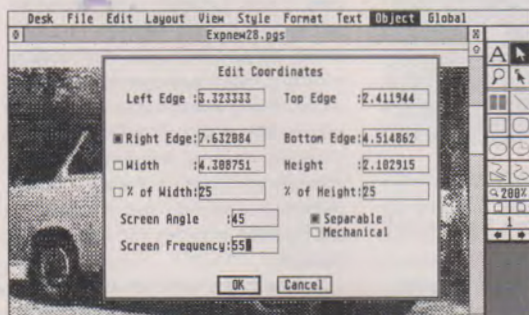
For example, an image can have 256 different greyscales but when printed with a screen frequency of 75 lpi, it will have, at most, 16 levels of grey in the resulting halftone. Table 1

shows the trade-off between a fine screen, which shows maximum image detail but has very few different grey levels, and the coarse screen with less detail but a better overall appearance.

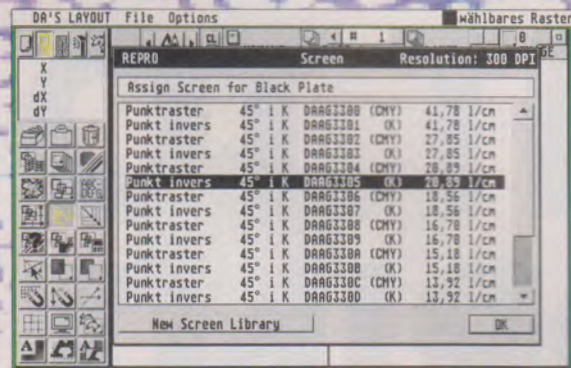
Halftones can also be created using digital techniques by a wide variety of software. At the top end comes *DA's Repro*, a professional lithography tool, through mid-range DTP software like *Pagestream* and *DA's Layout* down to cheap graphics utilities like *Imagecopy* and *HiSoft's* new image processing program, *TrueImage*.

CHOOSING 'N' USING

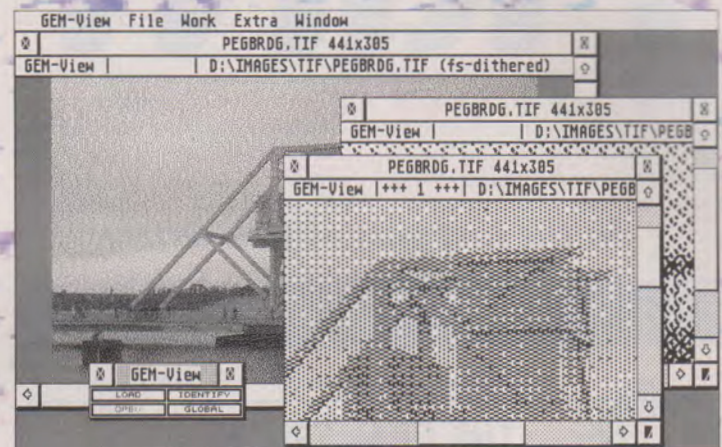
Let's assume we're designing a standard newsletter, in which we want to use several scanned photographs, that will eventually be photocopied and distributed to interested subscribers. If you have a mono hand



Pagestream has excellent facilities for creating halftones with full control over the screen frequency and angle.



Programs like Didot Professional/DA's Layout and Retouche/DA's Repro have hand-optimised halftone screens.



GEMView's dithering doesn't include any good halftones but it is useful for rescaling and cropping.

scanner without greyscale conversion facilities, your choices are rather limited. You must scan the image at the right size for the document you're creating, something we have already covered elsewhere in the series. The best thing to do is scan the image at each of the different halftone settings on your scanner, test print each one from your DTP program or word processor and then see what happens when you photocopy them.

If you're really lucky you'll be using *Pagestream* - this program is unique in that it actually applies halftone screens to black and white dithered images with excellent results.

If you have greyscale conversion software, you're better off as long as you have software capable of creating halftones. *Timeworks*, *Easy Text* and most word processors aren't capable of screening the output at all: they'll simply attempt to dither the image as best they can. Programs like *DA's Layout*, on the other hand, let you apply various hand-optimised screens.

HiSoft's TrueImage will convert bitmaps to greyscales and then apply one of several halftone screens to the image to convert it back to black and white. You can achieve the same with a combination of *Touch-Up* and *Imagecopy 3*. While the greyscale conversion in *Touch-Up* is slightly less effective, *Imagecopy 3* has a better range of halftone patterns.

So what screen frequency should you choose with the likes of *DA's Layout* and *Pagestream* where you can specify values? If you are simply

printing an image for a one-off document that isn't going to be reproduced, choose the default screening setting or dither pattern as this will invariably give the best results. If you are photocopying the document, 60 lpi is really the finest setting you should choose with a 40 or 50 lpi screen giving the best results on a standard office copier.

It might look coarse but it will reproduce without any posterisation or smudging. It pays to produce a dozen different samples with the same image and test them side by side first.

If your work is to be professionally printed and you intend using a typesetting device to produce bromide masters, you can probably go up to 200 lpi but it will depend on the final paper quality too. No matter what the quality of your intended output device, if you are eventually printing to newsprint quality paper, 75 to 85 lpi is the top limit. Better quality uncoated paper should be capable of taking screens up to 100 lpi while glossy, coated paper can handle halftones up to 150 lpi without any difficulty. Incidentally, some cheap printing presses - particularly those used in high street print shops - can't handle halftones over 80 lpi, so always check with your Printer first.

Screen angle isn't as important as screen frequency though choosing a 0 or 90 degree angle can look artificial. In the main, 45 degrees tends to work best, simply because the eye can detect the pattern less easily.

It doesn't look much on screen but the halftone output will allow it to be reproduced on any photocopier or using offset lithography.



FIT TO PRINT

PART FOUR: LASER PRINTERS

In the last part of this series, Paul Rossiter spills the beans on the expensive option...

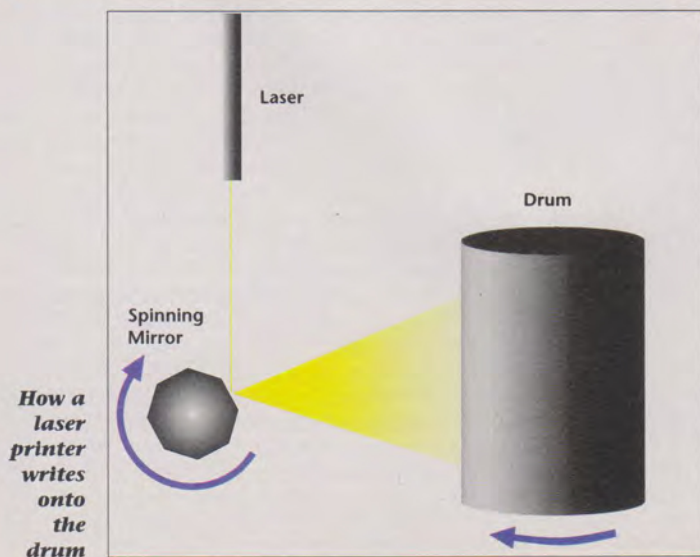
THE REAL TRUTH ON RUNNING COSTS...

The real costs of a printer are the total costs of ownership over, say, three years. Obviously the more pages printed the lower the overall cost per page is. For these calculations, we assume 1,000 pages per month at 5% ink/toner coverage using cheap copier paper and genuine consumables.

Surprisingly, for moderate page throughput a laser is considerably cheaper than an inkjet. Also, the more pages printed the better value the laser becomes – as well as saving time!

Consumable Costs (pence/page)	Total Running Costs (£)	Total Running Costs (pence per page)
Dot Matrix 1.5	625	1.7
Inkjet 3.5	1,420	3.9
LaserJet 4L 2.0	1,155	3.2

Total running costs include depreciation and loss of interest.



Inserting a new cartridge in the majority of today's laser printers is made easy by top or front access.

For the home user, nothing can approach the output quality of a laser printer. Atari was the first company to produce an affordable laser printer in the SLM804 and at the time of its introduction, the printer was relatively inexpensive because the (then) expensive control electronics were incorporated within the computer and not duplicated inside the printer. With the drop in memory prices, this approach fell from favour and most modern lasers are now self-contained units.

The SLM804 and its later brother, the SLM605, used the high-speed DMA port on the rear of your ST. This has the advantage of being very fast compared with a standard parallel port printer but at the expense of tying up a megabyte of your precious memory and only being usable on an ST.

With prices continuing to tumble, lasers are now a very attractive purchase: the HP LaserJet 4L is now well under £500 and good quality second-hand lasers are available for under £200.

The main advantage of a laser is its quality but they are also very quiet in operation and excellent for multiple copies at high speed.

HOW THEY WORK

All of the other printers covered in this series print one line at a time as soon as they receive the data from the computer.

A laser printer first builds up an image of the page in its memory (or in the ST's memory in the case of the SLM804) and only when this image is complete can the printing begin. Each dot to be printed is represented by one "bit" so on an A4 page of roughly 8" by 11" at 300 dots per inch, about 1Mb of memory is required. A true 600dpi printer takes four times this and so needs 4Mb of RAM.

The printing process is similar to a photocopier but works by a laser instead of optical lenses. First, a high static voltage is placed onto the drum's surface by a thin wire called the "corona" (or charge transfer roller in later models). Next, the laser

diode pulses on and off depending on the data to be printed and a small, eight-sided drum mirror spins rapidly, directing the laser beam across the OPC (Organic Photo Conductor) drum. This is a roller with a two-inch diameter, coated with a special chemical compound that holds electrical charge unless light is shone onto it. The drum now holds an image of the data for that line of print. Rotating in very small increments to allow subsequent lines to be built up, the drum then meets the toner supply. Toner, an incredibly fine dust, is also electrically charged with the same polarity as the drum, which means that the toner refuses to go near the areas where there is still some charge and only sticks to the erased areas – a high school Physics job!

The drum continues to rotate and meets the paper. This is charged with the opposite polarity, so attracts the toner off the drum and onto the surface of the paper.

As the toner is a fine dust it should just rub off the paper, but is fixed permanently by the fuser, two rollers that compress the paper and then heat up to 200 degrees Centigrade courtesy of a long thin quartz lamp. The heat melts the toner particles which fuse together and adhere to the paper producing a permanent finish. As the OPC drum continues to rotate, it meets a scraper blade which removes any excess toner that hasn't transferred onto the paper.

As the drum is only two inches in diameter, it has to rotate two or three times per A4 page, this being a continuous process for each page printed.

Interestingly, there are two ways of "writing" the data in a laser, both with their merits: write white and write black.

Most modern lasers write onto the drum where the toner is to be placed but some older lasers, such as the SLM804, write where there will be no toner, this being achieved by changing the way the charges are applied.

The main benefit of the Atari method is that large black areas are usually very good at the expense of finely detailed images.

THE SILENT KILLER

Anyone with an older laser (SLM804 and any LaserJet 2 or 3) should always take care if using that printer in a confined space due to the ozone (modified oxygen) produced. While this may be desirable high up in the atmosphere, it is dangerous at ground level due to its reactivity. The high voltages used in lasers generate ozone which has a strange smell and is very dangerous even in minute amounts.

Most printers have ozone filters but these can clog and are not totally effective. The best way to avoid ozone exposure is to leave the room while printing; ozone soon clears afterwards. Alternatively, buy a newer laser. The HP IV series use a charge transfer roller which avoids the discharges that produce the ozone and so do not need a filter. The effects of ozone on humans is well documented and can be quite serious.



Hewlett Packard's LaserJet 4 uses a charge transfer roller to avoid ozone creation.



A typical fuser assembly showing the pair of rollers – damage this and you're likely to receive a £300+ bill!

CHOICES, CHOICES

For the ST owner, there is an overwhelming variety of low-cost lasers available, most of which work with the industry-standard parallel port fitted to the ST. The main choices are between the old Atari laser, the HP series and the rest – Star, Brother, Canon, Ricoh and so on.

An Atari laser printer in good condition presents good quality at a bargain price as long as the drum doesn't get scratched. If it breaks down, repairs are very expensive.

The Hewlett Packard range, especially the small HP4L, are marvellous printers and as they use a cartridge system, where the drum and toner are in one slot-in package, the horror of expensive drums is removed. The downside is that the cost per copy increases.

The others, many modelled on the same Canon engine that HP uses, are very similar in both price and quality. If a bargain can be found, then study the output quality and compare the features.

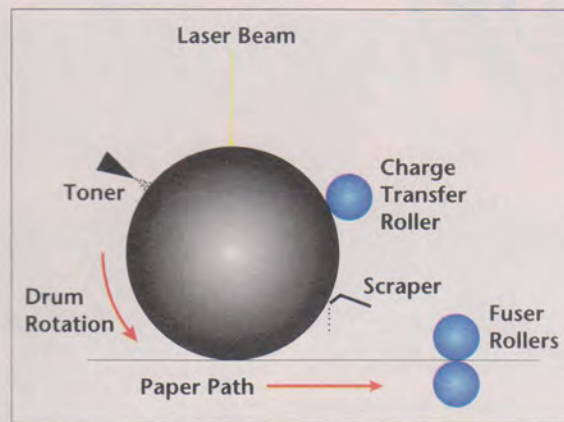


Most modern printers use a disposable cartridge holding both toner and the drum.

A QUESTION OF QUALITY

Having been pioneered by HP, most printers offer a variant of RET or Resolution Enhancement technology. This process occurs solely within the laser: the processor examines the outlines of text and dynamically varies the size of the dots that make up the curved edges of characters.

This effectively increases the resolution on small text characters to 600dpi from 300dpi. Unfortunately, this effect doesn't work with scanned images. The other factor affecting



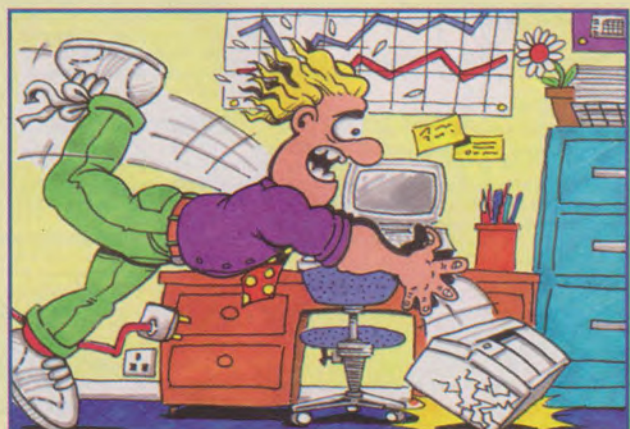
The mechanics of a laser printer.

quality is where packages use graphic fonts that don't support hinting, a process where small vector characters are changed to make them look better when printed on lasers. If a similar page produced on the same laser but fed from a PC is compared with an

ST-produced page, the quality is usually better from the PC. To ensure optimum quality, get the latest upgrade of *Calamus* or *Didot*, both of which support hinting. *SpeedoGDOS 5* (see page 34) will also support such features.

TEN HOT TIPS

- If your printer uses one, ensure the ozone filter is clean.
- Do not use poor quality exchange cartridges as they invariably disappoint!
- If toner spills, wash with *cold* water as the heat from hot water will fix it.
- If printing onto labels or card, make sure they are laser-proof.
- Be gentle when moving a laser printer – toner can spill and the mirror is easily broken.
- When buying a laser, make sure it comes with enough memory to print a full page of graphics – many don't.
- Don't vacuum up toner with a normal cleaner – the dust is so fine, it comes through the bag!
- Use Mellotex paper for ultra-smooth, high-quality print at a reasonable price.
- Check that the printer driver is the best one for your printer: ask the distributor for the latest driver.
- Keep paper in dry conditions otherwise printing may be patchy.



Gently does it – drop a printer and you'll pay plenty...

Want to learn a little more about music theory? Then *HearMaster* could be your cup of tea as Ian Waugh finds out...

I HEAR YOU, MASTER!

The *HearMaster* package actually contains two programs: *HearMaster* and *MidiMaster*. Avid ST music software followers may have a sense of *déjà vu* when they see them because they are actually revamped versions of C-Lab's *Aura* and *Midia* programs. The changeover from C-Lab to EMagic has seemingly brought the programs under the latter's jurisdiction – and at some saving over the price of the two individual programs, I might add.

The software can be copied to a hard disk but is protected by a master disk which must be inserted when booting a program. The two programs are launched separately.

AURAL TRAINING

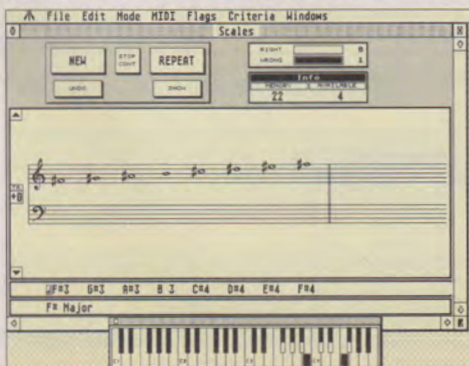
HearMaster is an aural trainer. Yes, I can already hear the groans and sense music students turning the page! Aural exercises are traditionally the least popular part of the music syllabus but if you're having trouble in this department, *HearMaster* could help.

It has five types of exercise: Intervals, Chords, Scales, Random Lines and Rhythm Patterns. They each have their own screen although they are basically similar in operation. You can select the level of difficulty along with the highest and lowest notes used, the velocity, MIDI channel, arpeggio time and so on. There is an extremely large range of options. For instance, chord types offers simple, average, advanced, classical, consonant and dissonant.

Answers are entered by playing notes on an attached MIDI keyboard, by clicking on an on-screen keyboard or by selecting an answer from those offered. The program keeps a record of your performance and tells you how many questions you get right and wrong, ending up with an overall percentage score.

It also has a chord analyser that analyses any chord you play. If it can't match it with a chord in memory, it

Testing your scales with *HearMaster*.



KEY FACTS

Product:
HearMaster

Company:
Sound Technology

Contact:
0462 480000

Price:
£129

SYSTEM

Minimum Memory:
1Mb (2Mb recommended)

Resolution:
Any except ST low

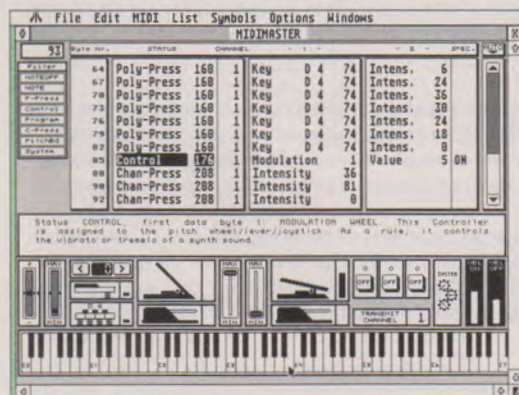
Computer:
ST/Falcon/TT

Parameter	
Lowest Note:	G 2
Highest Note:	C 4
Velocity:	75
Channel:	1
Arpeggio Time:	100
Staccato Time:	1500
Up or Down:	Rdom
ROOT Vel. Add:	0
NOTE Octave Add:	Off

You can customise *HearMaster's* exercises with a large number of parameters.

example, if you play notes on an attached keyboard, the on-screen keys are highlighted. Twiddle the pitch bend wheel and the on-screen wheel twiddles as well. What about the other 101 (well, 128) MIDI controllers? Well, as you can assign different controllers to the change icons, the program can be customised to handle any set of messages you need.

Data which has been received or generated is shown in the upper half of the window translated into fairly comprehensible English. Highlight a message and more info about it appears in a central window. A set of filters can remove certain messages



MidiMaster can generate all sorts of MIDI messages – and it explains exactly what they are.

from the display, so if your keyboard generates active sensing, you will find it most beneficial to filter this out. You can also suppress note off messages. Other features include being able to take a SysEx dump from an instrument and save it to disk and a byte calculator, showing data in English, decimal, hex and binary. This is very useful for messing around with the parameters you find in the MIDI Data Format section of instrument manuals.

VERDICT

Both of these programs are excellent in what they do. They're very accomplished with lots of features and good documentation and can be highly recommended.

But together they make strange bedfellows. The average muso is unlikely to want an aural training program and if you want a MIDI analyser, is there any reason why you would find an aural trainer useful? Educational establishments will probably get the most benefit from the package, although *MidiMaster* could also be very useful to anyone who needs to test a system to see if it is transmitting all the things it is supposed to. In fact, it's a neat little MIDI toolbox with some great functions for the serious MIDI user.

Look at it like this – if you want just one of the programs, go for it and look upon the other as a bonus!

PERFORMANCE

OVERALL

EASE OF USE	✓✓✓✓✓✓✓✓
DOCUMENTATION	✓✓✓✓✓✓✓✓
EFFECTIVENESS	✓✓✓✓✓✓✓✓
VALUE FOR MONEY	✓✓✓✓✓✓✓✓

81%

Following on from last month's Dance drum patterns, Ian Waugh tackles Rock – the rhythm that launched a thousand hits.

ROCK FOR ALL AGES...

IN	SOUND	QNT	INOTE	1	2	3	4	5
	Bass Drum 1	16	C1					
	Side Stick	16	Cs1					
	Ac. Snare	16	D1					
	Hand Clap	16	Ds1					
	El. Snare	16	E1					
	Low Floor Tom	16	F1					
	C1s HiHat	16	Fs1					
	Hi Floor Tom	16	G1					
	Pedal HiHat	16	Gs1					
	Low Tom	16	A1					

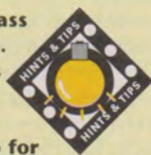
Figure 1: this standard bass, snare and hihat pattern works well over a range of tempos.

IN	SOUND	QNT	INOTE	1	2	3	4	5
	Bass Drum 2	16						
	Bass Drum 3	16						
	Bass Drum 4	16						
	Bass Drum 5	16						
	Bass Drum 6	16						
	Bass Drum 7	16						

Figure 2: four alternative bass lines for use with the snare and hihat pattern in figure 1.

ROCK TIPS

- For a heavy rock/metal sound, use a deep bass drum and add lots of reverb to the bass and snare. For soft rock or pop material, use crisper drums and not so much reverb.
- The basic rock patterns are not very complex so for a more human feel, record them in real time. Try to record the bass and snare parts at the same time so you achieve a rhythmic pulse, but if your keyboard skills aren't quite up to it, record them separately.
- You probably won't want to quantise rock patterns because rock is not so precise (some may say mechanical) a music form as Dance and Techno for example. If you enter the patterns in step-time, try adding a dash of randomisation – but don't overdo it.
- To make the drum pattern drive the song, use your sequencer's Delay or Offset function to move the drum track slightly earlier in time so it starts fractionally earlier than the rest of the song. Do experiment, but beware of moving it too far otherwise it will be out of sync.
- Use velocity to add accents to the hits, particularly on the hihats and beats two and four.
- When constructing a drum track from individual patterns, use two or more of the bass drum patterns throughout the piece to add variety.
- If you are using transpose on any part of your song, make sure you don't transpose the drum track! Many sequencers have a Disable Transpose or Transpose Off function to prevent this.



There are several different types of rock beat but we're going to concentrate on the seminal form that everyone will recognise. Half a dozen songs will immediately pop into your head when you hear it (probably all by Status Quo... Ed!)

Early rock patterns had a bass drum hit on beats one and three and a snare hit on two and four. This is generally considered a bit twee now although they say everything comes back into fashion.

Most modern rock beats vary the bass drum line. The snare generally stays on two and four and the hihats usually play eighth notes over the top. You can vary these too, but if you do you'll probably notice the rock feel drifting away and something else drifting in – something to be aware of.

IN VISION

We're using Cubase's excellent Drum Editor with the GM Drum Map. The darker the hits, the greater the velocity but don't take these as gospel – drum sounds may be slightly different on your equipment.

Figure 1 shows a standard bass, snare and hihat pattern which works well over a range of tempos. Played fast, it sounds like the drums in the Tom Jones hit, *It's Not Unusual*, but don't let that put you off! Note the

accented hits on beats two and four which give it that traditional rock feel.

Figure 2 shows four alternative bass lines for use with the same snare and hihat pattern. Bass Drum 2 is suitable for lighter pop tunes; Bass Drum 3 is more suited to heavy rock and works well at slower tempos. Bass Drum 4 combines Bass Drums 1 (in figure 1) and 2 and all three lines could be used in the same piece to provide variation when moving from verse to chorus, for example. Bass Drum 5 is more open and typical of the types of rhythm found in the more sophisticated areas of pop.

Figure 3 shows a Hi and Lo Conga topping which you would add to the bass, snare and hihat. It helps drive the rhythm: use it to build the song during a chorus, for example.

Figure 4 is a very simple Hand Clap line which will liven up the pattern a little.

FINAL WORD

Make up your own rock rhythms. For example, create two bar patterns using two consecutive sets of bass drum lines. Add different toppings. But remember that as this is a pretty basic rhythm – don't go overboard!

We'll try something a bit more complex next month when we look at Rap rhythms...

IN	SOUND	QNT	INOTE	1	2	3	4	5
	Hi Bongo	16						
	Low Bongo	16						
	Mute Hi Bongo	16						
	Open Hi Conga	16						
	Low Conga	16						
	High Timbale	16						
	Low Timbale	16						
	High Agogo	16						
	Low Agogo	16						
	Cabasa	16						

Figure 3: a Hi and Lo Conga topping added to the bass, snare and hihat helps drive the rhythm.

IN	SOUND	QNT	INOTE	1	2	3	4	5
	Bass Drum 1	16						
	Side Stick	16						
	Ac. Snare	16						
	Hand Clap	16						
	El. Snare	16						
	Low Floor Tom	16						
	C1s HiHat	16						
	Hi Floor Tom	16						
	Pedal HiHat	16						
	Low Tom	16						

Figure 4: a simple Hand Clap line can liven up any Rock pattern.

SLAM CD

**Intrinsic Technology • £10 •
081-761 0178**

Slam CD is a sample database for cataloguing sample CDs and libraries. It runs on an ST or Falcon as a desk accessory and only requires 40Kb of RAM as it loads its data from disk when required.

The main point to note is that this is a database program – it doesn't read the samples directly from the CD or from a sampler. Well, whadya want for a tenner! The idea is that you listen to a CD and enter the data as you go. There are 11 data fields for storing the sample name, type, CD title, track number and so on. There's also room for your comments, disk and program numbers. Once the data is entered you can search for a word or sequence of letters.

The program has a couple of operational peculiarities. A single screen holds 12 entries and you can only scroll through the screen in increments of 12. It would be better if you could scroll the entries individually. Also, if you scroll to another screen, any data in the previous one will be lost unless you either save

it manually or activate the Auto Save function which saves the data every time you scroll, so slowing down the system.

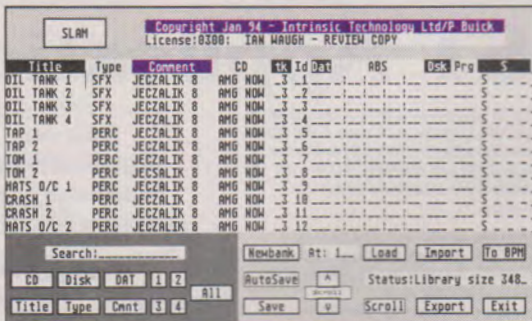
Entering data is also a bit weird. The cursor automatically moves to the right of a data field, even if it contains no data! You can move it to the left by hitting <Esc> but that shouldn't really be necessary.

Click on the *To BPM* button and the screen is replaced with two calculators: Tempo Delay and Score. Enter a tempo and it gives you the required delay time in milliseconds for seven divisions of the bar ranging from a whole bar to quarter note triplets – extremely useful for syncing delays on an FX unit to your music.

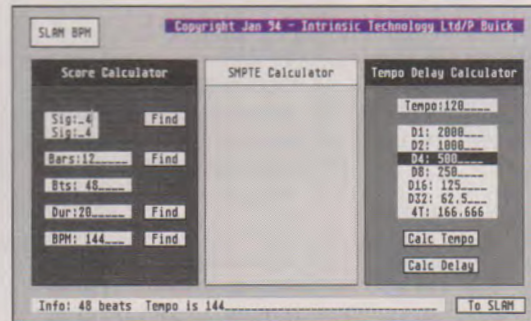
The Score calculator contains time signature, bars, duration and bpm fields. For example, you may have a 12-bar piece in 4/4 which you want to last for 20 seconds. Enter this into the program, click on the BPM button and the tempo appears.

ST REVIEW COMMENT: "Slam CD does a good job – the calculators make it especially good value for money. Difficult to criticise at the price but if the user-interface was tidied up it would be scoring 6 stars!"

★★★★



Slam CD can keep a record of all the samples on your sample CDs.



The Score and Tempo calculators are great little extras.

GROOVE MACHINE & ROCKBEATS

**Hands On MIDI Software • £9.95 each
• 0705 783100**

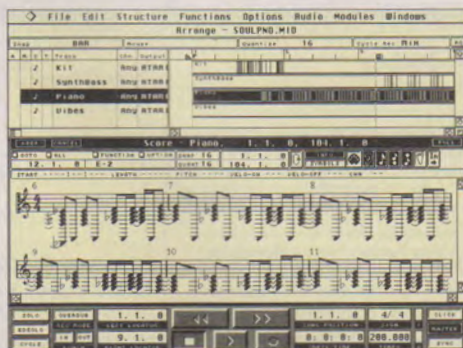
Groove Machine is a collection of backing tracks for you to jam along to. There are only four but they are goodies – Jazz Funk, Slow Jazz, Soul Jam 1 and Soul Jam 2. Configured for General MIDI, they sound very good on a standard GM module although they also contain SysEx messages for Roland GS instruments.

The arrangements vary in complexity from the fairly-busy Jazz Funk to the more sedate Soul Jam 2, although this starts jammin' away all by itself as it nears the end. Designed to help you hone your improvisational skill, you can play them through from beginning to end or set up loops of the most interesting bits.

The programming is difficult to fault but workmanship aside, potential purchasers must be wondering if four tracks is enough. I think I'd rather have shorter tracks which I could loop and a greater variety of styles. But there's just no pleasing some folk...

ST REVIEW COMMENT: "Nice tracks, and well programmed, but really not enough of them for a tenner."

★★★



The files on the Groove Machine disk are well arranged.

According to the blurb, *Rockbeats* contains 975 drum patterns. Not sure if it means patterns or bars, but they are combined into 19 files which are typically over 70 bars long.

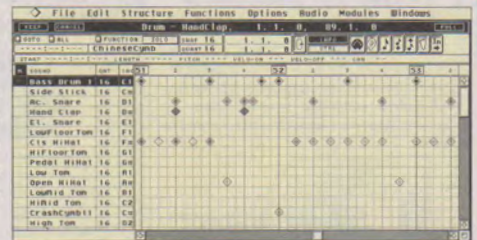
Configured for GM, the on-disk docs give information about the drum mapping used in case you don't use GM.

True to its name, there are 16 Rock files here plus one House, one Country and one Jazz. The arrangements are such that with a modicum of editing you could fairly quickly whip these into a format to suit your own songs, which is what it's all about, after all.

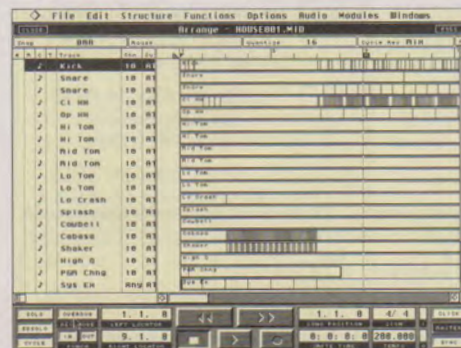
The patterns look as though they have been through a quantise routine but velocity is used extremely well to avoid a mechanical feel.

ST REVIEW COMMENT: "A good assortment of Rock-oriented patterns – excellent value for money."

★★★★★



Velocity is used on the Rockbeat patterns to add feeling to the tracks.



The Rockbeats House pattern uses a large number of drums to excellent effect.

FaST Club

For users of Atari ST & Falcon computers

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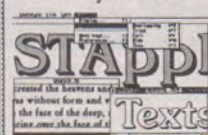
Each command is explained in detail with all of the necessary information given on how to use it correctly. Tips and tricks are offered throughout the guide to give you ideas on how to exploit each command to its fullest. Just a few of the topics covered are: quick print, header, footer, define several clipboard buffers, page numbering, text alignment, drop capitals, and more. Requires a hard drive. Also available from the same author is Mastering Atari Works, price: £29.95

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PD/SHAREWARE (NON-GAME)
AUTO FOLDER APPLICATION
DESK ACCESSORY
HARDWARE	BEST	WORST
HARD DISK DRIVE
MONITOR
PRINTER
SCANNER
SYNTH (MUSICAL)
UPGRADES	BEST	WORST
HARDWARE UPGRADE
SOFTWARE UPGRADE
GAMES	BEST	WORST
GRAPHICS
SOUND
PLAYABILITY
VALUE FOR MONEY

It's time again for you to tell the industry what you think of its products. All you need to do to cast your vote is fill in the name of the product, company or software title where requested. You can only nominate one item in each category but you don't have to fill them all in – if you don't have a favourite in a particular area, just leave it blank.

Don't forget to put in your name and address at the end of the form. All the results will be published in the Christmas issue of *Atari ST Review*.

Awards can only work if you cast



your vote and to help you decide whether to fill in the form or not, one lucky reader will definitely win a Jaguar games console, complete with joypad and the excellent *Cybermorph* game – and all you have to do is fill in a form...

OVERALL	BEST	WORST
PRODUCT OF THE YEAR
COMPANY OF THE YEAR
GAME OF THE YEAR
SOFTWARE HOUSE OF THE YEAR
BBS OF THE YEAR

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Now fill in your name and address and post the completed form to:
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All forms will be entered into the prize draw regardless of voting. The winner will be drawn after the closing date of 30th September 1994. No multiple entries. If you don't want to cut your copy of *Atari ST Review*, you may photocopy the form, but only one entry will be allowed. The editor's decision is final and no correspondence will be entered into. There is no cash alternative to the prize on offer.

GAME PLAY

Maps are useful for a spot of route-planning.



Tina Hackett transports herself to the Tolkienesque world of Kendoria as *Silmarils* sets to stun once again with its third part of the *Ishar* series...

Hallucinogenic potions, murders, fights – sounds like downtown New York perhaps? Well what we have here are just some of the ingredients in *Silmarils'* wonderful RPG trilogies.

If the names Kendoria, Shandar and Morgoth sound familiar then you are already a follower of the series. And for you, and those whom have not yet experienced the delights of the *Ishar* games, *Ishar 3* will be a real treat.

THEY'RE BACK

The game takes over from where *Ishar 2* left off. The evil Shandar, killed off in *Ishar 2*, is back, in soul at any rate, and intends to reincarnate himself in the deadly form of the dragon Wohratax, the last survivor of the Black Dragon race.

If Shandar succeeds in doing this, then the world of *Ishar* is doomed. The only hope is to prevent him from succeeding before the planetary conjunctions of the two moons, sun and the planet *Ishar* take place. This is the only time when such a plan can be carried out.

You must find and kill the dragon before this happens but you have to travel back in time and through a series of time gates to do this. All manner of weird and wonderful creatures will either help or hinder you. It's a tough quest but, in typical RPG style, you can recruit others to help you and, of course, use the magic potions at your disposal.

The key to success is creating the right team to accompany you. With over 100 different characters to choose from, all with changeable races, classes and skills, you should be able to create a first-rate side bearing in mind that each member will have a different personality. You can also use the facility to load

ISHAR 3

THE SEVEN GATES OF INFINITY



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KEY FACTS

Product:

Ishar 3

Company:

Daze Marketing

Contact:

071-328 2762

Price:

£32.99

SYSTEM

Minimum Memory:

1Mb

Resolution:

ST low

Computer:

ST, STe and Falcon

previous teams from *Ishar 1* and *Ishar 2*.

INNS AND OUTS

As the game unfolds, you can enrol other members and the best place to do this is the inn. You can also dismiss or assassinate members who prove to be more trouble than they're worth! A decision of this kind must be taken carefully as the psychology of the characters can be affected. If another member has a sympathy for the victim he may then kill the murderer. Coo, heavy stuff!

Inns also offer the opportunity to rest the party, eat or listen out for information. Eating or sleeping is vital to raise the players' life points which decrease as the characters travel. The players have psychic powers that influence the effects and duration of magic spells and these can also be recovered by sleeping or drinking certain potions.

On your travels you will encounter various baddies that are in definite need of defeating. Spells can be used in some circumstances but the normal method of combat is through clicking on the "fight" icon. This deals a single blow to the enemy with the weapon in hand or, if no weapon is held, by fist. The fights are in real time and a tactical grid can be used to place characters in order. Say, for example, you have a strong character and a weedy one, you may wish to place the tough guy in the front line for fighting (*sounds like discrimination to me... Ed*).

SPELL IT OUT

When the going gets tough, the tough get spell-making! Spells can be used but there are only four types of characters who can cast them. Defence spells vary from Healing, which increases the life points of injured players, to the powerful Resurrection of players.

Attack spells can prove deadly – you can cast an ice cloud against a fiery opponent or a fire storm against a host of on-screen enemies.

To add to the realism, day and night scenarios have been used. One minute you're walking down the cobbled streets, getting accustomed

SUMMARY

GOOD POINTS:

- Breathtaking graphics that conjure up the atmosphere brilliantly
- Absolutely huge game with many different areas to explore
- Billions of characters to meet in some top quality animations

BAD POINTS:

- Icon system a little fiddly at first
- Night scenes are sometimes a little too dark

FINAL WORD:

"RPG heaven – the ultimate in role-playing adventures that will undoubtedly become a classic."

to your surroundings, and the next dusk falls and you're plunged into the blackness of night. This makes life even trickier as you try and find your whereabouts in the dark streets – quite spooky even for hardened adventurers. Certainly adds to the rich atmosphere.

MAP IT

Fortunately there's a handy map feature and a compass to find your way around the maze-like settings. Considering the many locations this is a very welcome feature indeed and certain areas appear on the map as you progress.

This is just one of the remarkable aspects of *Ishar 3*. The vast number of locations to explore and the variety involved is quite astounding. Each one has been created so carefully, and packed with such fine detail, that the whole scenario looks spectacular.

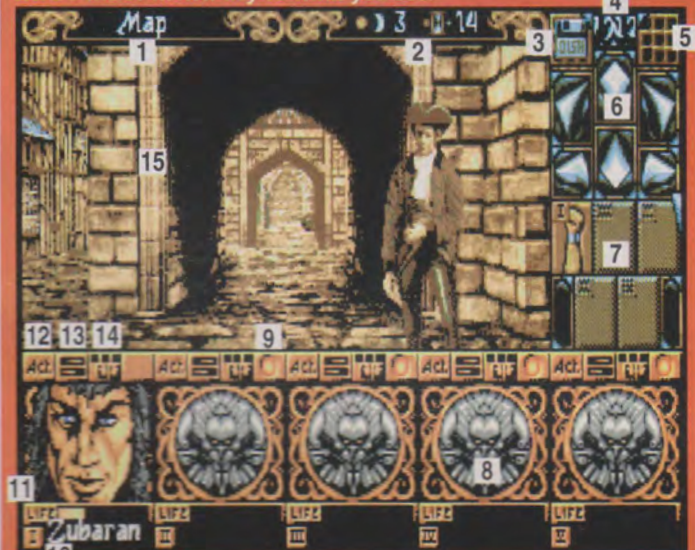
There are outdoor scenes including forests and caverns and many indoor locations with libraries, temples and even banks.

Atmosphere, an essential ingredient in fantasy RPGs, is here in abundance and the magical theme conveyed superbly. Animated sequences have been used to show some of the action and work well with the wealth of different characters communicating with you in some way.

Some friendly, some not so – you have to discover which is which as you go along. It's all very exciting

ABANDON ALL HOPE...

Here's the *ST Review* key to what you see!



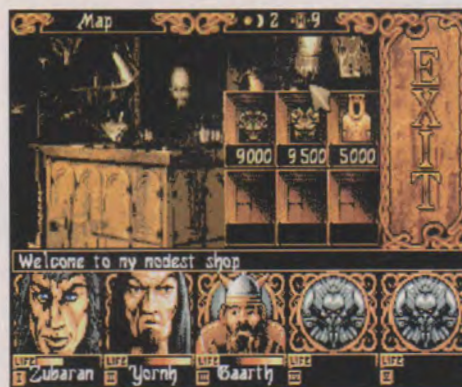
- | | |
|---|---|
| 1 Map | as you recruit |
| 2 Time | 9 Spell Icon |
| 3 Disk Access | 10 Character Name |
| 4 Compass | 11 Life Meter |
| 5 Tactical Grid – organise players for fights | 12 Act Icon – enrol/assassinate/dismiss/first aid |
| 6 Directional Arrows | 13 Fitness Levels – characters' physical and psychic levels |
| 7 Fight Icons – character's active weapon | 14 Objects Held |
| 8 Stone Faces – turn to characters | 15 Main 3-D Play Area |

stuff! A few minor grumbles though. The sound effects are a little sparse and lack variety. Also, sometimes when night falls it appears a little too quickly – at times it's rather difficult to see where you're going! But these are only small points that certainly don't spoil what is otherwise an absolutely fantastic game.

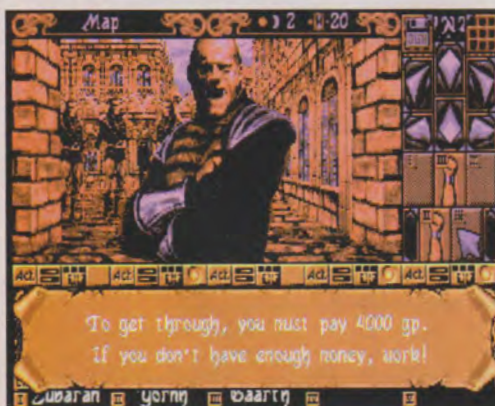
VERDICT

The puzzles are taxing, the enemies fierce and the atmosphere chilling. It's not for the faint-hearted and will prove a tough one to crack because it stays varied enough to remain intriguing and its addictive properties are quite lethal.

The web of plots draw you into the game and the many mysteries of the world of *Ishar* will keep you adventuring for ages. But don't just take my word for it – grab your swords and magic hats and step into the world of spells and sorcery. You won't be disappointed!



A trip to the local supermarket can pay dividends...



Vicious characters – and they don't wear trousers!

PERFORMANCE

OVERALL

- GRAPHICS ✓✓✓✓✓✓✓✓✓✓
- SOUND ✓✓✓✓✓✓✓✓✓✓
- VFM ✓✓✓✓✓✓✓✓✓✓
- PLAYABILITY ✓✓✓✓✓✓✓✓✓✓

90%

GAMES GALORE!

Tina Hackett plays God and takes a look at some of the ST's finest strategy games. Play or be damned....

Strategic diversions – perhaps the most mentally challenging of all computer games. Progression requires logical thought and a great deal of patience. Arguably the most popular of this category are the “God” games which have become so common that they have created a genre in their own right.

Spanning in variety from alien planets to the ages of old, the aim is always the same: you are a “God”, of sorts, and it is down to you to create a new world. Starting off with an empty land, you have to build up a successful empire with the aim of creating a thriving community.

Although the aim remains virtually the same, the games differ in various aspects such as time span or the depth and number of things you must achieve. Your task may vary from having to see off rivals to planning where to build new roads.

But because these games do demand thought and concentration, they are in danger of being stereotyped with an image of dullness. Are such games played solely by boffins? No way! It's important to stress how enjoyable they really are – and playable by just about everyone!

We take a look at some of the finest.....

UTOPIA

Brought to us by Gremlin, *Utopia* takes you to the vast realms of outer space – the Omicron-Kappa planets, to be precise. You take on the role of Colony Leader and your task is to colonise these planets. As well as trying to create an affluent colony, you also come across resistance from other systems.

Your ultimate goal is to create a high quality of life for the inhabitants and if you do, and maintain your creation into the bargain, the base on Earth awards medals.

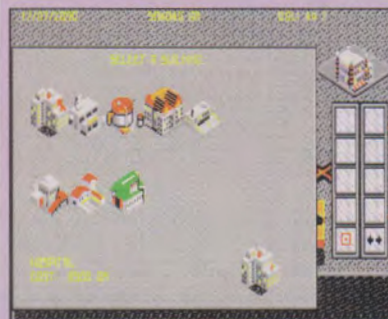
There are a number of scenarios to achieve, progressing in difficulty. You have to set up everything from Flux Pods (power stores) to Ship Construction Yards.

Spying on other colonies and setting up new industries all become part of your aim. You can always consult one of your advisers if things get tough and if you wish to find out the morale of your people or the current crime rate, then call up the Senior Psychiatrist!

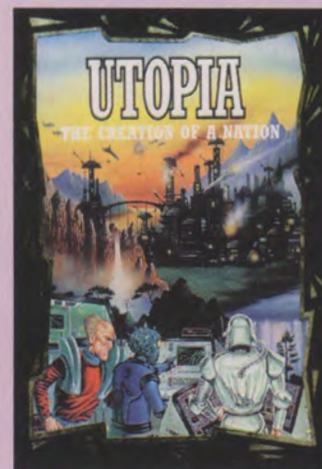
Defending the city is a prime concern. Four types of attack are available and you have tanks, spaceships, laser turrets and missile launchers at your disposal.

For those with an interest in the mysteries of space, *Utopia* provides an in-depth strategy game with a nicely laid out screen and an easy-to-use icon system.

■ Overall Rating: 78%

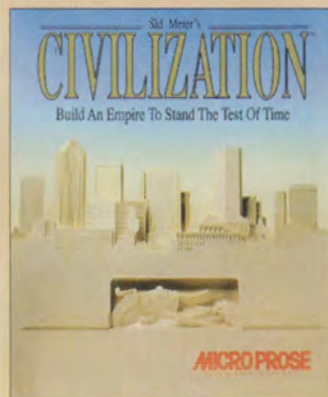


Choose the buildings you think your planet needs.



The main action area – watch your planet evolve.

CIVILIZATION



Watch your village progress through the ages.



Whatever particular period in history takes your fancy, you can now cast yourself in the part of the ruler of an entire civilization from the world's first city to colonisation in space. So whether you see yourself as a budding Julius Caesar or Genghis Khan, Sid Meier's *Civilization* provides the opportunity.

You start as a prehistoric wandering tribe that are advanced enough to start building cities. From there you expand, spreading cities over entire continents.

Starting with the very basics, you have to allocate citizens to work the farmland or the mines, for example, turning raw materials into goods and so developing the industries. You then go on to trade once suitable routes have been established.

However, once contact has been made you must beware of rival civilisations. Success in battle can result in capturing cities but long and costly wars can give rivals an opportunity to expand and grow.

Technological advancements must be made and you can order the cities' wise men to work on areas such as discovering the alphabet or Iron working.

To win a game of *Civilisation*, you must either eliminate all rivals or survive until the colonisation of space begins.

As this title has so much to it, it's a little harder to get into than some others. However, the time and effort pays back tenfold – *Civilisation* is a highly addictive and thoroughly engrossing game.

■ Overall Rating: 83%

POPULOUS



This is a God game in its truest sense – you are a “Divine Being” and start the game with a group of followers. Your power comes from them and the more followers you have (and the greater their achievements), the more power you have. But the game doesn’t end there. Another group follow a different deity and it is your aim to destroy the opposition.

A series of conquests follow and to progress onto the next world you must defeat your opponent in the current world. There is a Leader among your followers and he is the only one that you can directly advise or control.

Your followers have to find suitable land on which to build – and should your rival and his followers have a thriving little community going, then you go in with a destructive earthquake special. A tad underhand perhaps, but great fun!

Populous is a fine example of this style of game and provides the ultimate feeling of power.



■ Overall Rating: 77%

Fine graphics show the action well.

MEGALOMANIA

Sensible Software, renowned for tiny sprites and some superb titles, shows off its abilities with the *Megalomania* strategy offering.

You play one of four gods and are allocated one hundred men: divide these between the 28 islands that you must try and win. Starting at the beginning of time, your men must evolve, designing weapons and the like – the more complex the design, the longer it takes but the more likely you are to advance quickly.

Mining must be developed to obtain enough materials for a good army. Although war is the prime concern, you must also provide the resources for building up the population.

When it’s time for battle though, you and other gods can “gang up” to defeat enemies. In the course of this, you choose how to allocate the men – for example, how many bow men you wish to deploy.

Megalomania requires you to balance a good domestic policy with clever weapons’ research before you can achieve the game’s main aim – the obliteration of your opponents. This is a lethal combination that proves highly addictive. The graphics look nice and the little sprites hold a certain charm. Sound effects are great too!

Unfortunately, *Megalomania* appears to have been discontinued but it is certainly highly recommended and worthy of being in this collection. If you find a copy knocking around, grab it!



Small sprites – now almost a trademark of Sensible Software.

■ Overall Rating: 81%

THE BEST OF THE REST

Many titles fit into this category, and if our main games haven’t taken your fancy then here are some alternatives that might...

POWERMONGER • HIT SQUAD

Powermonger now comes complete with a World War 1 edition. You’re in control of a group of followers settling in a new land. Through diplomacy or battle, you have to defeat the others who are jostling for power. World War edition has a similar goal but takes you back to the period of 1914 where rifles and advanced weaponry replace the sword.

TRANSARCTICA • DAZE MARKETING

Not strictly a “God” game, but following the same principles, *Transarctica* is a tactical game set in the future. The year is 2022 and the planet is suffering a nuclear winter. Survivors travel around in trains and trade in order to survive. You are in charge of the train *Transarctica*, and your ultimate aim is to restore the sun. A great, unusual, game with plenty to keep the brain ticking.

RAMPART • DOMARK

This coin-op conversion, with a rather unsophisticated look, has some fine gameplay. The idea is to build a castle and defend it from attacks. Playing against the clock, you must choose a site for your castle, decide a place for your cannons and then face combat mode. Then you rebuild your castle walls. It sounds fairly simple but takes a fair amount of working out. Great fun, despite basic graphics.

SIM CITY • HIT SQUAD

A classic “God” game where you build your own city from scratch. Schools, churches, parks and police stations have to be found suitable locations. Finding the right combination requires careful thought and keeping your citizens happy should remain a priority...

BUYER'S GUIDE

YOUR CHOICE...

Having trouble making up your mind? Then take a peek at our at-a-glance buyers' guide to the definitive “God” games...

Game	Company	Contact	Price	Machine	Memory	Graphics	Sound	VFM	Playability	Overall
<i>Utopia</i>	Gremlin	0742 753423	£9.99	ST/STe	0.5Mb	7	7	9	8	78%
<i>Civilization</i>	Microprose	0454 326532	£34.99	ST	1Mb	9	7	8	9	83%
<i>Megalomania</i>	Image Works	N/A	£30.99	ST/STe	0.5Mb	8	8	8	8	81%
<i>Populous</i>	Hit Squad	061-832 6633	£12.99	STe/1040STF	0.5Mb	8	7	8	8	77%
<i>Powermonger & WW1</i>	Hit Squad	061-832 6633	£14.99	STe	0.5Mb	7	7	7	8	74%
<i>Transarctica</i>	Daze	071-328 2762	£27.99	ST/STe	1Mb	8	7	7	7	73%

Dave "I'm too competitive" Jones finds a pair of budgets for all you aggressive types...



WINTER GOLD

KIXX XL • £14.99 • 021-625 3311

IN BRIEF: Winter is almost upon us once again so it's time to find the ice-skates and skis to get into practice for US Gold's *Winter Gold*. Brought to us care of its Kixx XL budget label, *Winter Gold* is a two-game compilation of Epyx's previous releases, *The Games*, *Winter Edition* and *Winter Games*.

You can take part in all of the usual Winter Olympics' events from Figure Skating to Ski-Jumping. Compete against other nations as you strive for a gold medal – or drag a friend or two into the fray as the competition really heats up!

The actual idea for the game is great and, fooled by the attractive appearance and novelty value, I actually looked forward to playing this. It soon became apparent though that the one thing that really matters is missing – gameplay. For instance, the game becomes extremely frustrating when the views suddenly change. One moment you see yourself happily skiing down the piste; the next you see some ridiculous view of your skis.

It does look nice graphically, especially considering its age. The snowy



Figure Skating – select your moves to the music.

scenes are created well and the sprites are detailed – until you get to a ski-jump and turn into a stick man graphic. Totally ridiculous!

ST REVIEW COMMENT: "As the games are two separate releases, you get an overlap in the actual events included which really does show how poorly thought out it this is. There are two versions of Figure Skating, two of Ski-jumps and other suspiciously similar events."

While the *Winter Olympics* is a great idea for a sports game, and the facility to compete against your friends could have made this an excellent title, it is let down so badly by a tedious control system that it hardly warrants even trying to play – unless you actually enjoy breaking you joystick and nearly doing yourself an arm injury in the process!



Yes, that's you – the ridiculous dot at the top of the jump!



Another bout of joystick bashing might get you somewhere in this event...

You encounter all manner of weird and wonderful enemies...

FIRST SAMURAI

UBISOFT • £9.99 • 081-343 9055



IN BRIEF: Ever fancied yourself as a bit of a Bruce Lee or Karate Kid? Do ninja beat-'em-ups take your fancy? If so, then *First Samurai* is well recommended.

The game starts with the beautifully drawn storyscreen imparting the sorry tale of how the Samurai's master was killed. The Demon King descended from the mountain and battled with the master. The Samurai was powerless against the king's magic and the master, drawing his last breath, summons the Wizard Mage. The Demon King fears for his life and disappears into the future. The



Obstacles, such as walls of flame, must be overcome.

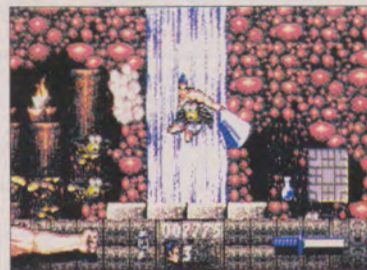
Samurai wants to avenge his master's death, summons Mage to learn the rudiments of magic and follows the King into the future.

And that's where you come in, taking on the role of the Samurai. Armed with various weapons and your combat skills, you must aim to track down and defeat the King. Your journey is made perilous by the many creatures and obstacles you encounter, but the Wizard Mage can be summoned in times of trouble though.

ST REVIEW COMMENT: This really is the *Bruce Lee* of beat-'em-ups. The stunning, detailed graphics conjure up the futuristic, Japanese atmosphere brilliantly. Action is fast and furious throughout and contains enough puzzles and extra tasks to make it a lot more than just another arcade game. The sound effects are excellent and fit in well with the oriental setting.

The difficulty level is spot on and the millions of moves available to wipe out your enemies are varied and effective – the control system is intuitive and easy to get the hang of.

This is an undoubtedly classic and, despite it's age, it is a darn sight more entertaining than some of today's offerings!



From dingy caves to mountainous terrain, the mythical atmosphere comes across well.

PD SCENE

Fishing for some games on the cheap? Then leave it to Nial Grimes to find the right angles...



Sub-games are used to break up the pinball mayhem, but be warned - they're not easy to find!



STARBALL

GOODMAN INTERNATIONAL • DISK NO: GD.2315
• £1.95 • MEMORY: 0.5MB • SHAREWARE •
FALCON-ENHANCED

IN BRIEF: Very few traditional "arcade" games transfer well to computer format, but pinball has to be the exception. Titles like *Pinball Dreams* on the Amiga have proved just how entertaining a bit of flipper-bashing can be in the nineties, but what about the good old ST?

Well, after several anxious years of waiting, the ST and Falcon finally have a pinball game to put all others in the

The quality of presentation is outstanding - the attract mode is better than many dedicated ST demos!



shade - this has to be the best PD game since *Grandad 2*! The play area is made up of three stacked tables and there are no fewer than three sets of flippers to deal with.

The ball starts life in the central table and the idea is to keep it there, or move upwards - and believe me, that's far easier said than done! Only when the ball falls through the very bottom set of flippers is a life lost.

The table itself has a very "spacey" feel and there are numerous bonuses and sub-games to find. These break up the action nicely and all have a very strong pinball theme. In order to complete the space invaders screen, for example, you need to use a pinball as a weapon. The two <shift> keys are used to control the flippers and there's also a penalty-free "nudge" facility.

The icing on the cake though is the presentation. Intro screen after intro screen rolls on and the quality of the graphics is breathtaking. Even the scrolling manages to remain smooth on a standard machine and the only slight let-down is the sound effects - they're reasonably good, but there's little room for improvement.

The Falcon game is identical to the ST version, except you can count on a full fifty frames a second when using an RGB monitor. Oh, and by setting up a text file on disk, you can opt to have soundtracker music playing in the background.

ST REVIEW COMMENT: "*Starball* just oozes quality and if you have any fond memories of pinball at all, you will just love it. It takes full advantage of whatever machine you own and there are so many hidden screens that it will keep you going for ages! Altogether now... "That deaf, dumb and blind kid, suuuurree plays mean pinball!"



Beautifully designed graphics spread over each table and the scrolling effortlessly keeps with the hectic gameplay.

WORD WIZARD

LAPD • DISK NO: L.84 • £3.00 • MEMORY:
0.5MB • LICENCEWARE

IN BRIEF: *Word Wizard* is yet another example of that rare breed (*oh yes... Ed*) the public domain quiz-'em-up. In a nutshell, the aim of the game is to amass money by gambling on your knowledge of the English language. Each round presents a rather obscure word and your job is to pick the synonym (or put differently, one that means the same thing).

Theoretically, the game can be played solo, but it's at

The idea of the game is to match word meanings in order to gain cash - tense it is not...



its best when somebody else joins in. You see, there doesn't seem to be much in the way of an objective at all - just pump up the score as much as you possibly can. As for other game options, the size of the words can be adjusted to give an easier or harder challenge and the number of rounds can also be reduced to suit your pain threshold. Sound effects are of the "blippity-blop" variety.

ST REVIEW COMMENT: "*Word Wizard* is a run-of-the-mill quiz game. It's not the sort of thing that makes you want to write books or compose symphonies, but on the other hand, there's nothing bad about it as such. In a word - uninspiring..."

**



Listed above are a selection of words that you can expect to encounter within the game, some of which describe Word Wizard quite well!

COLOUR CLASH

LAPD • DISK NO: G.280 • £1.50 •
MEMORY: 0.5MB • SHAREWARE



IN BRIEF: *Colour Clash* must be the first game in history to put the player in the role of a laboratory animal. The plot goes something like this: an evil professor wants to test the endurance skills of the humble chameleon, so he drags a poor little defenceless animal away from his mate and packs him off to a huge maze.



The graphics are distinctly Animalsoft and cute little animations spice up the addictive gameplay.

Our friend the chameleon vows revenge but must, of course, escape from the maze first, which is where you come in.

The aim of the game is to make your way through the maze by clearing each screen of tasty flies. Chameleons are not known for their acrobatic abilities and therefore icons have to be collected to provide the necessary special skills. It's all about using the right skill at the right time – mess up and there's no option but to self-destruct. Fortunately, even if you do run out of lives, a password can be used to return to the last screen played. There's no time limit, so you can afford to have a good think about each level before committing yourself.



Later levels get more complicated and the special skills must be used at exactly the right time.

ST REVIEW COMMENT:

"Yet another classic from Animalsoft. While the gameplay is relatively simple, *Colour Clash* has superb presentation and is lethally addictive. It's also nice to see a password system, so there's no need to go battling through the same levels time and time again."

★★★★



Galaxian is true to the original game, right down to the seventies' sound effects.

GALAXIAN

SINISTER DEVELOPMENTS • FREE TRIAL •
MEMORY: 0.5MB • SHAREWARE

IN BRIEF: Believe it or not, the ST has never been home to a good *Galaxian* clone. Sure, you'll find dozens of souped-up alternatives, but in adding bells and whistles the programmers have completely destroyed the soul of the original. Sinister Developments' version of the game on the other hand is as authentic as they come – once you stray beyond the title screen, it's goodbye to the nineties and hello 1979. In case you haven't played the game before, *Galaxian* is a twist on the space invaders theme. Instead of staying in a rigid formation, the aliens break off from time to time and swoop across the screen firing at you. The higher the level, the nastier they get, and so it goes on, and on, and on...

You can have a free trial of *Galaxian* by sending a disk and SAE to Sinister Developments, 16 (1F3) Downfield Place, Edinburgh, EH11 2EL. If you do enjoy the game, the registration fee is just £5.

ST REVIEW COMMENT:

"The original *Galaxian* was never a landmark game in the same way as *Defender* or *PacMan*, but it was incredible fun to play and this version carries on that tradition. There's not an awful lot of depth there, but then again, it was designed to suit 1979 hardware!"

★★★★



Outside the game screen itself, the presentation is swish and the music just superb.

Getting bat on ball is almost impossible at first, but it does get a little easier with practice.



INTERNATIONAL CRICKET

GOODMAN INTERNATIONAL • DISK NO: GBU.111
• £2.95 • MEMORY: 1MB • LICENCEWARE

IN BRIEF: Cricket must be one of the most popular sports in this country, so it's surprising that we don't see that many simulations. *International Cricket* from Budgie aims to put this right. It's an arcade simulation that places you in command of some of the best teams in the world.

The gameplay is the usual sports mixture of pressing the fire button at the right time and strategically wiggling the joystick.

The main problem is that the game is just too damn hard – when you are

batting, you view the field from the bowler's perspective and it's practically impossible to see when the ball is in range of the bat. Fielding is a lot easier and to be fair, things do improve with practice. As you can see, graphically it's not stunning, but digitised sound effects do their best to add some atmosphere.

ST REVIEW COMMENT: "There's a reasonably good game hiding behind *International Cricket's* primitive graphics. It's one of those titles that will appeal to fans, but just isn't quite good enough to interest the rest of us."

★★★

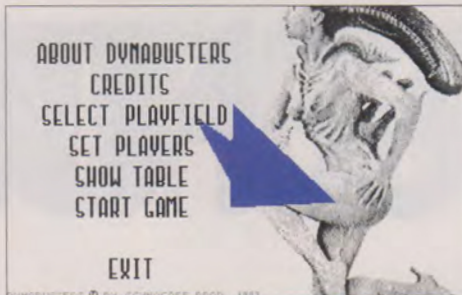


Fielding is a bit more straightforward, but anybody who isn't a die-hard cricket fan is likely to get frustrated fast!

DYNOBUSTERS

**GOODMAN INTERNATIONAL • DISK NO: GF.75 •
£1.95 • MEMORY: 1MB • SHAREWARE •
STE/TT/FALCON ONLY • HIGH DENSITY DRIVE**

IN BRIEF: Everybody knows that there's nothing like playing against a human opponent to increase the excitement of a game, so how does a six-player game strike you? *Dynobusters* describes itself as a "bomb-'em-up" and the idea is quite literally to outwit the other players by trapping them into the path of an explosion.



Dynobusters' presentation is almost perfect, with crisp sampled sound and quality graphics throughout.

Each player has his own little plasticine character and you can drop a stick of dynamite by pressing the fire button. The explosion only travels in a straight line, so the trick is to keep out of your own line of fire, while avoiding the other players' best attempts to zap you. As chunks of the scenery are blown away in explosions they leave power-ups in their wake; by collecting them you can increase the power of your dynamite and also lay more than one stick at a time. Other icons have a detrimental effect and if it's all beginning to sound a bit complicated, don't worry – the on-line play-guide is bound to sort out any queries.

The number of players is adjustable between two and six – the first two are controlled via normal joystick, but in order to stretch the game to its full potential you will need to hook up to the extended ports on the side of the machine. No doubt, exact information is provided when you register. It's debatable whether many people will want to do that though – at twenty quid, the registration isn't cheap.

Dynobusters requires STe or Falcon hardware and boy does it show! A constant stream of tracker modules play along in the background and digitised sound effects add some humour to the proceedings – the "waahhh"



Power-ups appear in the wake of explosions and can improve the range of your character's dynamite.



Explosions only travel in straight lines, so it is fairly easy to avoid disintegrating yourself.



noise when a character bites the dust sounds like it has been ripped straight from *Rick Dangerous 2!*

ST REVIEW COMMENT: "Oh yeah – feel that arcade atmosphere! *Dynobusters* reeks of console games and that's no bad thing; it really makes a change from the run of the mill shareware offerings. The STe's hardware is put right through its paces here and the music is just wonderful."

★★★★★



The gameplay and icons may seem complicated at first, but don't worry – the on-line tutorial will soon put you right.

SHOCKER 2

**GOODMAN INTERNATIONAL • DISK NO:
GD.2191 • £1.95 • MEMORY: 1MB •
SHAREWARE • FALCON-COMPATIBLE**

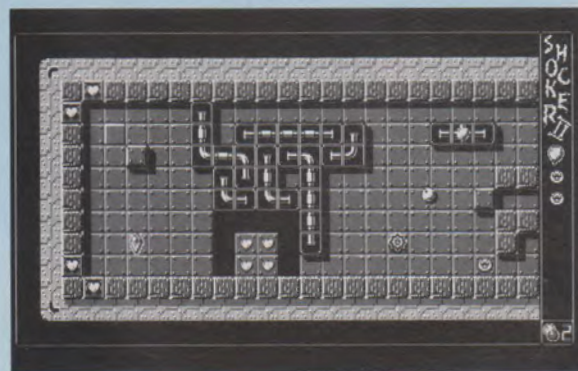
IN BRIEF: If you are a fan of *Oxyd*, *Shocker 2* is one game that will be right up your street. Your task is to navigate a ball-bearing through a series of obstacles, collecting hearts as you do so – sounds familiar eh? Gravity does its best to prevent you from completing your task and a lot of skill is needed if you're going to get anywhere at all. Mind you, despair doesn't set in too quickly because it's possible to skip straight to the last completed level.

The graphics are obviously mono, but they are nicely defined and at no point does it become difficult to see what's going on. The game works well with a mono emulator, as long as you ignore the slightly garbled title screen.

It's also Falcon and TT compatible, as long as you don't try to view the instructions.

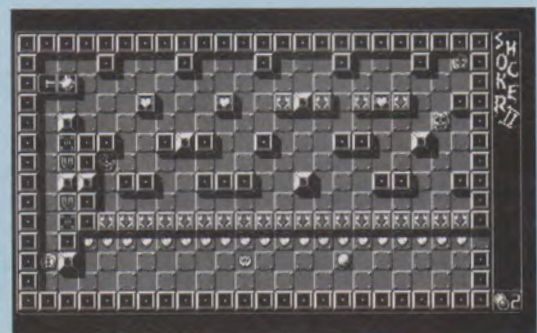
ST REVIEW COMMENT: "*Shocker* is very reminiscent of *Oxyd*, and hardened fans will enjoy it immensely. It's one of the most infuriating games I have ever played in my life (level 6 – arrgghh!!) but do you think I could stop playing? No way!"

★★★★★



Avoid this game if you have no patience – loss of temper is inevitable after level 6!

Even the gravity changes from time to time – in some cases it's a good thing, in others it's a little less convenient...



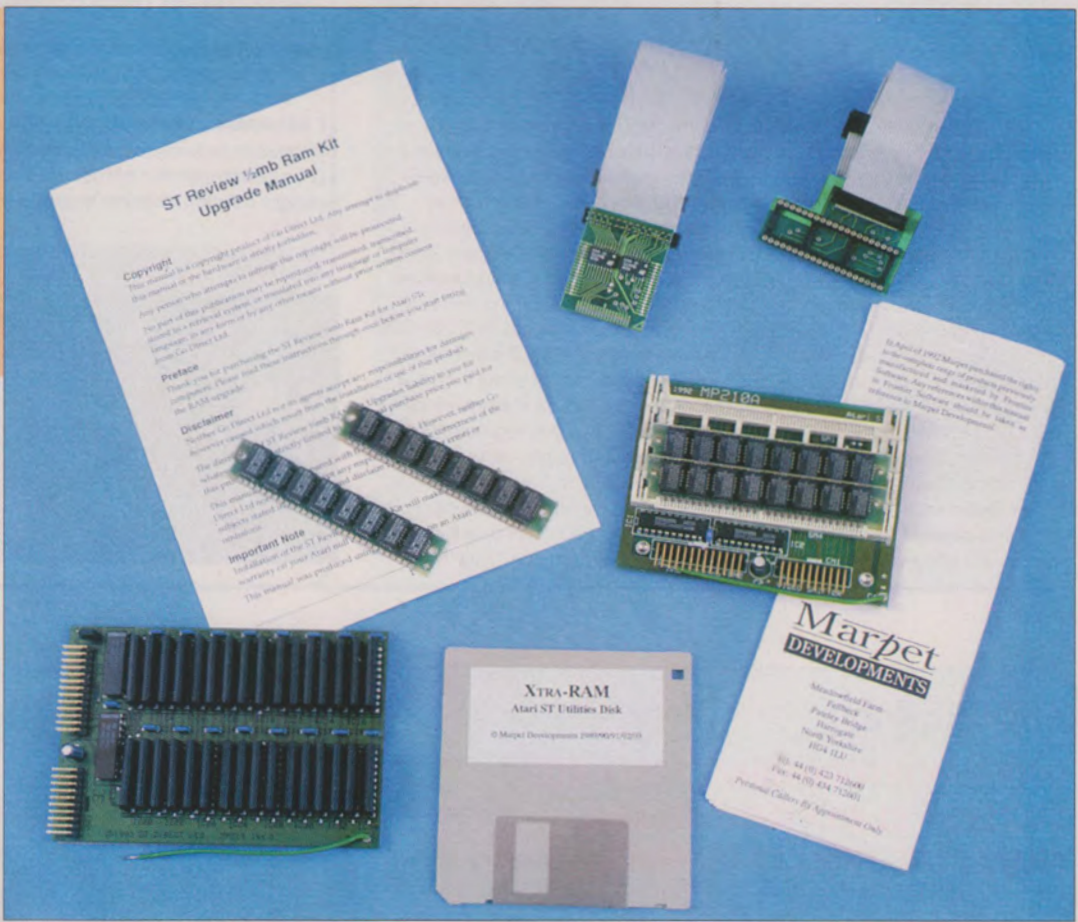
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THE WHOLE HOG

When you consider that its design now dates back some ten years, the ST really is an incredible machine. At a time when most other micro-computers were lucky to sport 256Kb of RAM, the ST sprang into the marketplace with double this – and with hardware capable of handling up to 4Mb.



While 4Mb may have seemed outrageous ten years ago, it certainly isn't now! Just think about the number of autoload programs and desk accessories currently in your system – they're probably the reason you've already upgraded beyond the original memory that came with your machine. Programs like That's Write 3 and Papyrus can put aside an area of memory, or cache, in which they store fonts. This has the advantage of decreasing disk drive access and so speeding up use – but the pay-back is in terms of memory. Papyrus can also print in the background by storing a file in RAM and outputting it to your printer while you continue to work. But again, the memory requirement goes up.

Other programs are also breaking the one and two megabyte barrier. HiSoft's new Truelmage uses RAM to improve screen redraw speed and to offer an "undo" facility. I'm sure you can appreciate the upshot of this. Calamus is also memory-hungry – in fact, almost any serious program that is optimised for speed will provide such user-friendliness at the cost of memory.

But there is a solution. Here at ST Review, we try to offer you the best possible deals and for the month of September you can purchase a 4Mb upgrade for either an STF/FM or STe for just £89 – that's ten pounds off of our usual price. If you're serious about your computer, just think about the advantages of having a full complement of RAM...

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CLOCK CARTRIDGE

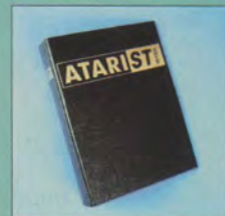
Who sets the time each time they switch on their ST? If like many thousands of ST owners you don't, then you are missing out. Every time you save a file it gets stamped with the time and date - invaluable when you are hunting for a file. Get a clock cartridge and the time will be set automatically each time you switch on your ST.



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PD ZONE

WHAT'S IT ALL ABOUT, PD?

The public domain is a huge – and often confusing – place, but when you get down to the nitty gritty there are basically three forms of freely distributable software. The easiest to understand is plain ol' *Public Domain*, which has no restrictions on distribution whatsoever – you are free to copy, alter, mangle or feed to your pet alligator any public domain program and the author really couldn't care less (*although the RSPCA might... Ed*). The *Freeware* system runs along similar lines, but in this case the programmer retains the copyright and you are not allowed to alter his work without permission.

Possibly the fastest growing form of software distribution available today is *Shareware* which relies on payment from the user. Typically you are given 30-90 days to try out a package, after which you must "register", or pay a fee to continue using it. The shareware system is all about honesty; if you don't pay the fee, the author is hardly going to "send in da boiz", but on the other hand you won't get any of the benefits of registering and you certainly won't get that warm cuddly feeling inside that comes as part and parcel of being honest. All clear? Hmm, well this month's special is...

CATEGORY OF THE MONTH: KEYWARE

Example: *GEM-Spool 3*

The vast majority of good quality shareware available these days could also be described as "keyware". Under this scheme, instead of preparing two versions of a program, the author releases the full version into the public domain channels, but certain features are only available once a "keycode" has been entered. This makes it easy to set up localised distribution points and you'll find that most keyware programs are supported in the UK, *GEM-Spool 3* included.

KEY MATHS

**FLOPPYSHOP • DISK NO: FWG.01C • £3.00 •
MEMORY: 0.5MB • LICENCEWARE**

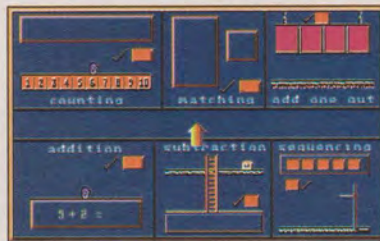
IN BRIEF: Despite what the title may suggest, *Key Maths* covers an awful lot more than basic mathematics. In fact, it looks at everything from simple counting skills through to addition, subtraction and most of the other bits and bobs you'd expect from a package of this sort.

The game is split into six parts – counting, matching, odd one out, addition, subtraction and sequencing. Most feature a strong incentive to win; for example, the subtraction contest pits you against another character in a race for some treasure. The character featured in all of the games is well drawn and looks more like a California Raisin than anything else! Two levels of play are on offer and at the end of each game, a report is presented, explaining how well you fared.

ST REVIEW COMMENT: "High quality graphics and good incentives place *Key Maths* well above your average licenced educational game. The personalised reports are a nifty touch and the music is very jolly, although it's likely to drive parents insane in ten minutes flat. Just one question: what happened to multiplication and division?"

☆☆☆☆

Six sub-games are included in the Key Maths collection – all feature the same main character and are very entertaining to play.



VOCABTRAINER

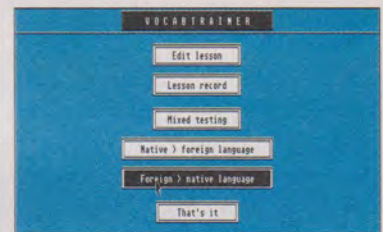
**FLOPPYSHOP • DISK NO: EDU.4585C • £2.00 •
MEMORY: 0.5MB • PUBLIC DOMAIN**

IN BRIEF: The hardest part of learning any language is getting a bit of vocabulary under your belt, so it's nice to find a public domain program that will help you to do just that. *Vocabtrainer* can be used to teach any language with a Roman alphabet, as long as you've got time to train it, and several example files are supplied covering the German language.

Once in the test section itself, it's just a case of typing a translation of the word printed at the top of the screen. If you get into trouble, the "help" button can be used to add correct letters, one at a time. The program works in both a foreign-to-native and native-to-foreign direction and the test results are saved to disk to keep a record of your progress.

ST REVIEW COMMENT: "*Vocabtrainer* works well, but it doesn't go out of its way to excel in any area. The supplied vocabulary files do make it a little bit more appealing and it certainly could be useful in a classroom setting. Me? I'm sticking to the text books..."

☆☆☆☆



Vocabtrainer can be taught to deal with any language and several example files are included on the disk.

Ha – another one bites the dust! The graphics can hardly be described as stunning, but they get the job done.



CATAPULT

**GOODMAN INTERNATIONAL • DISK NO: GD.2153
• £1.95 • MEMORY: 0.5MB • SHAREWARE**

IN BRIEF: *Catapult* bases itself on one of the first computer games ever available. It's designed for two players and the idea is to wipe out the other player's launch site with your catapult. But before you dismiss the whole thing as way too easy, you ought to know that only way to fire the catapult is to enter a speed and trajectory – none of that joystick lark around here mate! The players take turns to let off some lead and the first to win five rounds is declared the winner.

Graphically, *Catapult* is nothing to shout about. The landscape is quite effective, but the catapults themselves are simply white dots on the surface. It's a shame, because with a little bit of humour added it could become quite enjoyable, but as it stands, there's no real incentive to go back for a second or third game.

ST REVIEW COMMENT: "*Catapult* is probably slightly more instructive than *Mortal Fighter Turbo*, but it doesn't really live up to its educational label and can become quite tedious after a while. Mind you, virtually anything can seem interesting when the alternative is a geometry lesson!"

☆☆☆☆

KV PHONICS

**GOODMAN INTERNATIONAL • DISK NO: GD.2273
• £1.95 • MEMORY: 0.5MB • SHAREWARE •
FALCON-COMPATIBLE**

IN BRIEF: *KV Phonics* is all about teaching children to pronounce consonants, blends and digraphs – or in other words, the complicated letter combinations that serve to make up the English language. It accomplishes this goal by using a series of puzzles. The first step is to match a picture to its starting letters with the mouse. This is followed by dragging the starting letters to the picture and then the screen clears to reveal a mix-and-match game to sound the knowledge down.

While the child is busy enjoying the game, *Phonics* is at the same time creating an association between the letter combination and the picture. And don't worry, all of the graphics are drawn well enough to avoid confusion.

Links between the various puzzles are navigated via traffic lights – click red to stop playing, amber to attempt the last puzzle again and green to move on. This should give you some idea of just how well the whole package is presented.

ST REVIEW COMMENT: "The Knowledge Vine consistently produce quality shareware educational titles and *Phonics* is no exception. The way it leads the child through several logical stages to teach a lesson is exemplary. The colourful graphics combined with effective sound make it an enjoyable experience all round."

☆☆☆☆

The first step in each game is to match the objects to the letters – a task made easier by the shadows.



INTERESTING MATHEMATICS

**FLOPPYSHOP • DISK NO: EDU.4584C • £2.00 •
MEMORY: 0.5MB • SHAREWARE • FALCON-
COMPATIBLE**

IN BRIEF: *Interesting Mathematics* is a collection of programs put together with the sole aim of teaching children basic mathematical facts. A central menu system holds the whole thing together and by using the mouse you can access modules covering formulae, problems, measurement systems and several other topics. It's mainly a text presentation, but there are one or two illustrations. Although the documentation goes to great lengths to describe setting up a printer driver, the necessary output program doesn't seem to be on the disk. But, the biggest problem is its presentation – with capital letters used throughout every menu and graphics randomly splurged on-screen, it looks tacky beyond belief. A shame, because considerable effort has obviously gone into preparing the information.



A main menu system is used to call on information covering a variety of mathematical topics.

ST REVIEW COMMENT: "*Interesting Mathematics* seems to be a bit confused. One minute it's attempting to teach basic theory, the next, it's providing the answers without even showing the formula being used. Having said that, it does contain some useful information – if only the presentation was a bit more polished."

☆☆☆

TOP TEN EDUCATIONAL PACKAGES

**1 KV PHONICS • GOODMAN INTERNATIONAL • DISK NO: GD.2273 •
£1.95 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE**

The Knowledge Vine prove yet again that simplicity is the key when it comes to good educational software. *KV-Phonics* aims to teach kids the basic building blocks of our language and it does so in such a way as to make the experience enjoyable. A beautiful piece of software.

**2 KEY MATHS • FLOPPYSHOP • DISK NO: FWG.01C • £3.00 •
MEMORY: 0.5MB • LICENCEWARE**

A lovely looking trip through the world of elementary mathematics. Each of the six games contained within the package have strong incentives to win and the presentation is pretty classy. There are two levels of play to choose from and none of the games are too difficult.

**3 FUN SCHOOL 3 TIME MODULE • GOODMAN INTERNATIONAL • DISK
NO: BY NAME • £1.95 • MEMORY: 0.5MB • BANNERWARE •
FALCON-COMPATIBLE**

Fun School must be one of the most successful pieces of educational software available today, and this demo level from the third game in the series shows why. Bright colourful graphics combined with animated rewards, make this time-tutor one of the best available. A classic.

**4 VOCABTRAINER • FLOPPYSHOP • DISK NO: EDU.4585C • £2.00 •
MEMORY: 0.5MB • PUBLIC DOMAIN**

Learning a foreign language is never an easy task, but *Vocabtrainer* makes it just a little bit more bearable. It doesn't attempt to get involved with grammar in any way, but if you are looking for simple vocabulary training, it's worth a try. Some German example files are included on the disk.

**5 CATAPULT • GOODMAN INTERNATIONAL • DISK NO: GD.2153 •
£1.95 • MEMORY: 0.5MB • SHAREWARE**

A semi-educational game designed to teach children the basics of angles and trajectory. While the scenery graphics are acceptable, the catapults themselves are well below par and the game doesn't have much appeal beyond the first few tries. Maybe mouse control would improve things.

**6 COLOUR • GOODMAN INTERNATIONAL • DISK NO: GD.2273 •
£1.95 • MEMORY: 0.5MB • PUBLIC DOMAIN**

A rather nice digital colouring-book that comes complete with a selection of pictures. It's mouse controlled and musical effects are used extensively. Ultimately, it's not as good as the *Never Ending Colouring Book*, but it does provide a fresh selection of pictures and there's no registration fee to pay.

**7 ADDITION • GOODMAN INTERNATIONAL • DISK NO: GD.2273 •
£1.95 • MEMORY: 0.5MB • PUBLIC DOMAIN • FALCON-
COMPATIBLE**

Addition has taken the concept of an anagram and turned it into a numerical quiz. The idea is to use the joystick to arrange a set of figures so they add up correctly – the further you get into the game, the more difficult the challenge becomes. In terms of presentation, it lacks a little something, but basically it's a sound educational title.

**8 ZOOMAKER • FLOPPYSHOP • DISK NO: EDU.4262C • £2.00 •
MEMORY: 0.5MB • PUBLIC DOMAIN**

Zoomaker turns any ST into a digital menagerie. The computer asks several questions about the type of animal you want to see and then a picture of it is displayed. New animals can be added and a mini-art package is included to design the accompanying picture.

**9 KID COLOURS • FLOPPYSHOP • DISK NO: EDU.4262C • £2.00 •
MEMORY: 0.5MB • PUBLIC DOMAIN**

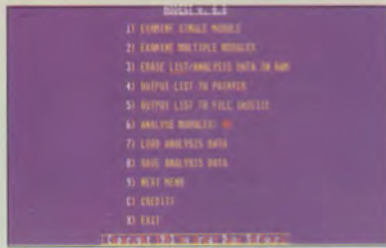
A little program that will help kiddies to name and spell different colours. It's a very simple affair – just click the pointer on the name of the highlighted colour – but it's hard to think what else the author could have done. On the bright side, a lot of other educational programs are included on this disk.

**10 BART'S RAINY DAY COLOURING BOOK • FLOPPYSHOP • DISK NO:
ART.4583C • £2.00 • MEMORY: 0.5MB • PUBLIC DOMAIN**

Yet another colouring program graces the ST's screen. Once again, it's not the best available and there aren't even any demo pictures supplied, but as long as you don't expect perfection, it's not that bad. A separate program is included to create your own templates.

PD ZONE

There's a very useful program struggling to get out of Modest's keyboard controlled interface.



MODEST

CALEDONIA PDL • DISK NO: MU.80 • £2.50 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: The species known as the "collector" infiltrates every part of society, and the computing scene is no exception. Everything from demos to games are hoarded by avid fans and *Modest* is designed to aid sound-tracker collectors in their quest to find every module in the known universe. In order to do that it reads the names of tunes and stores them in a list together with the samples used. The name it displays is not the filename but rather the internal module title, which is longer and much more descriptive. Most formats are supported and the program is also capable of analysing whole disks full of modules in one go. Several good quality examples are included to get you started, but don't get your hopes too high – the shareware release is quite severely crippled. 75 Danish Kroner will buy you the complete, unrestricted version.

ST REVIEW COMMENT: "*Modest* is quite good at its job, but unless you really need to know the author and sample names, a good disk catalogue will probably be a safer bet. With a mouse-controlled interface and a little bit of thought, the balance could be tipped in the other direction."



Modest's main claim to fame is its ability to read the full-length, internal names of sound modules.

☆☆☆

MIDI-SPY

FLOPPYSHOP • DISK NO: MID.4580 • £2.00 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: If you've experimented with a program like *Picture Music*, you'll know exactly how annoying it is to come up with a decent tune, only to destroy it by making some "improvements". *MIDI-Spy* is an insurance against accidents like this. It's a desk accessory that sits in the background and records any MIDI activity it sees going on. Although primarily designed to work with GEM applications, almost all MIDI programs seem willing to co-operate – *Picture Music* included. The utility automatically detects the end of a song and stores each tune separately.

By using the desk accessory itself, you can allocate how much memory is stolen by *MIDI-Spy* and also disable recording. The captured MIDI data can be saved in a variety of popular formats, although you will need to register in order to enable this feature.

ST REVIEW COMMENT: "Most musicians could benefit from having a copy of *MIDI-Spy* installed, if only for a little insurance against accidents. Compatibility doesn't seem to be a problem and it's also good enough to run in all three ST resolutions. Can you afford to be without it?"

☆☆☆☆

PICTURE MUSIC

FLOPPYSHOP • DISK NO: MID.4580 • £2.00 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: Thanks to its in-built MIDI ports, the ST attracts a huge range of public domain music software. The trouble is that most require quite a large artistic input before they will come up with the goods. *Picture Music* is an exception – it takes four sections from a *Degas* or *NeoChrome* image of your choice and turns them into genuine music. Magical! Each colour on the



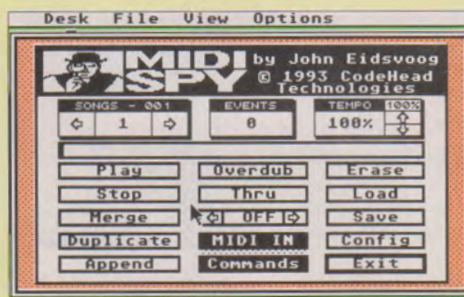
Fractals, with their smooth colour blends make excellent picture music – the above example is included on the disk.

canvas represents a note and the four blocks you position on the screen make up different sound channels – in other words, you need a multi-timbral synth in order to make the most of the program. Away from the main screen, there are numerous adjustments that can be made to alter the style of the music; the tempo can be increased, the MIDI channels fiddled with and plenty more besides.

ST REVIEW COMMENT: "Some of the tunes that *Picture Music* produces are actually quite listenable and it is a very satisfying program to play with. At the end of the day though, it is all pot luck – one minute it's quite good, the next it's unashamed noise pollution."

☆☆☆☆

Numerous adjustments can be made to alter the style and tempo of the music produced.



MIDI Spy sits quietly in the background and records any musical activity it finds – insurance doesn't come much more comprehensive than this!

Adjustments to the configuration can be made on-the-fly through a friendly desk accessory.



PD ZONE

Boxkite looks very much like Selectric, but can be resized to take advantage of the whole screen.



BOXKITE

FLOPPYSHOP • DISK NO: BY NAME • £2.00 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE

IN BRIEF: Generally speaking, GEM is a very slick interface but look hard and you will find some deficiencies, most notably the file selector box. Utilities like *Selectric* and *UIS* have shown us that there is a better way and *Boxkite* is the latest in this long line of file selector replacements. Just pop the program in your Auto folder, reset and the Atari selector will be banished from your system forever. To look at, *Boxkite* is very similar to *Selectric* – pop-up menus are used extensively and a real time scroll-bar makes it very easy to browse through large lists of files.

The usual range of file management features, such as copying and deleting, are also available and thankfully, the whole box can be resized to suit the screen resolution. Hardened *MultITOS* users will be pleased to know that it can deal with extended file names too. The superb on-disk manual completes a very well-presented utility.

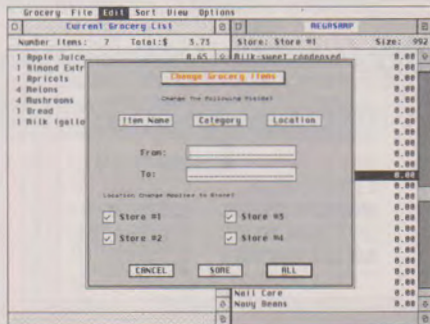
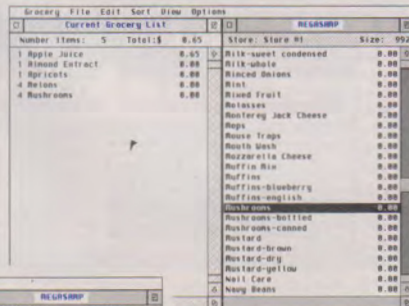


The standard file-selector box can be reinstated through an accompanying CPX module.

ST REVIEW COMMENT: “*Boxkite* is very much in the mould of *Selectric*, and there’s little to choose between them. The redraws are a little bit tacky on the Falcon, but overall it’s a good performer at a reasonable price.”

★★★★

Shopping reminders are easy to create with Grocery Lister and the program selects the cheapest shop for you automatically!



The GEM interface is very easy to use and a comprehensive manual is included on disk if you do get stuck.

SPLITTER 2.0

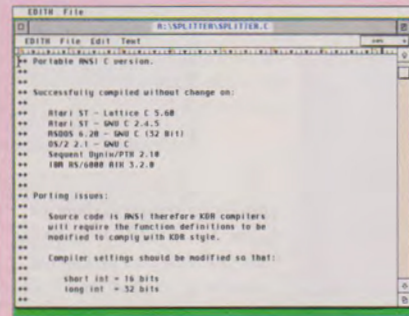
GOODMAN INTERNATIONAL • DISK NO: BY NAME • £1.95 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE

IN BRIEF: Way back in the early eighties, the 720Kb stored by a floppy disk seemed vast, but times change and these days, files reaching into megabytes are not uncommon. Naturally, this is no problem if the file simply sits on your hard disk, but what happens if you need to move it to another machine?

Splitter is a utility that breaks up files into a number of chunks, and then rejoins them again when requested. Two versions of the program are supplied – the first is a rather hostile TTP utility, while the second features a much more attractive GEM interface. Also included is the C source code, which will help programmers to port the *Splitter* to other machines, and a PC version is available already. Does it work? Well, the *Lazer II* demo reviewed in this month’s Falcon section came spread across two disks in *Splitter* format and ran perfectly, so the answer is a resounding yes!

ST REVIEW COMMENT: “As an alternative to a serial link, *Splitter* is rather good. The only drawback is that it requires all of the pieces to be available before it will rejoin them, which means copying the whole to your hard disk first. Mind you, if you need to transfer multi-megabyte files in the first place, you’ve probably got space to store them several times over!”

★★★★



C source code is included with the program, making ports to other machines quite straightforward.



Rebuilding a file is made easy by a superb mouse-controlled interface. PC owners are stuck with a command-line version!

GROCERY LISTER

GOODMAN INTERNATIONAL • DISK NO: GD.2318 • £1.95 • MEMORY: 0.5MB • SHAREWARE

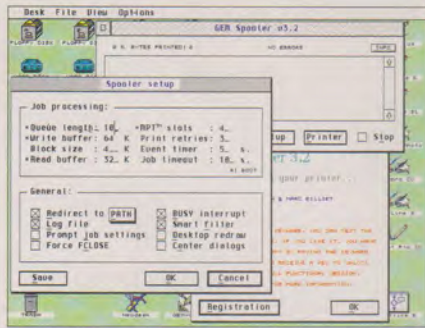
IN BRIEF: With the high-street price wars in full swing, all housewives and house-husbands have their job cut out in finding the best deal on the weekly shopping. *Grocery Lister* is a program designed to alleviate some of the stress caused by the weekly excursion to the supermarket. Basically, it stores a list of the products you regularly buy, together with prices from four different shops. This data can be manipulated in a huge number of ways and all of the fiddly extras like discount coupons are taken into account.

A windowed GEM environment is used to guide you through this vast range of features and from an interface point of view, it works very well. On a practical level, it’s a little less inspiring.

ST REVIEW COMMENT: “*Grocery Lister* is quite useful, but you can’t help feeling that it might be more difficult to maintain a list of prices than to blunder through as best you can. Now if only it had a menu option to find out who has eaten all of the chocolate biscuits – then it would be really worth buying!”

★★★

The latest version of **GEM-Spool** is fully non-modal, right down to the nagging keyware registration box.



GEM-SPOOL 3.2

FLOPPYSHOP • DISK NO: BY NAME • £2.00 • MEMORY: 0.5MB • KEYWARE • HARD DISK RECOMMENDED • FALCON-COMPATIBLE

IN BRIEF: A spooler is one of the most useful utilities you can add to your ST. It can remove much of the finger-tapping wait caused by slow printers and allow you to get back to work as soon as possible. The only trouble with traditional spoolers is that they eat their way through RAM like nobody's business; a full A4 page from a desktop publisher can consume somewhere near a megabyte of memory!

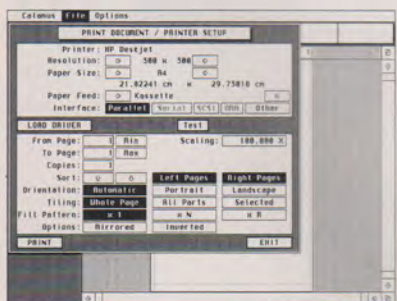
GEM-Spool works its way around this problem by storing the queued data on disk – in this way, memory requirements are kept to a bare minimum and as long as you are using a hard disk, the speed penalty is negligible. Setting up the system is very easy as long as your printer is supported – just copy the whole folder to the boot disk, install the necessary printer files and you're ready to roll.

In use, *GEM-Spool* is almost totally transparent. You notice a slight pause between clicking the go button and hearing your printer whirr into action, but beyond that, it's business as usual. The difference being, of course, that you can continue working while the spooling takes place in the background. Only painfully slow applications can upset the apple cart – *GEM-Spool* cannot work in the background until all of the print data has been received.

The whole program is co-ordinated through a windowed desk accessory. From this point you can see exactly how many documents remain to be printed and delete jobs from the list, if need be. Compatibility is obviously the major issue when it comes to something as clever as *GEM-Spool* and, sad to say, there will be some casualties. It works with most well-behaved applications, but those that by-pass the operating system's slow print routines completely ignore *GEM-Spool* – Calamus is a prime example.

ST REVIEW COMMENT: "*GEM-Spool* is the very best printer spooler available for the ST. Through no fault of its own, it doesn't work with every single application on the market, but compatibility is high when used with programs that stick to the rules. At least you can rest safe in the knowledge that it's not gobbling its way through acres of memory!"

★★★★



Programs that bypass the operating system print routines completely ignore GEM-Spool.



Once installed, the utility is almost transparent – wait a few seconds while the data is dumped to disk and continue as usual.

TOP TEN UTILITIES

1 GEM-SPOOL 3.2 • FLOPPYSHOP • DISK NO: BY NAME • £2.00 • MEMORY: 0.5MB • KEYWARE • HARD DISK RECOMMENDED • FALCON-COMPATIBLE

Memory-wasting printer spoolers are a thing of the past thanks to *GEM-Spool 3*. Install this priceless accessory and printing will become a background operation under most applications. Some small compatibility problems can be expected, but it's still an essential purchase.

2 EXPANDER 2 • THE SHAREWARE COMPANY • DISK NO: IBM.SOLUTIONS • £1.75 • MEMORY: 0.5MB • PUBLIC DOMAIN

Almost all STs are equipped with a double-sided disk drive these days, but I'll wager there are still a few single-sided disks kicking around in your collection. This utility takes two single-siders and copies them both onto one double-sided disk – simple.

3 BOXKITE • FLOPPYSHOP • DISK NO: BY NAME • £2.00 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE

Rid your system of the Atari file-selector with *Boxkite*. It's written very much in the style of *Selectric* but has the ability to support extra-long filenames under *MultiTOS* and is also resizable. Naturally, all of the usual file management features are to be found lurking under pop-up menus.

4 BOOT-BACK • THE ST CLUB • DISK NO: DMG.41 • £2.25 • MEMORY: 0.5MB • PUBLIC DOMAIN

If you are unlucky enough to experience a hard disk crash, it's ten to one that the file allocation table or directory structure are damaged in some way, rendering much of the data on the disk useless. *Boot-Back* is designed to save this vital information to floppy or another partition every time your machine is switched on – all in all, a very useful program.

5 SPLITTER 2.0 • GOODMAN INTERNATIONAL • DISK NO: BY NAME • £1.95 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE

Splitter's sole aim in life is to break up large files into little chunks and reassemble them again when asked. It's ideal for transporting huge image files between machines and there's even a PC version available. Source code is included to allow easy compilation on other machines.

6 ALT-HELP • THE ST CLUB • DISK NO: DMG.41 • £2.25 • MEMORY: 0.5MB • PUBLIC DOMAIN

Alt-Help is a neat little utility that embeds itself in memory and allows free RAM to be displayed at any time with a press of the <Alternate> and <Help> keys. By using other combinations, you can disable the disk verify flag, toggle the screen frequency and reset the machine.

7 GROCERY LISTER • GOODMAN INTERNATIONAL • DISK NO: GD.2318 • £1.95 • MEMORY: 0.5MB • SHAREWARE

Need a hand with the weekly shopping? In that case, let your ST and *Grocery Lister* take the strain. The program is capable of handling up to four different prices for each item, can prepare shopping lists at the click of a button and is very easy to use.

8 DICE • THE ST CLUB • DISK NO: DMG.41 • £2.25 • MEMORY: 0.5MB • PUBLIC DOMAIN • FALCON-COMPATIBLE

Now, I'm not sure exactly how many people will want to turn their 16-bit super-computer into a board-gaming accessory, but if the urge does take you, *Dice* is the program to do it with. As you've probably already guessed *Dice* is a desk accessory that simulates dice – ermm, that's it!

9 RED FORMAT • THE SHAREWARE COMPANY • DISK NO: IBM.SOLUTIONS • £1.75 • MEMORY: 0.5MB • PUBLIC DOMAIN

A neat looking formatter with a particular aptitude for handling PC-compatible disks; it's even capable of dealing with a 5.25" disk drive if you have one connected. The volume name of a disk can also be changed and there's a very primitive virus checker built-in as well.

10 SUPREME SCREEN SNATCHER • THE ST CLUB • DISK NO: DMG.41 • £2.25 • MEMORY: 0.5MB • PUBLIC DOMAIN

The *Supreme Screen Snatcher* falls somewhere between *ImageCopy III* and *The Ultimate Ripper*. The idea is that it allows you to break into any running program and rip graphics from under its feet. It's not as ruthlessly efficient as the *The Ultimate Ripper*, but at least it does allow you to restart your program after an interruption.

PD ZONE

LAZER II DEMO

GOODMAN INTERNATIONAL • DISK NO: GF.82 (2 DISKS) • £3.90 • MEMORY: 4MB • PUBLIC DOMAIN • FALCON (RGB) ONLY



IN BRIEF: The Falcon has staggering potential as a demo machine, but let's be frank – there's a dire shortage of jaw-dropping material out there. *Lazer II* is the exception to this unfortunate rule and must be considered the first true Falcon megademo. It comes spread across two high density disks and requires no less than six megabytes of disk space for installation.



Stunning graphical effects line Lazer II from end to end and the sound is out of this world.

The demo itself takes the form of a rolling show. It all starts with a simulated operating system screen that logs you into a 21st century bulletin board. From this point you are transported into a surreal cyberspace full of three-dimensional objects and haunting sound. Later screens introduce morphing, plasma, a demo of a futuristic pinball simulator and there's even an example of some *Tempest*-style "Melt-O-Vision". The music easily lives up to the standard of the graphics and it's one demo that will have you captivated from start to finish.



A morphing screen is also part of the show – the window may be small, but there are plenty of transformations to watch...

ST REVIEW COMMENT: "Visually and sonically, this is the best demo you can buy for your Falcon.

More than that, it's entertaining, which is the highest compliment you can give any demo. Yep, this one has found a permanent home on my hard disk.

★★★★★

DELMPOINT

FLOPPYSHOP • DISK NO: F.4260 • £2.50 • MEMORY: 1MB • PUBLIC DOMAIN • FALCON ONLY

IN BRIEF: *Delmpaint* is a Falcon art package, very similar in style to *Degas*. The main screen presents a range of drawing accessories and by pressing the <space bar> you can jump to any one of four images in memory. The program runs in 256 colours only and is capable of loading standard .PI1 files, so you can add a touch of colour to all of your old masterpieces. It offers a good range of tools along with adequate block handling and possesses some lethally fast zoom



Delmpaint is competent and similar to Degas Elite – there are more colours to play with though!



Each module comes complete with an icon indicating its effect and the program compares very favourably with Before Dawn.

TWILIGHT DEMO

FLOPPYSHOP • DISK NO: F.4452 • £2.50 • MEMORY: 1MB • BANNERWARE • HIGH DENSITY DRIVE • FALCON-COMPATIBLE

IN BRIEF: Fancy screen savers seem to be getting more and more popular on the ST these days. Both *Before Dawn* and *Dark Lord* have proved that keeping your monitor in tip-top condition needn't be a dull business and joining the ranks from Germany this month we have *Twilight*.

In common with its peers, *Twilight* displays animations and uses sound effects instead of simply fading the screen to black. The nicest thing about the whole affair though is that you get over 25 sample modules to play with; and believe me, there are some real classics in here. Included are a "DOS Simulator" which imitates a PC boot-up sequence, a fractal generator, starfields and to top it all, a fully playable version of the arcade classic, "Pong". The demo works for around ten minutes before giving up and refusing to go any further.

ST REVIEW COMMENT: "*Twilight* is a truly great screen saver, but until there's a way of buying it in Britain, *Before Dawn* retains its crown. However, it remains an incredibly amusing toy to play with and will no doubt thrill screen-saver fans to bits."

★★★★★

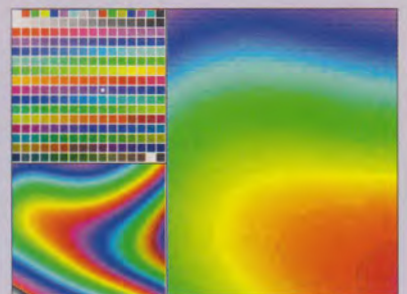
Dozens of stylish blanking modules are included on the disk, but do you really want to turn your ST into a PC, even in jest?



modes. The only trouble with the package is that it's not particularly user-friendly. All of the main tools are easy enough to locate, but many of the more advanced features can only be accessed with the keyboard. In fact, if you didn't read the manual, you could be left with the idea that it's a lot less powerful than it actually is.

ST REVIEW COMMENT: "Initially, *Delmpaint* looks a very simple affair, but take a peek at the documentation and you begin to realise just how powerful it is. Don't get me wrong – *TruePaint* is in no danger, but for simple work this is just about all you need. If they would only allow screen switching with the right mouse button, we really would be talking."

★★★★★



A super-fast zoom mode is just one of the features that remains hidden from view thanks to cryptic keystrokes.

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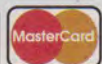
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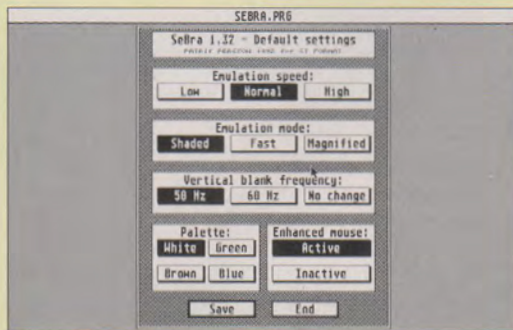
Ever wanted
to run high
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programs on your
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Nial Grimes
rounds up and
rates the best
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ESSENTIAL EXTRAS

SCREEN EMULATORS

THE MONULATOR

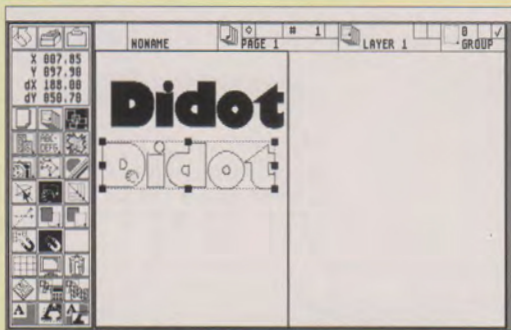
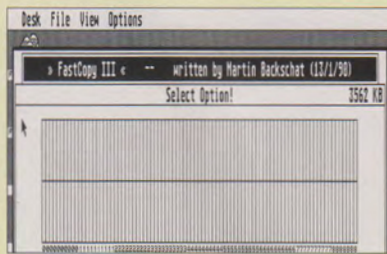


The Monulator can be configured through a desk accessory, and the screen mode adjusted on-the-fly.

The Monulator, from Goodman International (0782 335650), is the only commercial mono emulator available, but at just under a tenner it can hardly be considered expensive. For your money you get a four-page printed manual and a rather neat plastic box to keep the master disk safe – these things do matter, you know!

The utility itself comprises two parts: an Auto folder program and a desk accessory. As soon as the program runs, your machine is effectively in high resolution, and the accessory is simply used to configure the screen

Spread the display over two screens, and every single high resolution pixel is shown.



Compatibility is outstanding and 99% of high resolution favourites run perfectly.

display. In total, there are four modes available. The first is similar to that used by most public domain emulators – that is, an overall view of the screen, with compromised clarity. *Hi-Def*, on the other hand, is a much better solution to the problem. Instead of anti-aliasing, it spreads the display over two scrollable screens. In this way, every single high resolution pixel is present and the only thing you do lose is the aspect ratio.

The remaining two modes, *Text 1* and *Text 2*, are designed to increase the readability of the standard system font under emulation. You can switch between all of these modes on-the-fly by using a hot-key but, unfortunately, a reboot is necessary to return to a colour resolution (a problem shared by all mono emulators).

There are three speed settings to choose from and "medium" provides a perfect balance between responsiveness and number-crunching. Compatibility is also very good with applications like *Calamus* and *PageStream* presenting absolutely no problems.

If you are serious about wanting to use high resolution software, but can't stretch to a real mono monitor, *The Monulator* is worthy of consideration.

One of the best aspects of the ST, when compared with other similarly priced home computers, is its high resolution screen mode. In fact, you'll find that the vast majority of professional packages either require, or are at their best, on a mono monitor. Software like *Calamus*, *Papyrus*, *Cubase* and dozens of others are simply out of reach if you can't use high resolution! The solution to this problem comes in two forms: a real mono monitor, or a software emulator – and I think you can guess which is the cheaper option...

Emulating a high resolution display on a colour monitor is an extremely complicated business. The simple fact is that TVs and normal monitors cannot display the number of pixels required by high resolution. At best, you can get 640 pixels across and 200 pixels down, which effectively halves the resolution vertically. In order to compensate for this reduction, grey pixels are added to create an illusion of definition – a technique known as anti-aliasing.

Obviously, this process takes time – you lose speed by using an emulator. However, most of the utilities available do allow the rate of the screen updates to be balanced against the loss of horsepower. The other question that always rears its head when looking at emulators, is compatibility – just how much mono software will they run? Fortunately, most of the emulators available today are very good at their job. You will always find the odd program that trips up, but rest assured they are few and far between. Of course, owners

BUYER'S
GUIDE

UNDER THE SPOTLIGHT...

All the main info in an easy-to-read table...

Product	Number of modes	Variable speed?	Uses blitter?	Hi-Def mode?	Enhanced mouse?	Colour mode?
<i>The Monulator</i>	4	✓	✗	✓	✗	✓ (2)
<i>Sebra</i>	3	✓	✓	✓	✓	✓ (4)
<i>BigColour</i>	2	✓	✗	N/A	✗	N/A

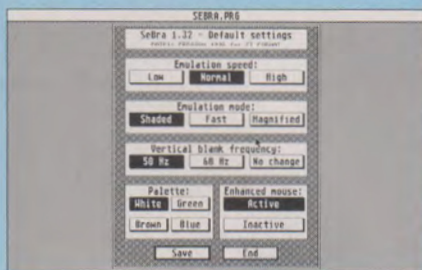
SEBRA

Sebra is the public domain alternative to *The Monulator*. It's more or less on a par in terms of features, but costs absolutely nothing so where's the catch? Well, let's give it a whirl...

Installation is simple – just pop the program in your Auto folder and forget about it. Unlike *The Monulator*, it has no accompanying desk accessory and configuration can either be carried out via the keyboard or by running the program from the desktop. Three display modes are on offer and the full-screen display is superior to any other mono emulator available. It really is the closest you can get to high resolution without laying out the cash – even the icon font is readable without too much trouble. *Sebra* also offers a scrollable screen mode that allows you to see all of the high resolution pixels. Unfortunately, it does have a nasty habit of bombing if the blitter is enabled though; disable it and everything goes according to plan.

Sebra can't be faulted in terms of compatibility either. All of the "biggies" run without complaining and, once again, the default speed option seems to be fine for most purposes. One really neat touch is the "enhanced mouse" option, which keeps the pointer running at full steam, even when the emulation speed is backed off. This makes it much easier to use slower emulation. I suppose the review wouldn't be complete without mentioning that you can opt for a number of different colour schemes as well. Blue, brown, green and grey are all available through keystrokes, although the default seems to be the best by far.

Sebra is a very effective mono emulator. It scores points in terms of clarity, compatibility and speed. The only fly in the ointment is the blitter problem – it's far too easy to forget to switch it off before changing modes.



Once you've found the optimum screen mode for your monitor, the defaults can be saved and used every time you reboot.

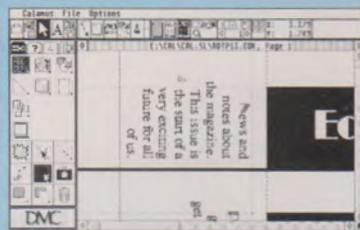
of mono monitors have an equally difficult time when it comes to running colour-only software. Colour screen emulators are also available, although don't expect a very high level of compatibility – too many colour programs break the rules. Also, the best they can provide is a

dithered mono display, which kind of defeats the purpose!

All the same, screen emulators must be considered an essential extra for your system, be it mono or colour. They open up a whole new world of software for little more than the cost of a disk.



Who said mono emulators had to be dull? Sebra offers three colour schemes to sooth those tired eyes...



Sebra's full-screen display is superb – even small icon text is readable without switching to Hi-Def.

BIGCOLOUR

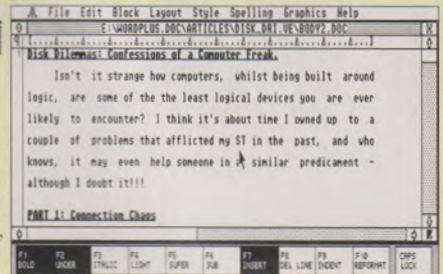
Atari mono monitors are wonderful devices and once you've experienced the sheer clarity of an SM124, it's difficult to go back to using a TV! But the shareware offering, *BigColour* aims to kid your ST into thinking it has a colour monitor attached. It's unique amongst its peers in that it provides a full-screen display. Both low and medium resolutions are handled, and the utility dithers to give a reasonable representation of different colours. The speed side of things is configurable at boot-up time and as long as you aim for somewhere in the middle range, the updates are quite lively.

Compatibility is the big thorn in any colour emulator's side, and *BigColour* is no exception. It's happy to run almost all GEM programs, but present it with anything more than the simplest of games, and bombs are the best you can expect. It's also worth mentioning that *BigColour* is quite fussy about TOS versions – it hates the STe with a vengeance and this probably rules out TOS 2.06 too. If you do actually manage to get it running on your machine, it isn't all bad. It does a good job of emulating colours and is reasonably compatible, but you might just as well do yourself a favour and plug that old TV in – unless you own an STF that is...



Unfortunately, it wasn't possible to grab directly from BigColour, but this picture will give you an idea of what to expect.

Medium resolution is also supported, although compatibility isn't that hot once you head outside of GEM-land.



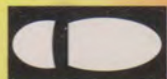
OTHER TAKERS...

The public domain is littered with mono emulators and very few stand out as being different. Probably the most common example is Mick West's aptly-titled *Mono Emulator*, which has now reached version 5. It's compatible with all versions of TOS and the speed of emulation is fully adjustable. On the other hand, *Sebra* is just as free and has the edge in terms of clarity.

Perhaps the quirkiest high resolution emulator on the market is *MonoPack*, which manages to squeeze itself onto the boot sector of a disk. The quality of the display is pretty good and there's even a version that takes advantage of the STe's blitter chip. The only problem with this approach is that you can't install it on a hard disk, although leaving a *MonoPacked* floppy in the drive when you boot-up usually has the desired effect.

As for alternative colour emulators, you are pretty stuck for choice. *GFA-Colour* is about the only other one available and it doesn't provide full-screen emulation. Yet again, compatibility is no better than average – you just have to accept that colour programs really do run best on a colour monitor...

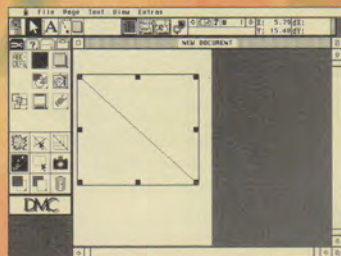
Save set-up?	Display quality	Compatibility	Memory usage	Ease of use	Documentation	Effectiveness	Value for money	Overall
X	Good	Good	35Kb	9	9	9	7	85%
✓	Good	Good	41Kb	8	8	8	10	85%
X	Good	Average	200Kb	8	8	5	6	66%



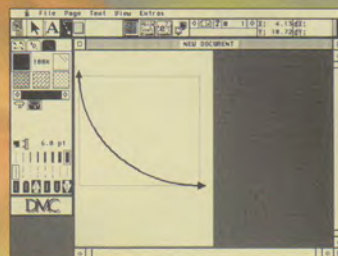
STEP BY STEP GUIDE

IN THE FRAME...

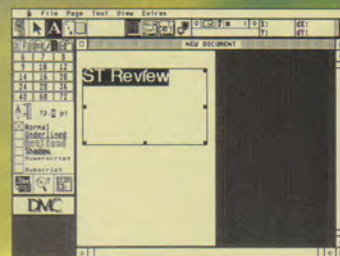
The *Calamus* interface can seem hugely confusing at first, but follow these three simple steps and before you know it you'll have the basics under your belt...



1 Begin by creating a new document and then draw a nice large line frame in the centre of the page. Now move to the "Lines" panel by clicking on the appropriate icon at the top of the screen.



2 The line you have just created can now be adjusted "live" through this panel. Having experimented with the different shapes, take a look at the other two sub-panels; these allow the width and pattern of the line to be changed.



3 This is a very simple example, but all of the other sections of *Calamus* work in exactly the same way - text is altered through the text panel, lines through the line panel and raster frames through the raster panel...

FROM START...

Think of desktop publishing on the Atari and the word "*Calamus*" instantly springs to mind. In the wake of *Calamus SL*'s arrival, version 1.09N is now one of the cheapest entries into ST desktop publishing, and don't think for a minute that its age or price limits its usefulness.

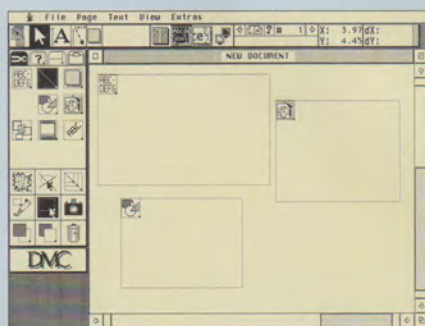
However, as popular and affordable as *Calamus* may be these days, it has never been renowned for its ease of use. Most people will have been weaned on *Timeworks* or *PageStream* and for these first-time users, *Calamus*' unique brand of interface can come as something of a shock.

FRAMED!

The first thing to understand about *Calamus* is that it's a true frame-based desktop publisher - it needs to know exactly what you are going to put in a frame when you draw it. You can tell what each frame is by the icon in the corner - the artist's palette is used to represent a bitmapped picture frame; the circle, square and triangle indicate a vector graphic frame; and so on.

Frames are drawn on the page by clicking the left mouse button once to start and a second time to stop. To make any adjustments, press the right mouse button and you enter "modify" mode, at which point the "handles" on the perimeter of each frame become active. For some finer adjustments, the coordinates in the corner of the screen can be edited directly with a single click. The X and Y coordinates apply to the top left

Baffled by the legendary Calamus interface? Nial Grimes guides you through your first few moments with the ST's favourite desktop publisher...



The icon in the corner of each frame determines its contents.

hand corner of the frame, while dx and dy dictate the width and height.

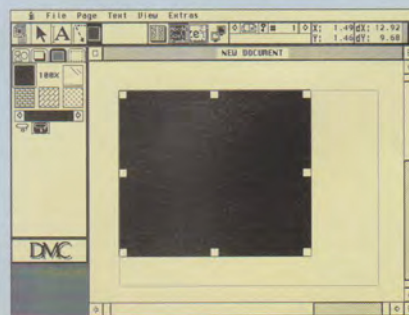
Positioning frames on screen is like laying pieces of paper one on top of another and a frame you need to adjust may be hidden below several others. The secret to accessing these "hidden" frames is to click the mouse more than once - *Calamus* cycles through the frames that lie under the pointer.

PANEL BEATING

With some frames on-screen, you'll want to put something in them. At this point, you need to begin to understand the principles behind the *Calamus* interface.

Just as there are different types of

frames, there are also separate control panels to deal with these frames. The five icons at the top left of the screen let you move between these different sections - page, frame, text, line and raster (or tinted boxes in plain English). At the top of



Simply click the right mouse button to move or resize a frame.

each section panel is another row of mini-icons, providing access to sub-panels. Although the interface can seem vast at first, it's a lot more straightforward once you realise that all text functions are confined to a single main panel, and the same goes for lines, raster boxes, or whatever. The only exception to this rule is when you need to use a frame's special function - in this case, use the question mark icon at the top of the frame panel.

To give you an idea of the way this panel system works in practice, draw a raster frame (tinted box) on the page and move to the respective section. Now click on the various different shapes in the panel and watch the frame on the page change accordingly - other attributes can also be altered through the sub-panels. To bring external files onto the page, highlight a text or graphics frame and use "Import" from the "File" menu.

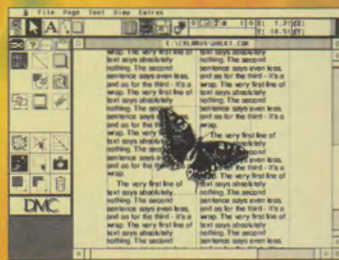
Calamus is not the sort of program you are going to master in a matter of days, but the above will have given you a good grounding...



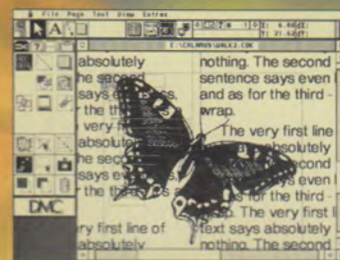
STEP BY STEP GUIDE

RUN FOR COVER

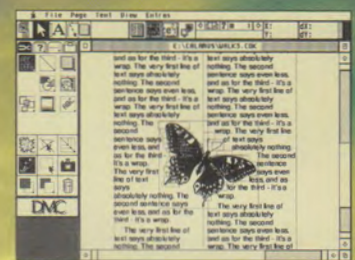
It's often handy to be able to flow text around irregularly-shaped pictures. Let's see if we can persuade Calamus 1.09N to do the business...



1 Start by importing the text and flowing it into columns. Next load a suitable picture and position it over the text frames, as shown above.



2 Now outline the picture with empty frames – the type doesn't really matter. Be careful not to run the text too close to the edge of the picture, otherwise it might become difficult to read.



3 Select the text frame to the left of the picture and click on the "left runaround" icon. Highlight all of the empty frames over the picture by holding down the <Shift> key and click on the runaround icon once again. Repeat for the right-hand frame.

TO FINISH

Calamus is unique. You could quite easily examine every desktop publisher ever written and the similarities would fit comfortably on the back of a small postcard. It's partly for this reason that many people find it hard to get to grips with the system; it's very powerful, but it also takes experience to exploit the potential hidden behind all of those icons...

GO WITH THE FLOW

One of the nicest aspects of Calamus is its superb text control, but there's one major omission in this department – text flow around irregularly-shaped objects.

Fortunately, it's a problem that's easily cured with a little bit of thought. The trick is to use "runaround" and a number of empty frames to manoeuvre the text in the right direction.

Take a look at the step-by-step guide to see text flow in full effect.

PIPES OF PEACE

Another area of the package that can seem complex at first is the text-piping itself. The manual goes to great lengths to make the whole process seem as mystical as possible, but it's actually quite straightforward.

The trick is to use the

Flowing text from frame to frame is easy once you know how

Struggling with your page layouts? Nial Grimes digs out a few tips to help you make the most of Calamus 1.09N...

"piping from frame to frame" tool and forget about the other icons until you need them.

Just draw the required number of frames on screen, import some text into the first, click the "piping from frame to frame" icon and then select the frames you want the text to flow into. When you're finished, prod the "piping" icon again and then it's all over.

If you do want to fiddle around with the chain by inserting or deleting frames, highlight the "show piping chain" icon – this provides a visual representation of the flow of text and saves an awful lot of confusion.

While on the topic of body text, it's always best to make any modifications through the editor rather than in-frame – it's much faster.

Quite a lot of desktop publishing

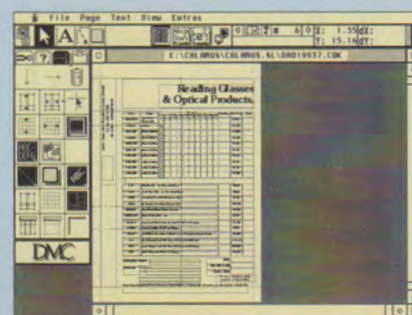
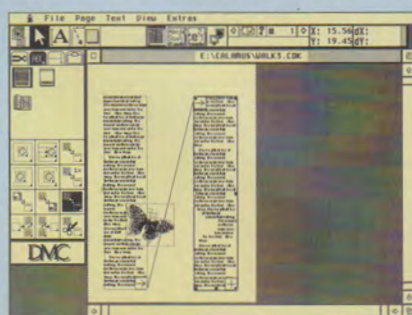
designs are repetitive – for example, you can usually fit several party invitations, address labels or price tags onto one page. This is an area where Calamus really does excel and it's all down to one feature – virtual copying.

Imagine that you've designed a sheet of fifty labels, each containing the price of a product. A month or two passes, your supplier increases the cost of the article and it's time to amend the labels.

Had you grouped and copied the labels using the standard copy mode, every label would need to be edited individually.

Virtual copying simply creates a mirror of the original – any changes made to the master label is reflected in all of the copies.

So to carry through our example, only one price needs to be changed – pure class!



SPEED IS OF THE ESSENCE

Calamus is no slouch, but start working with complex documents and you are likely to long for faster screen updates. There are a number of ways to pep-up performance – without installing a hardware accelerator.

The most dramatic improvement comes through disabling unneeded frames. For example, if you are working with the text in a document, the contents of vector graphics, picture and raster frames can be hidden, without affecting the layout process; after all, the frame outlines are still visible.

Remember that text frames are cached – it's not worth switching them off unless you are changing between different view sizes regularly.

If you find yourself concentrating on a group of mixed frames, the above technique is unuseable, but you can group the rest of the page and cut it to the clipboard. This will allow you to move about at lightning speed and the rest of the frames can be pasted back when you're finished.

Calamus 1.09N may be showing its age in some areas, but there's very little you can't achieve with effort. It's all about using the tools at your disposal in the most effective way possible...

In order to speed up screen redraws, make sure only the frame types you are working with are visible.

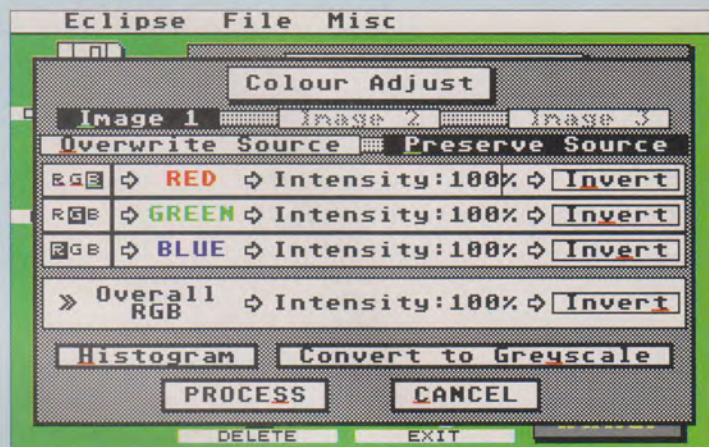
Nial Grimes continues our tour of Eclipse by delving into block handling and fine colour control...



Image processors can perform a huge variety of tasks, but they are at their most powerful when dealing with colour. It's the relationship between the colours on screen that gives a picture its clarity and Eclipse allows you to get right in there and edit the levels directly. The results can be astounding – take a look at one or two of the images on this page and it's almost unbelievable that transformations on this scale can be performed in a matter of seconds. So, you want to know how it's done, right? Read on...

BLOCK WORK

Before we dive head-first into colour theory though, it would be nice to take a closer look at block handling. Last month we dealt with loading, saving and viewing images, but it's also possible to create new pictures and handle blocks internally. All of this takes place through the Buffer and Transform dialogue boxes. It's

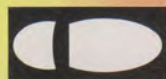


Whole pictures or specific shades can be lightened or darkened through the "RGB Colour" dialogue box.

very straightforward to create a new image – just define the size you want through the Buffer dialogue box and a blank canvas is created in memory. The lower section of this same dialogue box is devoted to block

handling. As Eclipse deals with 24-bit colour internally, you can't just draw a frame around blocks in the usual way – coordinates must be used instead. To paste one picture over (or into) another, enter the dimensions

THE COLOUR



STEP BY STEP GUIDE

ALL CHANGE

Having transformed our Ferrari photo into a usable image last month, let's use it as the basis for an attractive photo montage...



1 Begin by loading up the corrected Ferrari picture from last month's cover disk and enter 160x100 into the resize box. Now create a new image with the "Buffer" button – 320x200 pixels should do nicely.



2 The idea is to paste the Ferrari image into the top left-hand corner of the new buffer. Use the following figures: Size (160,100); Offset (0,0); Intensity (100%). Set "Source Image" to 1 and "Block Image" to 2.



3 Open the "RGB Colour" dialogue box and switch the Red and Blue components. Next use "Transform" and the "Buffer" functions to create the above effect. It takes time to master block handling, but by using the figures in the previous step, you will get there.



4 Finally, lay a nice logo over the top, by using the same block technique. Remember the "Transparent" button must be highlighted in order to blend the text with the image properly. Black is transparent as far as Eclipse is concerned, so your text must have a black background.

of the block into the "Size" field and the source coordinates into "Offset".

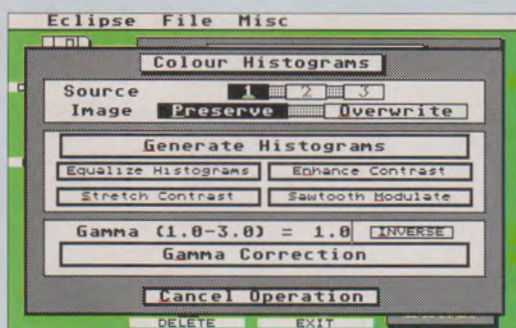
Now this is where things get complicated – the image you want to paste the block to is called the "source", while the picture you are pasting from is called the "block". Just set the radio buttons accordingly and click on "Merge" to actually set the copying process in motion.

There's no doubt about it – the whole process is a little bit tricky. However, it's perfectly adequate for creating montages of images, and you can see exactly how that's done through the step-by-step guide on these very pages. Now, let's get back to that colour...

GAMMA FOR A LAUGH

Each picture element on the screen is created by mixing red, green and blue. The brighter the colour, the greater its "intensity" is said to be and Eclipse allows you to adjust the levels of these components through the RGB Colour dialogue box.

At the simplest level, a picture with a slightly orangy hue can be brought back into line by simply reducing the Red percentage. By adjusting all three figures, the whole picture can be lightened or darkened. Eclipse also goes one stage further in allowing colour components to be mapped onto each other. Over to the left of the colour percentage figures you'll find a set of three radio buttons: R, G and B. By default, each colour overwrites itself when you adjust the intensity, but by changing these

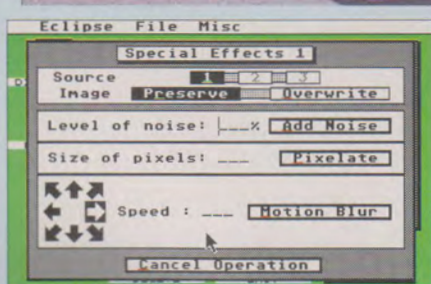


A histogram shows the distribution of colours within a picture - adjustments are possible through the four filters shown here.



The results produced by a simple colour swap can be astounding - the above effect was achieved in a matter of seconds!

Thresholding can produce some very striking mono images. Be prepared to fiddle with the figure to obtain the best results.



A new effects panel will be unlocked if you register Eclipse...

CONNECTION

buttons, you can exchange colour levels. I know it all sounds a little bit complex, but an example should clarify things in your mind...

Load up the Ferrari picture from last month's cover disk and open the RGB Colour dialogue box. Now click on the "B" radio button next to the "Red" component, and the "R" next to the "Blue" component. Process the picture and you will find that the car has been treated to a respray, all through simply swapping Red and Blue!

Yet more powerful colour tools can be found hiding in the Histogram dialogue box. A histogram is an overall view of the shades used within an image. All of the dark pixels are shown towards the left of the graph, while the brighter shades make an appearance on the right. If you take a look at the histogram for the Ferrari picture, you will see that there is quite a smooth balance of colours, but that (quite naturally) red is the dominant shade.

There are also four filters that sit just below the Histogram button. "Equalising" improves the contrast of

the image by creating a better distribution of colours, while "Sawtooth" is a little more severe and attempts to extract detail that may not be visible beforehand. All of the contrast filters are particularly useful after an image has been brightened. Gamma Correction will only be of passing interest to most people - it's designed to allow colour levels to be adjusted to suit certain output devices.

COLOUR MAPS

The final weapon in *Eclipse's* armoury is the Colour Map dialogue box. This comprises two main tools - Quantize and Threshold. The latter is probably the most useful: it's designed to remove all colour from an image.

Rather than using any fancy dithering method, this is achieved by testing the intensity of a pixel and making it either black or white, depending on the threshold figure. It's an extremely simple effect, but the stark shadowy images it produces can be very effective in the right setting. By default, *Eclipse* allows any pixel to

have one of 16 million colours - that's 256 levels of red, green and blue. Quantize allows you to reduce the number of bits used to store each of these components. The fewer "bits per pixel" the less colour an image has, but in practical terms, you are far better off using *GEMView* for reduction purposes. *Eclipse* has lots of

practical uses for desktop publishers and artists, but let's face it - on a deeper level, it's also incredibly good fun to play with! Even with limited block handling, it's possible to come up with some interesting creations and all of the time you are gaining knowledge about the principles behind colour and image processing.

WHAT YOU ARE MISSING...

The version of *Eclipse* on last month's cover-disk is fully usable, but does lack one or two features from the full package. By splashing out the £7.99 registration fee, the Special FX menu will be activated, you'll get an on-disk manual and, more importantly, you will no longer face a death-defying wait every time the program is used.

Special effects included in the full release, but that are missing from the cover disk version, include: motion blur, noise and pixelate (which turns images into a rather good imitation of a mosaic).

To register your copy, just fill in your details and forward a cheque or postal order for £7.99, made payable to P. Hannington, to:

STR Eclipse Registrations, 82A Mancroft Road, Caddington, Beds LU1 4EL

Please send me the registered version of Eclipse. I enclose a cheque/postal order to the sum of £7.99 made payable to P. Hannington.

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The block facilities may be a little tricky to use, but the results can be very effective - transparency and merging were used to produce this picture.

A word processor is the most important software purchase you will ever make. No matter what your main reason for owning an ST, the chances are you will spend more time manufacturing text than anything else.

In the early days of the ST, selecting the right word processor was relatively easy – there wasn't that much choice. But here in the '90s, the decision is a lot more complex. It would be very hard to find a genuinely awful word processor in the Atari market, and yet it's all too easy to buy a package that simply doesn't suit your needs. So let's take a quick look at a few of the points that can help you to avoid the pitfalls...

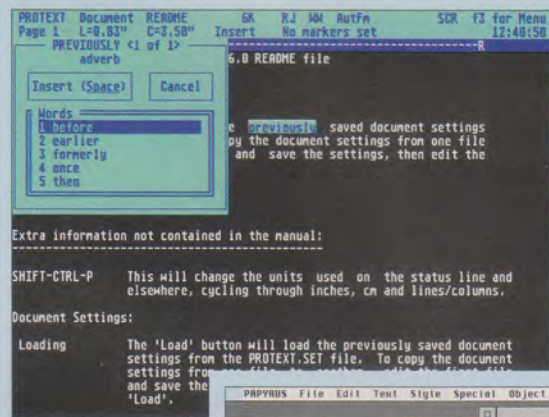
- **The first question** to ask yourself is what do you intend to use the word processor for? This may seem obvious, but you'd be surprised how easy it is to be fooled by specification sheets and advertising blurb. By deciding your exact requirements, you will be in a better position to answer the following questions and avoid wasting money on a package that is either too powerful, or one that simply doesn't meet your demands. Of course, it also makes

sense to take future needs into consideration.

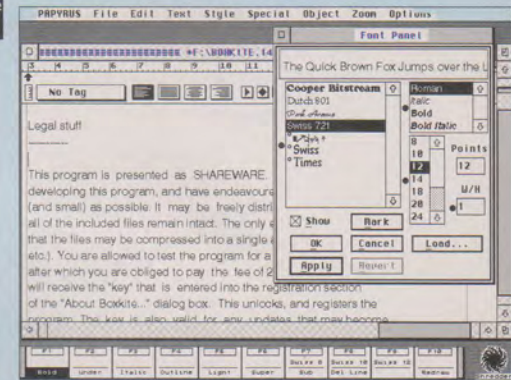
- **Print quality.** The crowning glory of any word processor is its printed output – in fact, you could say that it is the most important thing to consider in many cases. Rule number one: make sure the package you choose has proper support for your printer. The question of print quality is very closely tied to the type of fonts used. A word processor that deals exclusively with internal printer fonts, such as *Protex*, is not going to produce jaw-dropping output in most cases, but it is going to get text from screen to printer extremely quickly.

On the other hand, a package that uses software fonts will almost always produce stunning documents, but can take its time to do so if your machine and printer are of the slower variety. A good compromise in this regard is *That's Write 3* which deals expertly with both flavours.

- **Quick on the draw?** If you are using a standard ST, speed will certainly be a major concern when



For polish combined with masses of power, Papyrus is unbeatable.



Protex, with goliath spell-checker and thesaurus, is the ideal choice for writers and journalists.

BUYING A... WORD PROCESSOR



Printer Driver: a software interpreter used by the word processor to translate all output into a language that your printer can understand.

Printer Fonts: fonts held in the printer's hardware. Quicker to print than software fonts, but the range of styles and sizes available is usually limited.

Software Fonts: when using software fonts, the word processor prepares the whole page internally and sends it to the printer as one large picture – in this way, any style or font can be used. The penalty to pay is speed.

Thesaurus: a means of finding synonyms, or words that have a similar meaning. Writers use them extensively to keep their style fresh.

WYSIWYG: stands for "What You See Is What You Get". Many document processors attempt to be WYSIWYG nowadays.

Want to buy a new word processor but unsure of what to look for? Enter David Nilson with a few words of wisdom to guide you...

shopping for a word processor. It's at this point that you must decide between the speedy response of a traditional word processor or the graphical abilities of a document processor such as *Papyrus*.

If you want speed with a degree of

graphical power, then take a look at *Redacteur*.

- **Spelling for trouble.** Almost all word processors come with some form of spell checker these days – be wary of buying a package without

one. Also examine the features offered by the spell-checker; "spell as you type" is useful for improving your English skills.

A thesaurus plays a less important role in most cases, but if you are a writer or journalist, it should be considered almost essential.

- **Easy does it.** A logical interface is one of the most valuable assets a word processor can have. It doesn't matter how powerful a package is – if you personally find it hard to access that power, then you've made the wrong choice. For ease of use, you can't beat a good GEM word processor such as *Papyrus*. And while on the subject, if you do make use of keyboard shortcuts, make sure that they are both available and logical.

- **A good word processor** is one that suits your working style – don't let anyone tell you otherwise. Reviews and adverts can tell you a lot about software, but word processors are a very subjective thing; one person's dream package is another's nightmare. By bearing in mind the above points, you'll be able to choose the package that best suits your needs and one that will serve you well into the future. Happy shopping!



It only takes a quick look at an older package like 1st Word Plus to realise just how far ST word processors have come!

ST Handbook

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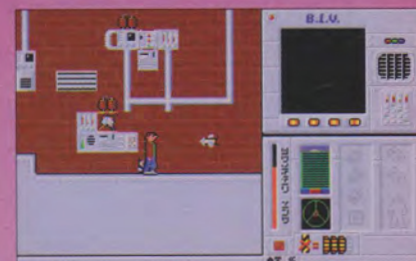
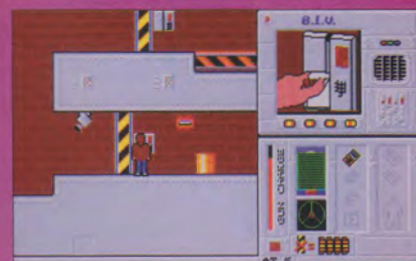
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A GOOD VIEW

The most powerful feature of GEM is its use of windows. In fact, the window concept is pretty much a standard across platforms – after all, the most popular operating system is called *Windows*!

GEM WINDOWS

Windows present a special challenge to the programmer: a GEM window is non-blocking. To understand what this means think for a moment about your standard dialogue boxes. When one is displayed on screen the user must click on "OK", "Cancel" or some other button to continue his work. Desk accessories and the menu bar are not accessible at this point, nor can you click outside the dialogue box; all you get is a warning beep.

A window is a different beast. Just look at the *HiSoft BASIC* editor window. You can scroll it, resize it, move it around, access the menu bar and even open a desk accessory. If you do open one, such as the *Control Panel*, you can move it around the screen; the *HiSoft BASIC* editor window quickly redraws the newly-revealed area. It is easy to have multiple windows open on-screen and clicking on a window activates it and brings it to the foreground.

Such things are very nice but it means that programming a window-based application is not that simple a task. Don't let this discourage you though, as with a bit of work you will

This month sees the start of a GEM programming project – a text file viewer! Ofir Gal starts with an introduction to GEM windows...

LISTING 1

```
'BASIC window statements

DEFINT a-z
LIBRARY "gemaes"
'$option y

WINDOW OPEN 2," A Window ",100,100,400,100,1+2+4+8

evnt_timer 2000

WINDOW CLOSE 2
```

be able to add window handling to the toolkit. Once the routines are in place, window handling should not present any special difficulties.

THE WINDOW COMPONENTS

The AES provides the window which is basically a collection of preset AES objects. The sliders are *G_BOXes* and the close and full boxes at the top corners are *G_CHARBOXes*. As you'd expect, the components are specified in the window opening commands so that a window is created to suit

WINDOW COMPONENTS

Element	Mask Value
Title bar	1
Close box	2
Full box	4
Move box	8
Info line	16
Size box	32
Up arrow	64
Down arrow	128
Vertical slider	256
Left arrow	512
Right arrow	1024
Horizontal slider	2056

the needs of the application. Our annotated figure shows a typical desktop window with its various components. The desktop uses all available items, but many applications do not use the Info Line while others do not require sliders and arrows. The various window

components are shown in the *Window Components* table. Note that the same bit mask principle for the object flags is used to set the window components. To open a window with a close box and a title bar, simply add the values of the two (1+2 = 3) as shown in the table.

OPENING WINDOWS

Window handling is normally carried out via the AES, but *HiSoft BASIC* provides several shortcuts designed to make our lives easier. However, the best method is to combine both direct AES window calls and *BASIC WINDOW* statements.

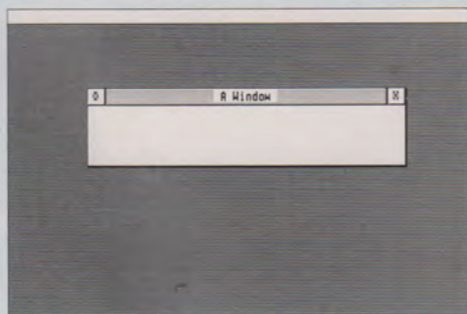
To open a test window, use the *WINDOW OPEN* statement. This takes a long list of parameters, the first being the window id which ranges from 0 to 7. The default id is 2. This is followed by the window title string and the window coordinates specified as x, y, w and h. The last parameter is the window components mask. If a program opens a window, it must close it before quitting by using the *WINDOW CLOSE* statement which takes the window id as a single parameter. Listing 1 is a quick demo of these.

LEGAL GEM

Don't make any assumptions when programming with GEM, especially where window handling is concerned. A typical example is screen size. Many programs assume that everyone has a high resolution display, yet many people use colour monitors, graphics cards or overscan – and the Falcon is capable of a wide range of screen resolutions. The first thing a GEM program should do is to obtain the screen dimensions and then ensure that the windows fit in the screen.

The best way of doing this is to use the AES call *FNwind_get*. This call, used for a wide range of functions as

This window was created with the program in listing 1. The window contains the close box, a title, a move bar and a full box.



LISTING 2

```
'opening a full window

DEFINT a-z
LIBRARY "gemaes"
'$option y

junk=FNwind_get(0,7,x,y,w,h)

WINDOW OPEN 2," A Window ",x,y,w,h,4095

evnt_timer 2000

WINDOW CLOSE 2
```



The program in listing 3 shows how to open a window to the full size of the screen, in this case a Falcon running at a resolution of 880 by 656 pixels as opposed to the ST standard resolutions of 640 by 400 or 640 by 200.

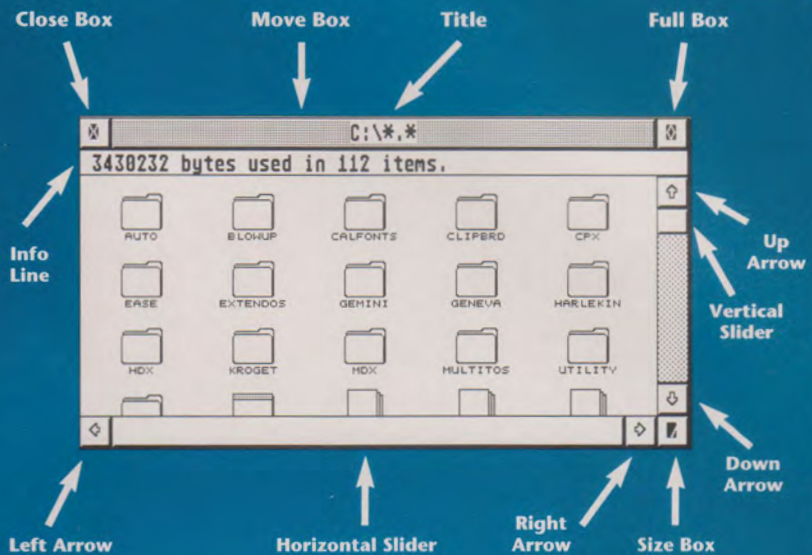
you will see later, takes six parameters: the window handle followed by a function code and the four window coordinates. The way the screen dimensions are obtained is to use a window handle of 0 and a function code of 7. Listing 2 shows how this is done; note that the return value of this function is unimportant and that the coordinates are placed in the variables x, y, w and h.

TEXT IN A WINDOW

A window is always displayed blank and any items you wish to have in it must be drawn manually using the VDI. Typically, the VDI call `v_gtext` is used to draw text onto the window. This call takes 3 parameters: the x and y coordinates for the text and the actual text string. The coordinates correspond to the bottom left corner of the text string and are

WHAT'S IN A WINDOW?

A GEM window may contain a variety of objects that users are familiar with. Most components can be clicked on to move, size, close or scroll the window. Others such as the title and info line are used to display information.



LISTING 3

'a routine to obtain the vdi font size

```
SUB FontSize
SHARED cellw,cellh
LOCAL info(9)
vqt_attributes info()
cellw=info(8)
cellh=info(9)
END SUB
```

LISTING 4

'VDI text lines

```
CALL FontSize
v_gtext 80,80,"Atari"
v_gtext 80,80+cellh,"ST"
v_gtext 80,80+2*cellh,"Review"
```

LISTING 5

'placing text in window

```
DEFINT a-z
LIBRARY "gemaes","gemvdi"
'$option y
```

```
SUB FontSize
SHARED cellw,cellh
LOCAL info(9)
vqt_attributes info()
cellw=info(8)
cellh=info(9)
END SUB
```

```
junk=FNwind_get(0,7,x,y,w,h)
```

```
WINDOW OPEN 2," A Text Window ",x,y,w,h,4095
WINDOW GET 2,0,x,y,w,h
```

```
CALL FontSize
v_gtext x,y+cellh,"Atari"
v_gtext x,y+2*cellh,"ST"
v_gtext x,y+3*cellh,"Review"
```

```
evnt_timer 2000
```

```
WINDOW CLOSE 2
```

left-aligned by default. You can try this call by including the `gemvdi` in the `LIBRARY` statement and passing coordinates that fall within the window.

The main problem is making sure you are drawing at the correct part of the window – especially as a user can move windows around and even open others on top. First find out the size of the text, or more precisely, the character cell width and height. Again, make no assumptions about the font size. This is usually 16 by 8 pixels in high resolution and 8 by 8 in medium resolution, but a user may have installed `GDOS` screen fonts of other sizes. The font size information is obtained by calling the VDI `vqt_attributes` which takes a single parameter: an array of 10 elements. The cell width and height are placed in elements 8 and 9 respectively. Listing 3 shows a sub-routine that you can call at any time to store the font dimensions. It declares a temporary array for attributes call and then copies the relevant information into the globally-shared variables

`cellw` and `cellh`. You can then use these variables to determine the coordinates for your `v_gtext` calls.

Once the font size is known, you can safely place lines of text on the screen, adjusting the y coordinate by `cellh` per line. An example is shown in listing 4.

WINDOW DIMENSIONS

It's one thing to know the size of the text, but how do you know where to actually place it to be aligned with your window? The answer is to use the BASIC statement `WINDOW GET`. Just like `FNwind_get` it takes a function code as one of the parameters. The first parameter is the window id, followed by the function code. The next four parameters are the coordinates x, y, w and h. A function code of 0 is used to obtain the usable part of the window, the area onto which you can place text or graphics. Listing 5 demonstrates the use of this.

That's it for this month; now it's your turn...

MISSED THE FEBRUARY ISSUE COVER DISK WITH K-RESOURCE?

No problem – just
turn to page 90
for information
on how to order
back issues.



Having introduced command lines last issue, Jon Ellis now looks at file handling...

DIGGING DEEPER

Last month, we introduced one of C's features strongly influenced by its association with the UNIX operating system: the command line. In this tutorial we will continue in the same vein by investigating how C does its file handling.

The ability to read and write data from disk is something fundamental to all programs, if a little unglamorous. C has a particular way of looking at file handling that may seem a little odd at first, but it is actually an elegant and powerful approach. In C, all input and output

is based on the idea of a stream of characters passing between the program and the input or output file. All sources and destinations for characters, whether they be disk files, printers, keyboards or whatever, are treated in the same way (though obviously there are physical limitations: printers are not known as being good input devices!). We will return to this idea later, but for now we will concentrate on disk files.

All file handling is done through a package of library functions that form

```

/*
** Simple program that reads a text file
** from disk and displays it on the screen.
**
** by Jon Ellis, 19 July 1994 ST Review 31
*/

#include <stdio.h>

int main(int, char *[]);

/*
** The program starts here...
*/

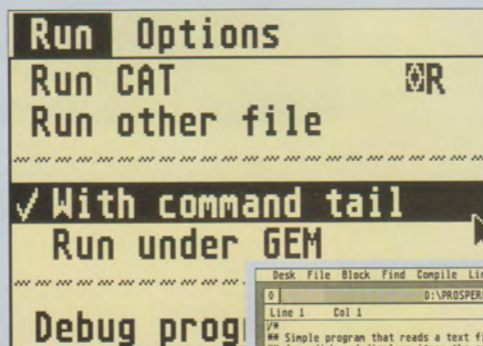
int main(argc, argv)

int argc;
char *argv[];

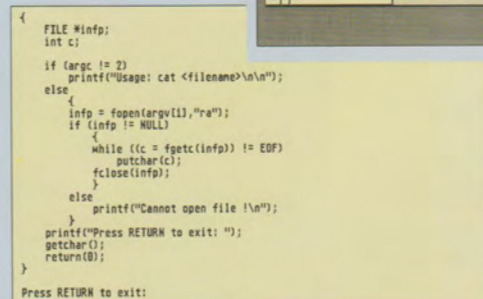
{
    FILE *infp;
    int c;

    if (argc != 2)
        printf("Usage: cat <filename>\n\n");
    else
    {
        infp = fopen(argv[1], "r");
        if (infp != NULL)
        {
            while ((c = fgetc(infp)) != EOF)
                putchar(c);
            fclose(infp);
        }
        else
            printf("Cannot open file !\n");
    }
    printf("Press RETURN to exit: ");
    getchar();
    return(0);
}

```



... type in the name of a file when the command tail appears...



Set the runtime options for the C workbench like this...

... and watch it scroll from start to end before your very eyes!

NEW FUNCTIONS

All of these functions are included in the ANSI standard C library. To access them, `stdio.h` must be #included.

putchar(character): Prints a single character onto the screen. The argument is an integer, *not* a string: it is a common mistake to write `putchar("A")` instead of `putchar('A')`. To begin a new line, `putchar('\n')` does the business.

fopen(filename, mode): Opens a file for processing according to the mode argument. Both arguments are pointers to strings. Commonly used mode strings are "r" and "w" for reading and writing text files. The function returns a pointer to a FILE structure which stores various bits of internal information about the file. If the file cannot be opened, the pointer is NULL.

fgetc(file): Read the next character from an open file. The argument is the file pointer returned by a `fopen()` call. The function returns the character or EOF if the file is exhausted or an error occurs. For historical reasons, there is also another function `getc()` that behaves in a similar way.

fclose(file): Close down a file once all work has been done. The argument is the file pointer returned by `fopen()`. Once a file has been closed, it must be reopened again before any more processing can be done on it – the FILE pointer is invalid. `fclose()` returns 0 if all went well, or EOF on any error.

the core of the ANSI C library. We have met many of these already in specialised forms for screen I/O – `printf()` and `gets()` for example. Let's meet some more: the listing gives C source for one of the simplest file handling programs imaginable: one that copies text files to the display.

To see it work, compile and link CAT.C from the tutorial folder using the C workbench. Set the run options as shown in the first screenshot to the left and then execute.

When the command tail dialogue box appears, enter the filename of a suitable text file (the program's own source code for example), and press <Return>.

WORKING IT OUT

After obtaining the name of the file to be viewed from its command line, the program starts by opening it using a new library function. `fopen()` talks to the operating system and sets up a variety of structures within the file handling package to enable access to the named file.

The result is a pointer to an object called a **FILE**. This pointer is the only thing required by other functions in the package to tell them which file

you are processing. `FILE` is defined by a `typedef` in `stdio.h`; have a look if you are curious, and then forget what you have seen! The beauty of this approach is that the C programmer never needs to worry about how `FILE` works or even what it looks like – we simply pass the pointer around. If `fopen()` fails, the pointer returned is `NULL`, and the program prints an error message.

Otherwise, characters are read in from the file, one at a time, using `fgetc()`, and printed to the screen using `putchar()`.

When all the characters in a file have been read, `fgetc()` senses the end of the file and returns a special value given the symbol `EOF` (`EOF` is `#defined` in `stdio.h` too). This terminates the while loop, and the program closes the file using `fclose()` before ending.

Time for a challenge: use what you have learnt so far to write a program that counts how many times each letter occurs in a file.

You will need to take account of upper and lower case letters, as well as screening out non-alphabetic characters. That's all for this tutorial – more file-handling next issue!

POINTERS

At the end of the last tutorial, we parted with a little brain-teaser. The listing showed how to process the command line by accessing the `argv` argument to `main()`. The first argument appeared as a string pointed to by `argv[1]`, the second by `argv[2]` and so on. The task was to explain why `argv` could legally be declared as:

```
char **argv;
```

As usual with such things, the answer leads us off to shed some light on a rather murky corner of C. The first problem is to figure out what on earth this gibberish means. This crystal-clear piece of programming says that `argv` is a pointer to a pointer to a character: if `char *` defines a pointer to a character, then `char **` is a pointer to a pointer to a character (if you have problems following this, take a peek at the *Help At Hand* box for some help).

The next stage is to figure out why this is the same as `char *argv[]`. In fact, this is a C feature we have already met. When an array is used as a function argument, what the function actually gets is the address of the first element in the array. In murky C terms, a pointer to the first element. Now, if array elements are themselves pointers to something, the function has received a pointer to a pointer to a something.

From this, the strange appearance of the `argv` declaration should be almost understandable. The command line arguments are held as an array of strings (that is, character pointers); `main()` gets a pointer to the start of the array – a pointer to a pointer to a char.

Using this format is not too hard: `*argv` is the same as `argv[0]`, `*(argv+1)` is the same as `argv[1]` and so on. Why does anyone bother with this? Since `argv` is now a pointer, it can be moved around in the way that arrays cannot. This allows some pieces of code to be expressed more neatly. For example, all the arguments of a program can be listed by two short lines of code, without any loop counter variable:

```
while (argc--)\n    printf("Argument: %s\\n",*argv++);
```

Having met pointers to pointers, no doubt the more devious readers are beginning to wonder if anything even more complicated can be written. Good news – pointers can be layered to as many levels as you like! Don't do it though: it makes code very difficult to debug and read. In general, it is best to stick to the declaration that most naturally expresses the intent behind the code. This very rarely requires Houdini-like pointer contortions...

HELP AT HAND

Mystified by C declarations? What you need is an excellent piece of software that understands them to translate the gobbledy-gook into English for you. Enter the program `CDECL`, which not entirely coincidentally appears on the cover disk as `CDECL.TOS`.

`CDECL` was originally written for the UNIX environment by Graham

```
CDECL v1.4 by Graham Ross
Type 'help' or '?' for help
> help
[ ] means optional; [ ] means ; or more; <> means defined elsewhere
commands are separated by ';' and newlines
command:
  declare <name> as <english>
  cast <name> into <english>
  explain <gibberish>
  set or set options
  help ?
  quit or exit
english:
  function [( <decl-list> )] returning <english>
  array [<number>] of <english>
  [ const | volatile | malloc ] pointer to <english>
  type
  { (storage-class) [( <modifier> )] [( <type> )]
  | struct | union | enum } <name>
decl-list: a comma separated list of <name>, <english> or <name> as <english>
name: a C identifier
gibberish: a C declaration, like 'int *', or cast, like '(int *)x'
storage-class: extern, static, auto, register
C-type: int, char, float, double, or void
modifier: short, long, signed, unsigned, const, volatile, or malloc
> explain char *argv
declare argv as pointer to pointer to char
```

CDECL in action!

Ross over six years ago. The source code was made accessible on the *Internet*, and now the program is available on many different computer systems. The version on the cover disk was produced by recompiling a set of source code using *Lattice C* on the ST. Only a single program change was required to achieve this, a testament indeed to the portability of C – an issue we discussed in the last article.

What can `CDECL` do for you? Double click on the icon, and when the > prompt appears, type the following:

```
explain char **argv
```

`CDECL` responds with an English version of the C:

```
declare argv as pointer to pointer to char
```

Even better, `CDECL` can translate the other way too! If you want to declare an item in C, but cannot figure out how to phrase the declaration so the compiler will accept it, just ask!. For example, let's say we want a function, `get_palette()`, that returns a pointer to an array of 16 integers (representing the existing screen colours). To find the correct incantation, we ask `CDECL` in English (well, nearly !):

```
declare get_palette as function returning pointer to array
16 of int
```

and it supplies the answer:

```
int (*get_palette())[16]
```

which would have taken a lot of playing around to find. `CDECL` can do even more – type "help" to get a summary of the possibilities. "quit" ends a `CDECL` session.

To get a quick answer, an enquiry can be passed to `CDECL` on the command line. The program will print the answer and then exit. You may find it easier to rename `CDECL.TOS` to `CDECL.TTP` if you use this mode a lot.

SEPTEMBER '93 ISSUE IS SOLD OUT...

... but we still have some of the cover disks! If you missed out on *Prospero C* and would like a copy of the disk along with the first tutorial, send £2.50 (payable to Europress Publications) to: *Prospero C Disk, ST Review, Europa House, Adlington Park, Macclesfield SK10 4NP.*



The Internet is that vast system spanning the Earth, from the sprawl of downtown New York to the Campus of Tokyo University – right into your home. All you have to do is to take the decision to be involved. This month we're looking at a couple of real-time entities: *telnet* and *Internet Relay Chat* or *IRC* for short. These two functions are an excellent starting point for any prospective 'net jockey, offering both information and help at the end of the 'phone line.

Both of these commands are fairly easy to use and available to anyone using either *Demon* or *CIX*. As usual, *CIX* is a more pleasant alternative, but being real-time, the cost consideration may make *Demon* the choice for you. It's your money!

TELNET

Telnet is the command that links you into a real-time computer resource which may be anything, from a standard bulletin board to a multi-user game or real-time chess server. This makes describing how to use the *telnet* system a little bit difficult, but I'll try...

To log into a *telnet* server from *Demon*, simply dial-up the system using *NOS* and type "telnet [server-name]". If you're using *CIX*, type "run internet" first followed by the same *telnet* command. What happens next is entirely dependent on the type of server you decide to connect to. Here are a few general guidelines which you should always keep in mind when telnet'ing

- As you come across various *telnet* servers – from friends, message conferences, *Internet* services listings and so on – look for a valid login word. This can be literally anything. Sometimes it denotes the service itself, like "e-math" or "freenet", and sometimes it's more general in which case try "public", "guest" or "visitor".
- When you log in to a server it will often ask you for a terminal emulation. If you are running via *CIX* and using a good terminal program (like *Connect*) then go for *VT100*. If you

Using the telnet command on CIX...

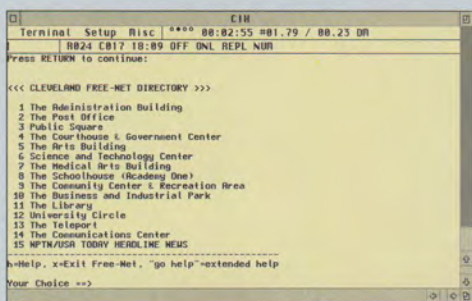
```
gate.demon.co.uk (1102281):
demo login: login
Password:
Prestack: pop-nrc-1588 (16x-388)
ip: ip: IP Address: 158.152.38.36 Running POP on 11
Mitsubishi, Reading, Sunder land, all in beta
Mushira back up, 1111 in beta
Last line in file.

HELLO
Biat x18 complete

NET > mtp verbose off
NET > mtp verbose off
NET > TIME: connection = 18 seconds
Time now (GMT) Tue Aug 2 21:05:30 1994
TIME: PC clock set

MTP daemon entered, target = news.demon.co.uk
NET > 288 d1p2ch n1p2ch1 server version 1.5.111 (10 November 1991) ready at Tue Aug 2
22:05:45 1994 (posting on) (1606 56).
* NLSKUS: demo.announce.demon.ip.support.1.demon.ip.support.1c 94882.122228 GMT
help trace: 238 how many by message in follow
*--12 lines, 413 chars, 1 sec 1486 bytes/sec)
NET > telnet hellspark.wharton.upenn.edu 6969news summary: 12 articles (15419 bytes) in 28 sec
1728 bytes/sec)
Usage: telnet address
NET > mtp verbose off
NET > mtp trace 0
NET > telnet hellspark.wharton.upenn.edu 6969
```

THE REALTIME WORLD



The Cleveland Freenet has a huge Atari community.

are using *Demon* or a plain terminal program then you'll probably have to use either "none" or "dumb".

• There are very few standards in the world of *telnet* servers, and the method of leaving a server varies from system to system. Generally the log in page will tell you how to quit – make a note of it.

• If you get into difficulties and can find no way of quitting the server, you can close the connection at your end. On *CIX*, hit the escape character (often <Control><C>) followed by "close": on *Demon*, hit <F10>,

followed by "session" to find the number of your *telnet* session and then, finally, "close [no.]" to close it down.

INTERNET RELAY CHAT (IRC)

Internet Relay Chat is actually a special type of *telnet* server. It allows any *IRC* user to speak to any other *IRC* user in real-time. Message areas are broken down into channels with different topics. It's a pretty exciting way of meeting people from different parts

of the World and speaking about anything you want. Both *CIX* and *Demon* have streamlined the connection to *IRC* to cut down on your typing. On *CIX* type "run internet" followed by "irc": on *Demon*, type in "telnet irc". In a few seconds you will have a connection.

On *CIX*, where you should be using either *VT100* or *ANSI* emulation, there is no further preparatory action on your part. On *Demon* you have to type your nickname and then a terminal type. The nickname is up to you, but the terminal type should always be "none".

When you're connected, what you do is more or less up to you and what you're interested in. All commands (as opposed to messages) are prefixed with a "/". Check out the *IRC Commands* box for further info.

Some interesting channels to check out are #atari, #jaguar and #pictures; general chat is available on #chat, #chat2 and #chatter. Those of you with a gentle disposition be

INTO THE

Graeme Rutt and Mark Baines venture further into the world of the Internet...

warned – there are some pretty fruity channels about and language across the whole *IRC* is more or less what most of us use day-to-day in the work-place and in the pub.

IRC COMMANDS

- /list "name": list channels
- /join #[channel_name]: join a channel
- /who *: who is on your channel
- /whois [nickname]: information about any IRC user
- /quit: leave IRC

GO GET 'EM

That's *telnet* and *IRC*. These two commands alone will open up a whole new world of interest. Next month we'll be looking at another command or two that will push the *Internet* door open a little further. Until then, have fun with your comms and, as always, watch your 'phone bill!

TELNET SITES

ICDL (Open University): telnet acsvax.open.ac.uk.
Login: guest. Account: greatbritain. Password: AAA.

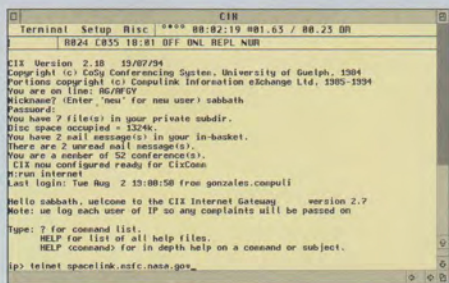
Cleveland Free-Net: telnet freenet-in-a.cwru.edu.
Login: follow prompts.

Library of Congress: telnet locis.loc.gov.
Login: follow prompts.

Go Server: telnet hellspark.wharton.upenn.edu 6969.
Login: guest.

Name Search: telnet info.cnri.reston.va.us 185.
Login: [email address].

... and now on *Demon*.



BEHIND THE SCENES

One of the most powerful tools on the Internet is the *telnet* application which allows you to connect to a remote computer on the network anywhere in the world. You can then run any software that has been made available on it – issue commands and the remote computer sends the output from the program down the line to your computer. It is as if you were directly connected to this large mainframe with gigabytes of storage.

You normally need an account with a password on the remote computer to use its software.

However, some sites will provide one or more public services, such as access to a database of newspaper articles or library catalogues. Some may allow you to play an adventure game or, in the case of something like CIX, allow you to access it instead of dialling in with your off-line reader.

ACCESS

To use *telnet*, you need to know the address of the computer you want to connect to. For instance, the Concise Oxford Dictionary is available at

```

CIR
Terminal Setup Risc 0000 00:01:52 #01.50 / 00.23 DR
R024 C001 20:26 OFF ONL REPL NUR
--- stork.doc.ic.ac.uk Message of the Day ---
---
--- This is the IC DoC irc server
---
--- If you are a new user, type /help newuser, otherwise
--- /msg jim_bob <message>
--- for help.
---
--- Please do not leave unattended clients (including "bots") connected to
--- this server without our agreement - the number of connections are finite
--- and other users would like to use irc here too.
---
--- James R Grinter "jim_bob" <jrgdoc.ic.ac.uk> a student here is currently
--- handling most enquiries.
---
---
--- (system@doc.ic.ac.uk)
---
--- Department of Computing
--- Imperial College
--- London, UK
--- +44 71 589 5111 x5085
---
--- sabbath ("cixip@jerry.computlink.co.uk") has joined channel cixen
11:24:12 sabbath on cixen - /msg /help for help
  
```

Entering
IRC via
CIX...

... and
now via
Demon –
note the
difference!

```

IRCII Telnet Server (disnagi)
-----
Welcome to the Demon Internet Telnet IRC Service

/servertng to another server is not normally allowed
on this client but whilst we are having problems due
to busy links we don't mind if you /server to either
atf.org or stork.doc.ic.ac.uk.

Please report problems with this service to:
Mark Turner <irc-admin@demo.net>

Nickname: sabbath
Your terminal appears to be: network
Hit return to select default terminal,
or enter your terminal type,
or enter "none" for no terminal: none
Please choose your backspace key:
B) Backspace key ("B")
D) Delete key ("D")
Choice: B
*** Cannot open character table definition "ASCII" !
*** Connecting to port 6667 of server disnagi.demon.co.uk
*** Welcome to the Internet Relay Network sabbath
  
```

TELNET COMMANDS

<i>close:</i>	close the current connection
<i>help:</i>	print help information
<i>open:</i>	connect to a site
<i>quit:</i>	exit telnet program
<i>set echo:</i>	enable/disable local echo
<i>status:</i>	print status information
<i>Z:</i>	suspend telnet
<i><Control><Z>:</i>	enter command mode
<i><Return>:</i>	leave command mode

exclusively on other ports and still be accessed by *telnet* clients.

For instance, you can play *Go* at lacerta.unm.edu on port 6969, by typing *telnet lacerta.unm.edu 6969*.

CLIENTS 'N' SERVERS

In any *telnet* session, there are two pieces of software: a client and a server. The client runs on the computer requesting the service and the server runs on the remote computer providing it. The network using TCP/IP is the medium by which the two programs communicate.

The client creates a TCP/IP connection to the server and accepts input from you, reformats it into a form the server understands and sends it. It also accepts output from the server and again reformats for display.

Servers normally run in the background and are often referred to as *daemons*.

When called, they tell the networking software they are ready to receive commands. Any results are sent back and then they wait for the next connection. A communication protocol ensures that servers can handle a variety of clients and operating systems.

NET



"info.rutgers.edu" in the USA – type in *telnet info.rutgers.edu*; this connects you to "info.rutgers.edu" and starts a terminal emulation session. If connecting from CIX, CIX will send the remote computer your terminal type, usually VT100. Direct connections require your software to do so using environment variables, such as "setenv TERM=".

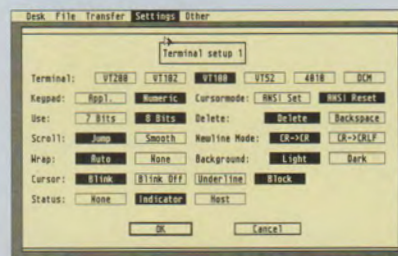
If you have an account on the remote computer, type in your login name and password to be able to use all the usual commands at the system prompt. Guests will normally be

given instructions or be presented with a menu – for instance, select "library" and then "reference" to use the dictionary.

You will be told what the Escape sequence is – usually *<Control><Z>* and not the *<Esc>* key. Make a note of this.

If you get lost within a program, you can get back to the *telnet* command prompt by typing this escape sequence. See the box for the common commands available.

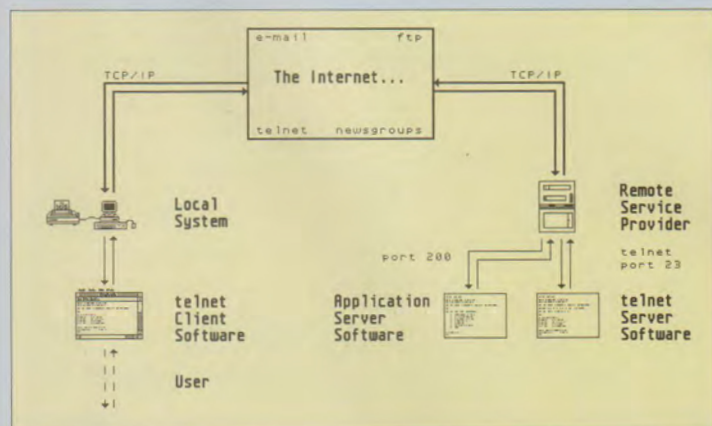
Sometimes one or more services need to be provided on a computer



The old work-horse *Uniterm* is highly suited for connection to mainframes.

that must also allow account users full access. To let the computer know which service to provide, servers are designated a port number.

Telnet is normally on port 23. Other services can be provided



A Client-Server set-up between a local system and remote service provider.



Client: A program that you use to obtain a service from a server somewhere on the Internet.

Server: A program (or sometimes the computer itself) that allows a computer to provide a service to another computer. You connect to a server with the appropriate client software.

Port: A number that identifies a particular Internet program. When a data packet is sent from your computer, it contains information about its protocol and the application it is trying to reach. The port number identifies that application. Not to be confused with a physical input/output socket, such as the serial port.

Shell: A program on the remote computer that accepts and processes command lines sent from your terminal. Its output is sent back to you to be displayed on your screen.

VT100: A terminal emulation similar to the VT52 terminal built into TOS where escape character sequences are used to control the screen display.

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ASK THE EXPERTS

Experts is back up to three pages by popular request, and with added hints 'n' tips. Each reader hint gets £10, so pick up that pen...

BASIC QUESTION



While living in the USA, I bought GFA BASIC. Now back in the UK, I'd like to upgrade to a more recent version (my interpreter is 3.02, my compiler is 1.72). Can you tell me who handles the UK distribution or who I should contact for an upgrade?

Glyn Reeves, London

GFA BASIC is distributed by GFA

```

Save Load Merge List Block BlkSta Replac Pg 0 Direct Run 10:00:39
Load Merge List Block BlkEnd Find Pg 0 Insert Flip Test
25000
ap_idk=APPL_INIT()
DIM smfdbx(8), dmfdbx(8), px(8)
' INLINE MS-DOS BOOTSECTOR HERE (dos_buffx)...
' INLINE dos_buffx, 512
' Fancy Dialogue Box Here...
' INLINE dialx, 5480
' Use dialx+6 for raw screen data,
' Space For TOS 'FLOPFMT()'...
temp$=SPACES(10000)
temp%=V:temp$
boot_buffs=SPACES(512)
boot_buffx=V:boot_buffs
vol_buffs=SPACES(512)
vol_buffx=V:vol_buffs
' Space for Screen Saving...
scsav$=SPACES(5472)
scsav%=V:scsav$

```

Still around - GFA BASIC is now up to version 3.5.

THE ORACLE...

Each month, one of ST Review's writers will give you some hot tips, starting with Graeme Rutt...



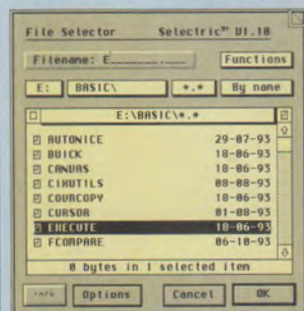
● Buy NVDI, the most essential addition to any Atari computer. This little beastie speeds up all aspects of your GEM display, from text to pull-down menus and displaying pictures. Its compatible with virtually anything and even has its own, very fast version of GDOS. An excellent program that you should never be without.

● Use a replacement file selector. Irrespective of the TOS version you're running under, the standard file selector is a bit on the poor side. Make up for this deficiency by adding a new one to your Auto folder. As well as making file selection much easier they often have extremely good file manipulation tools - copy, move, delete, new folder and so on. My personal favourite is Selectric.

● Support shareware. Although our platform isn't getting Atari's full attention at the moment, don't feel despondent. Software production is very healthy and the quality is improving all of the time. Much of this software is available as shareware - you can try before you buy. Don't treat these as freebies; see it as a chance to support your computer while getting some damn fine programs at the same time.

● See your computer as your working environment. Concentrate on collecting a suite of high-quality applications and utilities, hopefully ones that use the emerging graphic interface standards. Just like in a factory or office, if you're comfortable where you're working you'll be more productive.

● Think about getting into multi-tasking - whether you just want to task-switch or are planning on doing some real multi-tasking work, the advantages are enormous. My favourite multi-tasking operating system is MagiC which is quick, not too memory hungry and very responsive.



In favour - Selectric gets the thumbs up from this month's ST Review writer.

Data Media in this country. Having contacted them on your behalf, I am pleased to say that it is possible to upgrade your disks to the latest version (3.5). The price is £10 per package and you can contact GFA on 0420 22707 to tie up the details. Nial Grimes

the STe or Falcon. Your second question is much simpler. Outside, available from 16/32 Systems (0634 710788), is a virtual memory manager for the TT and Falcon. Be aware though that virtual memory cannot be used with programs like Cubase Audio which require "real" RAM. Mike Robinson

CD-ROM TO LET!



Here's a good one for you. I've been reading with great interest the articles on Atari-compatible CD ROM drives and they've got me thinking.

I have an STe and a Falcon, the latter of which is a brilliant piece of equipment - any ST users who are sure they need a more powerful computer, the Falcon is the answer! I also have CDi, Sega Megadrive CD and a CDTV. Is it possible to connect any of these to either the STe or the Falcon to use as an industry-standard CD-ROM drive, for pics and text files?

Also, what do I need to utilise virtual memory on a Falcon?

Darren Smithson, Berkshire

Unfortunately there is no way to connect any of your CD-ROM drives to an Atari computer. While it is theoretically possible, the required interface does not exist and is unlikely to become available due to the falling prices of CD-ROM drives. At the moment you must have a SCSI drive to interface with

SAD SCREEN



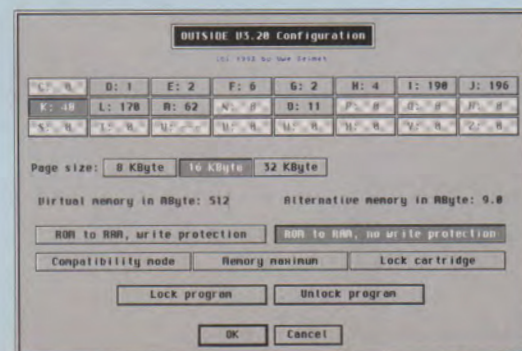
I recently bought a second-hand colour monitor, a Panasonic VX-160 with a 7-pin RGB DIN socket. The pins are labelled in the manual as: 1 - Red, 2 - Green, 3 - Blue, 4 - Sync, 5 - Ground, 6 and 7 unused.

I have used the information given in issues 1 and 3 in what now seems a vain attempt to make a connection lead to my 1Mb STe. I get a desktop image of sorts with a green background, and an outline of the drive boxes and cursor in white, but all the lettering has disappeared.

Please put me out of my misery: have I bought a duffer or do I need a different wiring configuration?

Dave Cummings, Hants

This is difficult to answer as the particular model of monitor cannot be traced. If you are absolutely certain that you have connected up the lead correctly then there are two main possibilities: the sync



Come on in - use Outside to treat a chunk of your Falcon's hard disk as memory.

rates of the monitor are unsuitable or the type of input is incorrect.

All monitors work by having a beam of electrons swept rapidly across the screen; by slowly moving this line downwards, a picture is built up. The rate at which the line is scanned horizontally is termed the "horizontal sync rate" while the number of times a complete picture (or frame) is displayed each second gives the "vertical (or frame) sync rate". The STe's rates for colour are 15.625kHz horizontal and 50Hz vertical, although the latter can be altered through software, while mono is 35.8kHz horizontal and 71Hz vertical.

This explains why modern, cheap SVGA "multi-sync" monitors for the PC usually work on an ST, but only in mono as they can sync to signals in the range 30-40kHz horizontally. However, most PC mono monitors are a no-no as their vertical rate is usually locked to 60Hz.

Older monitors of the CGA and BBC micro era had sync rates that match the ST's colour rates but required digital (or TTL) input signals. Each of the three colours (red, green and blue) signals was either On (one volt) or Off (zero volts). The ST produces analogue signals where each colour can vary in small steps between off and fully on so allowing a far greater range of colours.

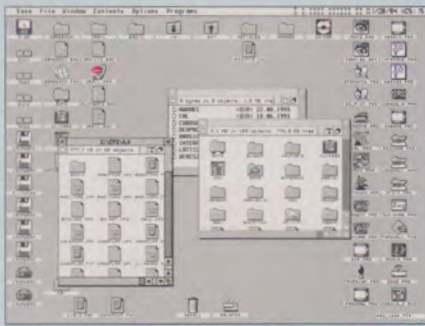
Check any spec. labels on the rear of your monitor or in the back of the manual if you have it. The information here may help you to decide whether you'll have to give this up as a lost cause. Paul Rossiter

MISSING MEMORY

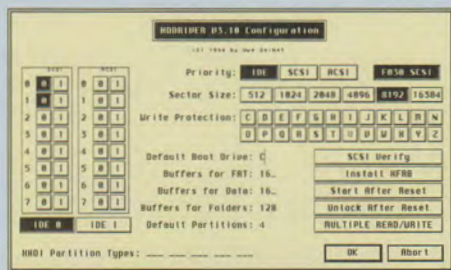
I have been a Falcon owner for about 8 months now, and as I use it mainly for programming and music I usually work in monochrome and use TeraDesk as it is faster than the in-built one. However, I recently obtained a cheap colour VGA monitor from a friend, and decided to work in 16-colour mode. The problem is that every time I open a window (on the desktop) I lose about 14Kb of memory, which does not reappear until I either reboot or change resolution. Do you know of any patch programs to fix this? I have tried using GEMRAM and SHBUF, but without result.

Craig Drummond, Hampshire

Well done - you've spotted a bug in the Falcon desktop. And guess what? There is no known solution except using a replacement desktop which uses up more of your precious RAM. GEMRAM is another memory hog, but if you install an alternative desktop you will not



Hard drivin' - of all the hard disk driver software available, HDDriver is probably the best.



need it. TeraDesk does not use much memory, but it doesn't support colour icons.

There are currently three good alternative desktop programs that support colour icons. Gemini is very powerful and shareware, but it does need quite a bit of RAM.

The other two options are commercial products. Ease is an excellent desktop which works well on the Falcon and is available from System Solutions; NeoDesk 4, which should be available from Compo UK soon, looks promising too.

WinX is still a good reason for using GEMRAM or ROMSpeed which seems to work better on the Falcon. It solves many AES bugs and also enhances the functionality of GEM. Ofir Gal

HARD FACTS

I am thinking about purchasing a hard disk drive for my Atari STe, possibly for use on a Falcon if I upgrade. After looking around, I have several questions:

- Is there any software available to change the maximum size of the boot partition, or to allow you to load accessories and auto programs from another partition?
- What installation software is available - I hear that some are a lot slower than others? Some hard disk software has an in-built cache - what advantages does this have over external programs like Cold Hard Cache?
- Which host adaptor should I get?
- If I wanted to buy a bare SCSI disk drive, is there any limitation on what it could be? Would it need a parity bit enable/disable setter, or a device number setter, or do these come on the host adaptors?
- What other hardware would I have to buy for the bare SCSI drive?

With Ease - colour icons are supported by Ease which works well with the Falcon. It's also MultiTOS and MagiC compatible, but doesn't seem to get on with Geneva.

- What software should I buy for a ready-made or bare DIY SCSI disk drive?

Adrian Bridgett, Macclesfield

The ICD hard disk utilities allow you to use much larger partitions than would normally be possible under TOS. The latest version of the ICD software supplied with The Link and the stand-alone Pro Utilities, which work with any host adaptor, also let you load accessories and Auto folder programs from different partitions. You can even choose which partition as you boot up your machine.

There are four main driver options for a hard drive user: the ICD Link software that comes with ICD's external host adaptor, the ICD Pro software that works with any host adaptor, Atari's own software and the latest version of HDDriver recommended by System Solutions. The latter can provide any of the three but I would recommend the HDDriver software as being faster and more flexible.

It is also much cheaper than The Link or the Pro Utilities. All three options work on the Falcon too, though in that case you won't need a host adaptor, just a standard SCSI-2 cable.

The ICD drivers have built-in drive caching while the HDDriver software has an add-on shareware program to do the job, similar to Cold Hard Cache but a lot more compatible with other software. There is an advantage in having a built-in cache as it is usually easier to set up but that's all.

The best value host adaptor is probably System

Port me - any comms package, even this old demo of Freeze Dried, can be used to transfer files to a Portfolio.

Solutions' Translator. It works with or without parity (as does The Link version 2) and as it is an external adaptor, it can be used with other devices quite conveniently. An external adaptor also means you can easily use the same drive with both the Falcon and STe simply by unplugging one cable and inserting another.

Bare SCSI drives - most makes should work - come with a SCSI ID selector but it will be as a DIP switch or jumper rather than a convenient case-mounted switch. You would also need a power supply, on/off switch and some form of case to put the drive in.

Frankly, the very fact that you have had to ask these questions leads me to recommend that you go for a ready-built option. There is little to be gained by building your own as margins are already very tight in the computer industry. System Solutions will supply tested, working drives of almost any size for much the same as it would cost you to source and build your own - and with a lot less aggravation. Andrew Wright

PORTABLE PC

I have recently bought an Atari Portfolio hand-held PC. Is it possible to transfer data files from the Portfolio to my ST? I have a 520STFM upgraded to 1Mb and in the portfolio manual, there is a parallel interface and an RS232 available as optional extras; which of these would best suit my needs? What software will I require?
Alan Beach, Cumbria

It is indeed possible to transfer data files between the Portfolio and the ST. You will need an RS232 interface for the Portfolio, a "null modem" cable and communications software to enable the two machines to talk to each other. Silica Systems (081-309 1111) should be able to help you out with the Portfolio side of things and the public domain is filled with quality ST communications programs (TeddyTerm and Freeze Dried Terminal to name but two).

As for actually using the files you transfer, the situation is a



little less clear. I am reliably informed that the Portfolio's spreadsheet saves in Lotus 1-2-3 format, and these should load perfectly into a number of ST packages. Similarly, files from the text editor shouldn't pose any problem to most ST word processors. However, when it comes to the address book, it all depends whether the records can be exported in a format usable by an ST database. Nial Grimes

Vector, which is very popular, and Arabesque 2 which should be available soon. There are several paint programs, some better suited to photo retouching like DA's Picture and Truelmage, or TruePaint which is an out-and-out paint package. There are several more commercial and public domain art programs available. Scanning and OCR software tends to be bundled with the scanner; contact Golden Image (081-365 1102) and CGS (081-679 7307).

There has been a recent upsurge of high quality software, both shareware and commercial, most of which is Falcon compatible. In fact, you will find that most ST programs runs on the Falcon, even some games by using a utility called Backwards.

As far as a monitor goes, first make sure you get ScreenBlaster, which includes NVDI, and a good SVGA monitor with a wide frequency range (30kHz to 60kHz horizontally). 15" and 17" monitors are more expensive, but they are usually of higher quality, so simply get the largest monitor you can afford.

As for your final question, it's down to the in-built Digital Signal Processor (DSP) chip – and you can be certain that most PC and Mac owners wish that their computer also had one! Ofir Gal

FULL FALCON

For several years I've been using an STe running the C-Lab Notator MIDI sequencing and music score editing software. I will be purchasing a 16-track digital recording package consisting of Cubase Audio 2.0, an upgraded 14Mb Falcon, and a 1.2Gb hard drive.

I am reasonably familiar with DTP packages on the Mac and PC platforms as I use these at work, but have never used anything except music software on the Atari. Could you advise on some good packages for DTP, drawing, painting, scanning/OCR and video, all compatible with each other for graphic/text import purposes. I also need a good colour monitor for the Falcon.

How is it the Falcon has Cubase Audio, but Macs and PCs require about £5,000 of add-ons to do the same job?

Daren Willcock, London

Cubase Audio is a powerful audio and MIDI sequencing package which I'm sure you will enjoy using. As you may have heard, some Falcons have hard disk problems that are related to data flow in the SCSI interface.

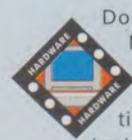
This can be solved by applying a slight hardware modification to the motherboard. I recommend that you buy your Falcon from a reputable dealer who will do the SCSI timing modification on the Falcon if required.

The Falcon with Cubase Audio is certainly good value for money. A post-production editing package will also be available shortly. Bear in mind that the Falcon only has analogue stereo inputs and outputs and you may require additional hardware such as the digital interface (FDI) eight output module (FA8).

There are many good word processors, DTP packages and art programs for the Falcon. Papyrus and That's Write 3 are two examples of good word processors while Calamus SL and DA's Layout are DTP packages used by many professionals.

On the drawing front it's worth checking out Kandinsky, a shareware program that was on a recent ST Review cover disk, DA's

MISSING TEXT

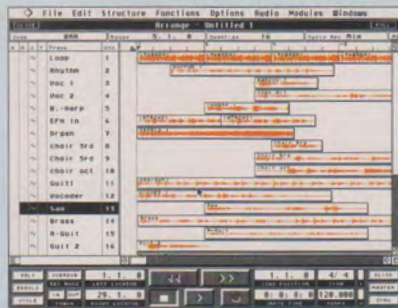


Do you know if the Microtext receiver for the ST is still available, or some alternative system for loading text from teletext into a spreadsheet? It used to be advertised in ST World before ST Review appeared. In response to the "Cover CD" letter – at least we can re-use cover floppies after extracting the bits we want!

R. Moore, South Glamorgan

As far as I know, the Microtext receiver is no longer available. However, if you are feeling adventurous, Floppyshop (0224 312756) stock a public domain disk detailing the construction of your own receiver. Full circuit diagrams are included along with comprehensive instructions and the necessary software. The disk you need is in the catalogue as UTL.256 and will set you back a modest £2.

With regards to cover-mounted CD-ROMs, they do have uses beyond data storage you know. CD-Frisbee throwing has become the main attraction at many an office party and is often more enjoyable than any of the games the CDs contain (allegedly)! Nial Grimes



Sweet sixteen – Cubase Audio 2.0 now gives you 16 tracks of glorious direct-to-disk audio!

READERS' HINTS



Fancy winning a crisp tenner? Then send your best hints 'n' tips into ST Review!



Most good games now involve at least two to four (if not more) floppy disks. While playing the games, it is annoying when swapping disks to find the correct one in the pile in front of you. Disk holders are on sale, but when I managed to track one down, the price was just short of £10. So I've built my own – for virtually nothing.

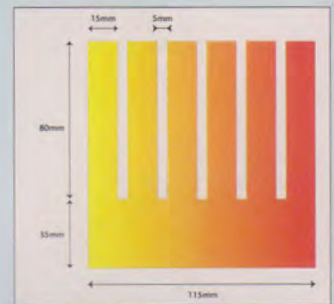
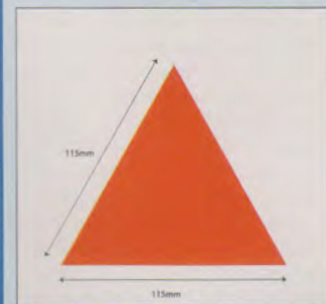
All you need is some hard card (the covers off an old hardback book are ideal, otherwise an art or craft shop should be able to help you), some thick tape (masking tape ideal), and a sharp craft knife (or stanley knife).

Cut out the four pieces, two of each shape. Hold the pieces in place (the disk holder should look similar in shape to a Toblerone box), and bind along the edges with tape. Don't bind along the tops of the openings!

Now cut some tape into strips 15mm wide and 60mm long, and use these to join the "fingers" together, folding the tape across the top of each pair of fingers and down their length.

If the slots or tape are causing the disks to snag or catch then make the slots wider by trimming carefully with the knife. If you wish, a solid base, using more card, can be added.

David Hazelden, Winchester



Well held – cut out two each of these to make a very cheap disk holder...



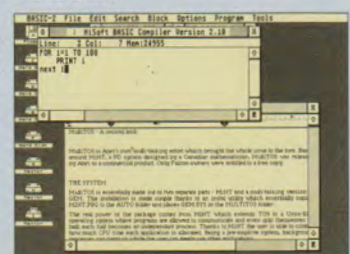
- Press <Control><Left Shift><Alternate> and <6> when on the desktop to iconify it. When the menu item "Desktop" is selected or when you double-click on the "smiley face", everything will be restored as normal. One word of warning: if the desktop is the only program running (not including desk accessories), then moving the mouse onto the menu bar will crash the system. This problem doesn't occur when another program that uses the menu bar is running.

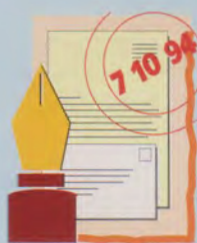
- Pressing <Help> while on the desktop brings up a very useful help-screen, describing all the keyboard shortcuts.

- Get the shareware program Multi-Dialogue. By placing dialogue boxes into separate windows, it makes life a whole lot easier!

Richard Lawson, Middlesbrough

Make life with MultiTOS a little easier with these tips...





GOOD SUPPORT

I read with interest a letter concerning the registration of software supplied by companies outside of the United Kingdom. I too have experienced this problem and the cost of sending money abroad is very expensive.

Recently I bought *Towers* from Tumblevane PDL and decided to register ownership to JV Enterprises. I rang Las Vegas where they are based and spoke to an answering machine which asked for my name and telephone number. The next day someone rang back saying that we could register ownership and get a manual by sending the money to Goodman International, another great Public



GOT SOMETHING TO SAY?

ST Review is your magazine and putting pen to paper gives you direct contact with us. As editor, I read every letter that you send and carefully select the ones for publication. I receive far more letters than can be printed, so make yours interesting if you want to see it in these pages.

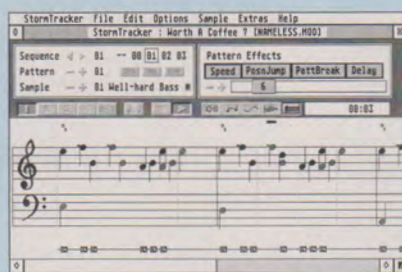
It may simply be that you have a constructive criticism about an article in *ST Review*, or that one of our columnists has inflamed you with his honesty. Whatever the reason, drop a line to me,
Vic Lennard, at:

Point Of View,
Atari ST Review,
Europa House,
Adlington Park,
Macclesfield SK10 4NP.

Please do not send stamped addressed envelopes; personal replies cannot be entered into. All mail received is considered for publication unless otherwise stated and we reserve the right to edit letters where necessary without altering the context.

LETTERS

Point Of View is your direct link to the editor
– and there's £25 for the letter of the month...



Track in a storm – ST diehards Goodman International are now distributing some excellent budget software such as StormTracker.

advantage: we tend to know who the reliable traders are and which companies should be dressed in brown leather waving a lasso!

Many shareware writers, especially from Germany, are starting to appreciate that UK support is essential for their registrations. ST Review tries to help in this respect by cover-mounting the best of these and providing decent tutorials and a cut-out coupon with info on the registered version. This provides you with the ability to try before you buy: abuse this system and many of the excellent programs and utilities that we are now starting to take for granted will vanish as quickly as they appeared.

PRO DTP

Is there anyone out there interested in having access to another *Calamus* bureau, for output of laser/bromide/film. The location would be in the Kingston-upon-Thames area (SW London). Sumner Type and CY Services both do a fine job but they're not exactly on my doorstep, so if you are interested

please let me know, preferably with what sort of usage you would expect to be making of such facilities. If the interest is high enough, I shall take action. On a different subject, I noticed in *Computer Shopper* that DA's *Picture* is to be released for the Acorn at a price of £99. Why are Atari users expected to pay £50 more? And while I'm at it, if DA's *Picture* is supposed to be an "enhanced and more user-friendly" version of *Retouche*, then why is CGS still trying to flog the "Dream Team" in its present form? Why not bundle *Picture* with *Didot Pro*?

I have a TT and recently bought a Falcon. Having seen the Falcon Jobs Tower mentioned in one of the "other" mags, I am now in a bit of quandary. Using the TT in a professional (but only black and white) environment, do I go for a graphics card or a rather natty accelerated Falcon tower set-up?

Finally, how many thousands do you pay freelancers for wonderfully witty articles? As I've decided to stick with this sodding Atari Corporation over the last ten years, it's about time I made something out of it – not to mention giving the rest of the afflicted the enormous benefit of my groaning knowledge base...

Mark Hammond, Kingston-upon-Thames

If anyone is interested in a bureau as Mark details, please drop me a line; all correspondence will be

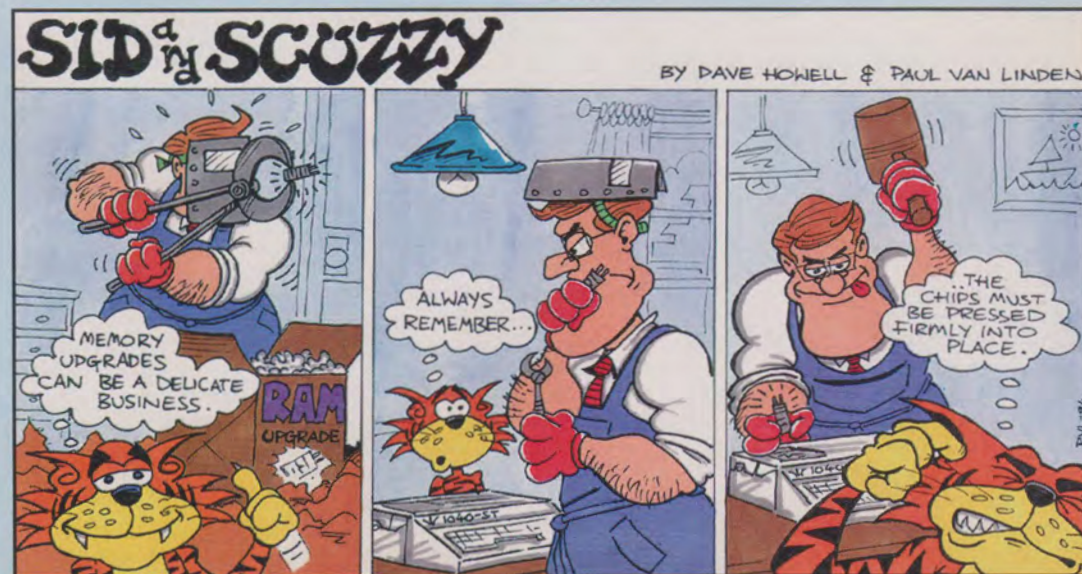
Domain group. This I did and I am now a proud owner of a manual to *Towers*, a very good Dungeon Master-type game. Wasn't this a brilliant solution to all United Kingdom ST users?

Perhaps if other software writers could do the same, this would increase registration numbers without the expensive cost of money orders, or banker's drafts or using credit cards outside the United Kingdom by telephone.

David Wing, Nottingham

There are half a dozen or so reputable PD libraries in the UK, many of which have licences, exclusive or otherwise, for various pieces of software. Goodman International is one such library and having spoken with Mike Goodman recently, it appears that he is now selling good, budget programs as well, such as the excellent StormTracker.

With few new STs appearing on the market, we now have an enthusiast's "club" if you like – the Atari clan. This has a distinct



forwarded on. The Acorn version of DA's Picture is a stripped down one. It lacks vector paths – in fact, it has no vector module at all – has no convolution filter and no printing facilities. As for how DA's Picture on the ST compares with the old Retouche, the former lacks colour correction and the ability to handle large pictures. The 144 reprogrammable screens are absent as is the warping facility. In short, Retouche is aimed at the high end professional while DA's Picture is for the serious enthusiast. It's worth noting that all Digital Arts programs can now be bought separately, including DA's Layout.

Tower or graphics card? On a TT, I'd go for the latter every time as you have the space to fit it inside the casing. While you may only be working in mono now, given a graphics card I bet that this situation will change!

I don't pay freelancers a bean for being witty – I bestow financial rewards upon those whose work is accurate! Admittedly, most of ST Review's writers tend to have a wicked sense of humour to boot but while other magazines claim to use "experienced" authors, ST Review actually does. Read my editorial on page six for more on this. That said, if any reader wishes to write for ST Review, drop me a line enclosing a short (300 words or so) user report on your favourite piece of software plus some details on yourself. But expect me to be brutally honest...

TAKING A SHORTCUT

I must agree with Ofir Gal's plea for consistency in the use of keyboard shortcuts between programs. It is annoying to have to remember that some programs use <Control><O> to open a file, while others use <L> (for load) and <O> for printing (output). Some programs use the <Control> key while others use the <Alternate>.

What Ofir surprisingly fails to mention is the rest of the computer world. The Mac has always had consistent shortcuts for its programs and there is now a considerable degree of agreement between these and the Microsoft-inspired common user interface for the PC. The Atari's clipboard keyboard commands, which Ofir describes elsewhere (<Control><X> for cut, <C> for copy and <V> for paste) conform to this emerging standard. If the ST and Falcon are not to become irrelevant as serious machines, these conventions have to be observed – even if they may sometimes seem daft (who dreamed up <V> for paste?)

Alan Kennedy, London

Follow the path – updates like Prototext 6.5 may make you join the upgrade path again...

I couldn't agree with you more – and many of the proposed keyboard shortcuts bear more than a passing resemblance to those on the Mac and PC. After all, why reinvent the wheel?

Ofir's GEM List of 100 or so of the most influential Atari programmers is close to a final vote on keyboard shortcuts. We'll keep you posted.

HARD FACTS

I am writing to say how much I enjoy your magazine. I find it much more informative than any of the other Atari mags.

With the Atari user base diminishing and less programs being written, eventually there may be only a small number of ST users left – unfortunately nothing lasts for ever. But this may have its advantages, with cheap hardware and software floating about. I enjoy using my STe and find the software I have is excellent to use. I certainly never intend to part with my ST, after all I have use for only one accounts package, word processor and the like.

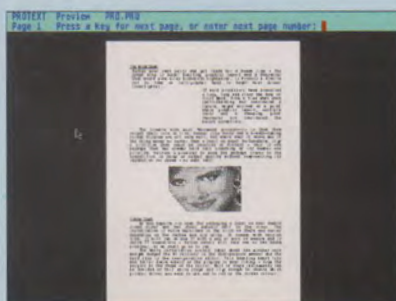
What has improved my ST considerably is a hard disk. I have seen the light and never want to go back. Keep up the good work!

M. Thompson, Colindale, London

Thanks for the vote of confidence – and I wish that every Atari computer owner could understand your point of view. As long as a piece of software isn't bug-ridden, it's as usable now as it was, say, three years ago.

But time moves along and new features start to appear in established pieces of software. Take the example of Prototext, the fastest text cruncher in the business. Version 6.5, as reviewed in this issue, now has a page preview mode to go with its speedy gonzalez approach to word processing – and this may be a feature that you'd find useful. So while you may feel that you don't want to buy any new software, keep an eye out for the updates.

As for a hard disk, it may not be essential but it sure makes life a lot easier! And it's affordable now – not like my first 60Mb job some years ago which set me back over 800 pounds...



CARING, SHARING...

It seems like Andrew Wright has some scathing views about the state of shareware these days but I completely agree with him. Far too much sub-standard software is appearing as shareware distribution. The authors all seem to think that because it's shareware they should automatically ask for five pounds or more but I hardly see why I should pay five pounds for something that took five minutes to write. Last year I thought I'd try my hand at shareware...



When I wrote my first game I thought I had a program that was worth something. I decided to price it realistically, within the means of any school-boy's pocket money – one pound! It took me around three months to write and I've still yet to see a game that features smoother parallax scrolling and faster action than that game, *Critical Mass*. It appeared on the issue 17 cover disk; around 20,000 people must have played that game so how many of them registered? Twelve!

Those who wrote to me raved about it but it seems that because it was the full game no one could be bothered to put their hand in their pocket and see if they had any pound coins. I think the only reason that twelve people registered was because they were sending an extra pound to receive a disk of extra programs. To top it all, I found out this morning that a group of games compilers calling themselves *Adrenalin UK* have put my game on one of their disks. What's wrong with that you may ask? Well I found that they had left out one of the programs that tells you how to play the game, my address and the fact that the game is shareware! That means they have effectively changed my shareware title into a PD one. I'm sure that this means they've broken the law by changing copyrighted code but I don't want to get into any nasty arguments.

It seems as if shareware has died in this country before it even started to take off. People are now turning to licenceware, but PD libraries must make sure that the quality is good otherwise this will also be given a bad name. Let's see the quality get better and maybe the public will consider dipping into their pockets a bit more often.

And if anyone comes across that *Adrenalin UK* disk and wants to know how to register my game then let me know.

Terry King, 172 Spencers Court, Harlow, Essex CM18 6JR

Hi Terry – I've printed your full address as requested in the hope that some owners of the Adrenalin UK disk will contact you. Altering documentation on a shareware, or public domain disk is probably illegal, but let's not get into that here. At the end of the day, very few, if any, PD or shareware authors could afford to take legal action in a situation such as this, which probably accounts for why some cover disk-mounted magazines ride rough-shod over carefully-written instructions not to distribute programs in that fashion.

Your point about the number of registrations for Critical Mass raises the ugly question of: how do you get people to register? The previous question touches on the way that ST Review currently helps to support shareware authors. At the time of your game, Terry, such support was not in place which is a shame as I'm certain that your game would have received more registrations had this been so.

Prior to limiting the facilities in his GEMBench program, Ofir Gal had only ten registrations. The number now stands at around 100. Similarly, there are almost 200 registered users of GEMView in this country – and yet the ST Review cover disk version had a limited number of modules. Would the level of registrations be so high had we cover-mounted the full version? I doubt it.

I appreciate that many of you dislike the measures taken to "encourage" registration including the removal of functions, "nag" screens, time-outs and so on. But before you complain bitterly about this, just put yourself in Terry's shoes for a moment...

Game for a bath – Terry King released Critical Mass as shareware with few resulting registrations



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