

ST APPLICATIONS

Price: £2.50

The Magazine for Users of Atari ST, STE, Falcon and TT Computers

Issue No. 44, August 1994

THIS MONTH

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AP
PLI
CA
TI
ONS

FALCON

□ Falcon Forum

Plus:

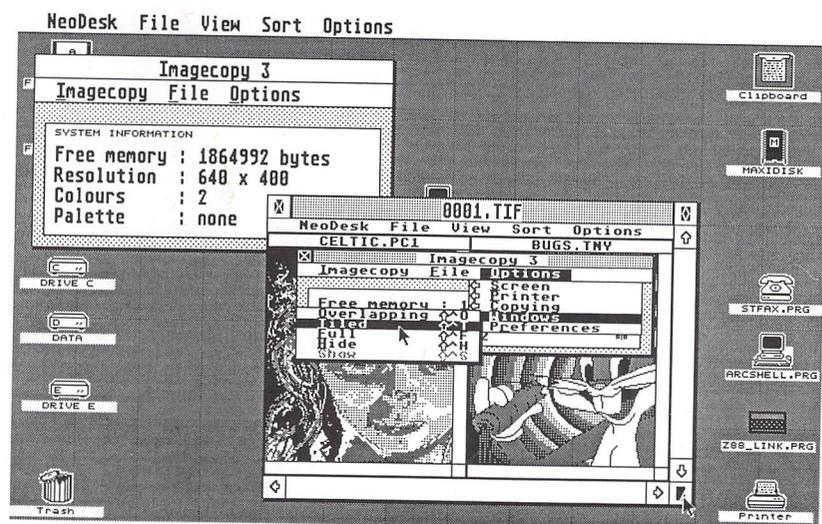
Steve Delaney tests the Falcon accelerator from System Solutions, PowerUP 2.

DTP Books

In the first of a series of Desktop Publishing book reviews, David Smith looks this month at a basic (beginners') guide to DTP and at two volumes that, being neither hardware- nor software-specific, concentrate on the more general principles of Design.

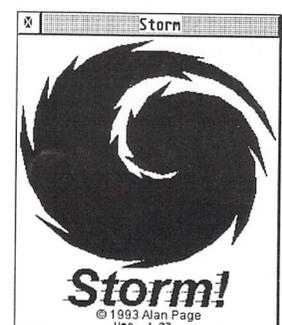
Imagecopy 3

Peter Crush reviews the latest incarnation of Jeremy Hughes's Imagecopy, now at version 3. It supports a larger number of picture formats and has a new batch file utility that allows you to display, convert or print a series of pictures from a given directory in a single operation. File names can be printed below each picture, which means that you can now produce catalogues of your clipart collection with up to 60 images per A4 page.



STorm

Graham Curtis reviews the unrestricted Shareware Communications package STorm and is impressed by its comprehensive features, including a Basic Macro Language facility.



FaST Club

For users of Atari ST & Falcon computers

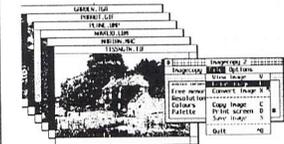
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Software

- | | | | |
|---|-------------|--|--------|
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What a picture

Imagecopy 2 £19.95
There is no better way to grab, view, convert and print images on your ST or Falcon. Supports 9-pin and 24-pin Epson compatibles, Cannon BJ, HP DeskJet and LaserJet mono and colour printers. Many more features - write or phone for details.



Imagecopy 3 £29.95
New features in Imagecopy 3 include: many new image formats supported including JPEG, new user interface, improved conversion options, batch processing, slide show, option to print a catalogue of images, improved colour reduction, improved dithering, greyscale option, variable print-quality option, and an increased range of halftone filters. Write/phone for a full feature list.

Imagecopy 3 Upgrades:
 Upgrade D: from Imagecopy 1.x: £22.95
 Upgrade E: from Imagecopy 1.5x: £17.95
 Upgrade F: from Imagecopy 2.x: £12.95
Return master disks for upgrades please.

An essential Atari program ... no serious Atari user should be without, Atari ST User, Aug '94.

Only the best

View II £14.95
View text, picture and animation files, play sound samples, and even view and extract ARC and LZH files all from the desktop. *The most useful utility ever written* said ST Format.

Big Blue ST

Gemulator
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Stunning emulator that allows Atari ST software to be run on your IBM compatible PC. Needs a 386 or 486 PC with HDD, 4MB RAM, and one free expansion slot. Write or phone for a copy of our Gemulator InfoPack and details of the most recent versions of the Gemulator software. Loan boards also available.

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Calligrapher Tamed

Mastering Calligrapher £29.95
The Hypertext Personal Guide for Calligrapher that offers quick referencing to all commands with concise screen summaries and tutorials, including tips and tricks.

Mastering Calligrapher is ideal for both novice and advanced users alike. Novice users will find the simple step-by-step approach an easy way to lessen the learning curve, while advanced users will benefit from the referencing feature.

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

Textstyle

Textstyle £19.95
Another cracking program from Jeremy Hughes, author of Imagecopy. Enter your text into Textstyle, select a Calamus or GEM font, add text effects and justification, and the resulting picture file can be imported into a whole range of packages. Great for generating headlines for wordprocessors like First Word Plus, Redacteur or Write ON; or use it with an art package such as PixArt to make posters, banners, greetings cards, etc. Thousands of applications.

Textstyle bundle £14.95

Order Textstyle at the same time as Imagecopy2 or PixArt and save £5.



ST Applications

For the last three years we have been publishing a monthly magazine for ST users. Full of informative and authoritative articles ST Applications is an essential read for all Atari users who are serious about getting the best out of their machine.

Don't take our word for it, here are some unsolicited comments from happy readers:
unfathomably interesting, superbly written NWF really excellent value GFS
invaluable service for ST users PS consistently impressed AS
no hesitation in renewing my subscription PPK you can read it again and again RF
Originals of these letters available for inspection at our offices.

Overseas subscriptions welcome, in fact 25% of our readership live outside the UK. Air Mail subscription rates: Europe - £27; RoW - £37.

Risk Free. Subscriptions to ST Applications are risk free. Write asking us to cancel your subscription and the full unused balance of your subscription will be refunded by return of post. We have been publishing software, books and magazines for the Atari market for over 8 years.

Falcon Applications
Includes our mag-in-a-mag supplement on all things Falcon

Subscriptions

- 12-issues: £24.00
- 3-issue trial: £5.00
- Sample issue: £2.50

Dust Covers

These dust covers are manufactured from top quality water resistant and tear proof nylon fabric coated with tough polyurethane and treated with an antistatic inhibitor. Unlike cheap PVC covers they may be washed and ironed. Covers are grey with blue piping.

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 Falcon030 £5.45

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Please specify monitor make and model:

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Books

- Users' Guide to 1st Word £ 6.95
- ST 3D Graphics Programming £22.95
- Atari ST Basic To C £18.45
- ST Disk Drives: Inside And Out £18.95
- ST Machine Language £18.45
- Atari ST Programmer's Guide £22.95
- Desktop Publishing: The Book £ 6.95
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- Midi and Sound Book for ST £17.25
- Musical Applications of the ST £ 5.95
- Tech Ref Guide Atari ST Vol 2 £19.95
- Tech Ref Guide Atari ST Vol 3 £22.95
- Guide to Timeworks DTP £ 9.95
- Your First Basic £14.95
- C-Manship Complete Atari ST £14.94
- ST Assembly Lang' Workshop £14.95

Ordering

... Tick the items you require and send this advert, a photocopy, or just a list on a sheet of paper with your name and address, along with a cheque or Postal Order, to us at: ST Club, 7 Musters Road, Nottingham, NG2 7PP. Please allow up to 4 days for your goods to reach you. Sorry, we do not take credit card orders or telephone orders.

Overseas Orders Welcome - Please request a copy of our Overseas Price List. **Membership** - You do not have to join or subscribe before you can buy from us, and you are not under any on-going obligation to buy from us when you do subscribe.

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From:.....

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CREDITS

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Contributions

The articles in *ST Applications* are written by users for users. Everyone reading this magazine will have something to contribute; even if you do not feel able to do a full-length review or article there is the Forum section for short hints, tips and questions. If you are interested in writing for *ST Applications* - regularly or irregularly - please write for a copy of our terms and conditions. We always do our best to reward quality work with appropriate remuneration.

Atari At CES

The Summer CES in Chicago is the place to be if you want to see the latest innovative developments in software and hardware. Owing to the amount of press coverage it commands and interest from within the industry, it is usual for Atari to hold back any major announcements for the CES. We went to press just a week after the event ended, so it was rather difficult to get much information, especially since everyone of any importance at Atari had gone to France (see later). By most accounts, Atari's presence was overshadowed by big announcements from Nintendo and Sony. Nevertheless, they did manage to keep their bandwagon rolling, which was more than what could be said for Sega who decided not to attend.

The Jaguar CD was the only new product to be unveiled by Atari. As expected, it will be released in the Autumn at a cost of \$199 (about £140). They refused to give an official date for availability in the U.K., but it is not expected to be this year. The Jaguar CD is, as expected, a dumb unit which uses the processing power of the Jaguar in order to keep costs down. It is being manufactured by Philips and will be available in The States during November. Atari announced three CD specific titles of their own, with another three coming from third party developers. The Jaguar CD will also be capable of playing audio CD's and will boast Video CD compatibility with the use of additional hardware (probably an MPEG 2 cartridge).

U.S. Jaguar sales are now being forecast at 300,000 for 1994 with little being said about Europe. Atari are planning to spend \$30 million promoting the Jaguar between now and the end of the year between TV advertising and sponsorship deals, although it is doubtful that much of this will filter across the Atlantic. Jaguar branded merchandise is also being talked about.

The big announcement concerning the Jaguar was not in fact an Atari product but an innovative piece of software designed by a Canadian company. It is a product aimed at the leading software houses and looks set to break new ground in the production of Jaguar software. Here's a bit of background on it.

In this day and age, it is almost impossible to develop CD-ROM titles on micro computers and stay ahead of the competition. When you have a 650 Meg disc at your disposal, development time for top titles starts to become unrealistic, especially when you consider how long it takes to create hundreds of raytraced scenes and complex 3D special effects. Even the PowerPC range and the Pentium lack the sheer processing power which is needed in order to create the realism that the public demand, within an affordable timescale. Wavefront are a Canadian firm who specialise in broadcast post-production work. This is their first move into the video gaming market.

GameWare, as it was called, was unveiled at the CES. It is a graphics and animation development system written specifically for the Jaguar. GameWare runs on a £10,000 Silicon Graphics Indigo workstation and is expected to become the 'standard' development tool used by top software developers writing Jaguar CD-ROM titles. GameWare is capable of creating raytraced scenes and texture mapped animations in real time and boasts a number of advanced features derived from Wavefront's experience in the broadcasting industry. The arrival of GameWare looks set to signal the end of conversions of CD-ROM titles from the PC thanks to its clearly superior capabilities. The first GameWare developed titles are not likely to be seen until next year.

Other Jaguar News

The Jaguar has been well received in the U.K. As reported last month, SDL flew in about 1700 units. These were sold out almost as soon as they arrived, despite a temporary price hike to £249. It is encouraging for Atari that the interest remains, especially considering the numerous delays and their inability to supply the product earlier in the year. No indication was given as to when SDL's next consign-

ment is due to arrive, but Rumbelows and ZCL are expecting theirs as we go to print.

Despite prior indications that there may not be an official European launch for the Jaguar, the event has actually taken place. It was held in France during the first week of July. It is unlikely that there will be a separate U.K. launch. No details of the Jaguar's European launch were available as it took place just as we were going to press.

Read Me 1st

If your subscription to this magazine has expired with this issue, you will find a renewal form included in this mailing.

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There is a limited amount of space for commercial advertising in each issue of *ST Applications*. Contact Nicky Wilson on 0602-455250 for further details and to request a media-pack. Subscribers can place free classified advertisements - see page 57 for details.

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 12-issues plus 6 Disk Mags : £36.00

Air Mail to Europe World

12 issues :	£27.00	£37.00
12 issues + 6 D/Mags :	£40.00	£48.00

Subscription and Order form will be found on page 57.

Overseas Distribution

We no longer use Worldwide Magazines. Overseas readers and retailers should contact us for details of new distribution arrangements.

Disk Mags

These are bi-monthly compilations of the best PD software to come to our attention in the preceding couple of months - not magazines on disk. The next Disk Mag, DMG.42, will be dispatched with issue 44 of *ST Applications*.

Compo Support New Standard

Epson's latest range of printers come complete with built-in scalable fonts. Regrettably, without the appropriate software support, which has been sadly lacking until now, they behave identically to their predecessors. The new technology is called 'Escape T2' and is a standard feature on the Epson LQ570, LQ100 and Epson Stylus.

Compo have recently released a support disk for Write On and That's

Write (compatible with all versions) which supports Escape T2 as implemented on the Stylus and LQ570. The Epson Stylus Support Disk is available now at a cost of £14.99. A similar disk for the LQ100 (which uses different fonts from the other two) is currently under development. Contact *Compo Software Ltd*, Unit 3, Green Farm, Abbots Ripton, Huntingdon PE17 2PF; Tel: 04873 582; Fax: 04873 581.

Arnor Continue ST Support

Protex v6.5 has just been released for the Atari. This latest version is a major upgrade and incorporates a number of new features. In addition, the price has dropped to under £100. As usual, Protex's main claim to fame is speed. The program allows fast editing, spell checking and printing of documents.

Most printers on the market are catered for and it is possible (if your printer has two or more inbuilt fonts) to change the printer font used from within Protex, allowing your document to use multiple fonts. Graphics can be imported in IMG, PCX, GIF and IFF formats and may be scaled to the resolution appropriate to your printer. Support for Epson's new T2 standard (which allows the use of scalable fonts) is included in the appropriate drivers and colour printing is also supported. A PostScript printer driver is now included as standard.

Printing is done in the background so that you can edit and print at the same time. Multiple column text is also supported and you can specify the printing of odd or even pages if required. The new print preview mode shows you a representation on screen of exactly how your page will be printed on paper. This is a full WYSIWYG display including graphics if appropriate.

Protex 6.5 also has a number of novel features which look set to prove popular with users. Many people have a few words that they consistently spell

incorrectly. Protex's Auto-Correct feature learns from your errors and automatically corrects them for you! The use of macros allows commonly used words or phrases to be entered as abbreviations and these will be expanded automatically to the full word or phrase as you type. You can also specify that sentences start with a capital letter and you can auto capitalise the first letter of proper nouns. Protex can not only perform searches on the file(s) in memory—it can also search through all (or some) of the files in a specified directory.

Other features include the ability to have up to 36 files in memory at any time and cut and paste between them, low resolution support as an option for the partially sighted, 110,000 word built-in Collins dictionary, 43,000 entry point thesaurus, support for foreign characters, built-in glossary, adjustable line spacing, PostScript graphic support and more.

Protex v6.5 is available now and costs £99. It runs on any ST, STE, TT or Falcon and requires at least one megabyte of memory. Upgrades are available to purchasers of earlier versions. Depending on which version you have, the charges are as follows:- v4.2 or 4.3 £76.38, v5.0 £58.75, v5.5 £47.00, v6.0 £35.25. For further details contact *Arnor Limited*, 611 Lincoln Road, Peterborough PE1 3HA; Tel: 0733 68909.

Subscriber Specials

Save up to £10.00

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This latest version of Mortimer includes a host of new features and is compatible with all versions of TOS. See advert on this page for details on Mortimer, and the Upgrade News entry on page 26 for details of the new features in Mortimer Deluxe. Subscriber Special price: £24.95; or upgrade from earlier versions of Mortimer for just £12.95.

High quality (65% clip) bulk disks with labels

DSDD - £3.50/10

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All three offer expire on 1st September 1994
Look out for the next set of Subscriber Specials in issue 45

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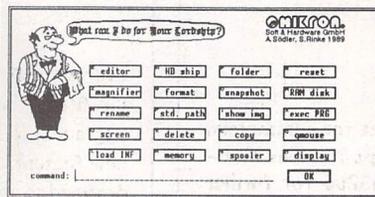
ST Applications: more to read than any other ST magazine!



Mortimer

Your very own computerised butler!

- Editor: view and edit texts and IMG pictures.
- HD-Ship: park your hard disk.
- Disk Functions: New folder, Rename, Copy, Delete files, and Format disks.
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- RAM disk: flexible RAM disk that expands to the size required.
- Programs: TOS programs can be run from within Mortimer.
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- Spooler: allows you to work with the computer while your printer is working.
- Mouse: dynamic mouse accelerator with lots of configuration options.
- Ascii: shows ASCII table of all characters.
- Memory: gives an overview of the current memory allocation.
- Display: displays time and date.
- Keyboard macros: you can assign any text(s), sentences and function keys to keys or key combinations. For instance, [Alternate]-[S] might produce "Dear Sir."
- Virus guard: Mortimer will protect your disks from boot sector viruses, and will detect link viruses when they try and spread to your files.
- Mortimer is memory resident and available at all times from within all programs. When installed, Mortimer reserves just 64K of RAM - all Mortimer functions are linked to a sophisticated memory manager.
- Mortimer version 1 is compatible with all TOS versions up to 1.62. The MegaSTE, TT and Falcon version - Mortimer DeLuxe.
- Supplied with a very comprehensive 82-page printed manual.



Price: £14.95

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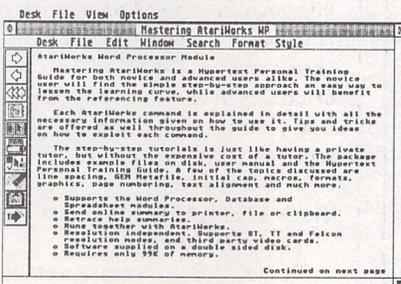
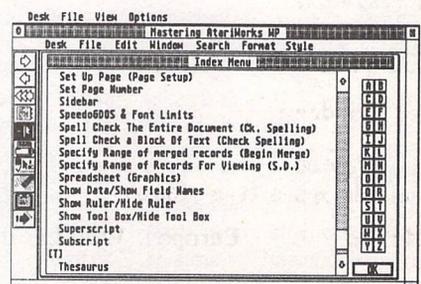
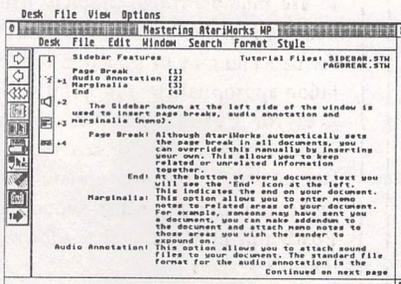
Mastering AtariWorks

The Hypertext Personal Guide for AtariWorks that offers quick referencing to all commands with concise screen summaries and tutorials, including tips and tricks.

Mastering AtariWorks is ideal for both novice and advanced users alike. Novice users will find the simple step-by-step approach an easy way to lessen the learning curve, while advanced users will benefit from the referencing feature.

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 by Mastering AtariWorks are line spacing, GEM Metafiles, drop capitals, macros, page numbering, reporting, charting, calculations, and much more.



Features:

- Send online summary to printer for hardcopy reference.
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- Resolution independent, supports ST, TT and Falcon resolutions, and third party video cards.
- Requires Hard Drive or HD floppy, and uses just 99K of RAM.
- Massive collection of example AtariWorks documents and tutorial files.
- 52 page printed manual.

£29.95

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Around The World

The traditional summer lull has set in and not much is happening in the Atari scene in the UK this month. This presents us with an excellent opportunity to look at some of the latest product announcements from Germany and The States.

Atari specialists *Maxon* recently announced an ST emulator for the PC. *Janus*, as it is called, is hardware based and includes its own 16Mhz 68000 CPU. It runs in two modes, the first of which, Local Mode, uses the 68000 to do all the work and gives a similar performance to a Mega STE. The second, Dual Mode, shares the workload between the 68000 and the PC itself. *Maxon* claim that *Janus* runs at up to twelve times the speed of a standard ST in Dual Mode! No U.K. distributor has been appointed as yet. *Janus* costs DM800 (about £260). For further information, contact *Maxon Computer GmbH*, Schwalbacherstraße 52, 6236 Eschborn, Germany; Tel: +49 6196 481811; Fax: +49 6196 41885.

ICD's *Link 2* has just been released in The States. It has come about in response to customer feedback from sales of the original *Link*, which was released two years ago. The new model measures only 63mmx76mmx29mm and comes with a detachable DMA cable which connects it to the hard drive port on your ST. The opposite end of *Link 2* goes directly onto a 50-way centronics type SCSI connector as found on standard SCSI drives. An LED lights up on the unit to show that it is receiving adequate power from the termination line of the drive. In addition, *Link 2* now handles parity correctly, so it is no longer necessary to disable parity on the SCSI device.

The latest revision of ICD's hard drive software allows Syquest drives to read and write cartridges formatted under MS-DOS using FDISK. This means that data written by your ST on to a DOS formatted cartridge can be read on the PC, Macintosh and Amiga (using CrossDOS or similar). An upgrade from *Link 1* to *Link 2* is being offered to U.S. customers for \$40 (about £28). It is unlikely that this offer will extend to the U.K. as ICD do not

have an official U.K. distributor, preferring their products to be handled by a number of different companies.

No longer do you have to suffer playing Jaguar games on a television set. An American company have just released an exciting new product called the *JagDaptor!* This oddly named interface allows the Jaguar to be connected to different types of monitor and to output its sound and video signals separately. Four types of output are supported. Composite video with stereo sends the video signal to your TV and the audio to your Hi-Fi or Nicam stereo TV. Split composite caters for the separation of luminance and chrominance on old composite video monitors. The RGB setting allows you to connect up to your Atari monitor or similar (including the stereo Philips 8833 and Commodore 1084). Finally, the S-Video option supports newer TV's which handle this latest standard. There is currently no UK distributor for the product. The *JagDaptor* is priced at \$49.95 (about £35) and is available from MARS Merchandising, 1041E St Charles Road, Lombard, Illinois 60148, USA; Tel: +1 708 627 7462.

Cybercube Research Inc are about to release the *CaTTamaran*, a 48Mhz processor upgrade for the TT. As we went to press, a price of \$99 (about £70) was being talked about. Details are sketchy but it is reputed to enable the TT to outperform the fastest of the '030 based Macs. The product should be shipping by the time you read this. As usual, there's no U.K. distributor. Contact *Cybercube Research Ltd*, 12 Grenadier Crescent, Thornhill, Ontario, Canada L4J 7V7; Tel: +1 905 882 0294; Fax: +1 905 886 3261.

Dave Small is putting the finishing touches on *Spectre 3.2*. This latest upgrade to the leading Mac emulator includes System 7.1 emulation and TT owners may be interested to know that it is compatible with the *CaTTamaran* 48Mhz processor upgrade. Neither a firm release date nor expected price was given. Like ICD, *Gadgets* have no official U.K. distributor, so *Spectre 3.2* should be available from several dealers within the next few months.

Two From Germany

System Solutions are currently importing two Atari specific CDs full of Public Domain and Shareware software from Germany. Both are compiled by Bernd Lohrum and are competitively priced at £29.95 each. The software is categorised under specific headings in order to facilitate ease of use. Disk 1 includes Applications, Demos, Editors, Emulators, Games, Educational, MINT, Packers, Languages, Utilities and Virus Killers. There is also a Falcon specific section. Disk 2 contains Clipart (63 folders, each with 50-60 IMG files), Sound (data files in MOD, MUS, SAM, SND, SNG, SON and WAV formats as well as a selection of Midi programs), Applications, ACCs, Databases, Programming, Packers, Printer Drivers, Tools and Utilities. As with disk 1,

there is also a collection of programs for the Falcon.

The majority of the software on both disks is supplied in executable form, but packed versions have also been included for those wishing to use the disk on their BBS. Although all the programs are for use on Atari computers, the disk itself conforms to the ISO 9660 standard and is therefore also readable on PC and Mac systems. This means that those of you who do not own a CD ROM drive but have access to one, could still make use of the discs. For further details on Bernd Lohrum disks 1 and 2, contact *System Solutions*, The Desktop Centre, 17-19 Blackwater Street, London SE22 8RS; Tel: 081 693 1919; Fax: 081 693 6936.

TRUE MULTITASKING - THE SMS2 OPERATING SYSTEM

THE DAWN OF A NEW ERA

SMS2 IS A POWERFUL OBJECT-ORIENTED, OPERATING SYSTEM WITH BUILT-IN GUI, HOTKEY SYSTEM AND NETWORKING. SMS2 TRANSFORMS EVEN MODEST ST'S INTO REAL-TIME SYSTEMS WITH WORKSTATION CAPABILITIES

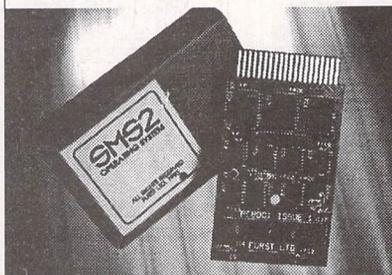
But what does this all mean to the user? It means that you can use your computer in the way that YOU want to use it rather than in the way that it forces you to use it. Suppose that you want to use your ST as a fax machine. If a fax call comes in, you are still able to carry on using your word-processor and /or database and/or spreadsheet program. The fax is simply received in the background.

For the programmer, this provides endless possibilities. You can be running your program under development at the same time as editing the source code at the same time as re-compiling a later version. SMS2 is a wonderful environment to work in.

SMS2 comes on a plug-in cartridge for the ROM port of all the ST range and supports the high-res mono mode. There is no complex setting up or installation. You just plug it in, switch on and 9 seconds later you have an SMS2 system

which is ready to network without any expensive hardware add-on's. The system comes in PEROM form on the cartridge so if you want to change the startup configuration at all then it is simple to do so. This also means that any enhancements to SMS2 can be provided on disc without the need to return the SMS2 cartridge.

It must be pointed out that SMS2 does not run GEM or TOS programs. It is a distinct and separate operating system which provides a powerful and yet flexible form of computing. There are already a number of commercial programs and a good range of PD software which is available now and is SMS2 compatible.



FURST
limited

SMS2 is ready now for only £135.00 by cheque or eurocheque from:

Furst Ltd, Delta House, Garfield Road, Bishops Waltham, Southampton SO3 1AT, England.

Telephone: + (0)489 894674

Facsimile: + (0)489 895765

News In Brief

Software Sales Continue To Fall

Sales figures published by Gallup in association with ELSPA, for the first four months of 1994, show no improvement in ST leisure software sales. The Amiga tops the poll with over 50% of total sales for each month, with the PC hovering around the 40%-45% mark. The ST comes a poor last with an average of just over 3% of the market share.

Star Gets Aggressive!

Star Micronics recently reduced the prices of their entire range of printers. The cuts range from £50 on the lower end dot matrix models to £250 on their top of the range laser printer. Current pricing is as follows:- LC-100 £149, LC24-30 £249, LC24-300 £299, LC24-100 £159, LC24-20II £189, LS-5 £519, LS5-TT £749

and SJ-144 £379. For further details, contact Star Micronics U.K. Ltd, Star House, Peregrine Business Park, Gomm Road, High Wycombe, Bucks. HP13 7DL; Tel: 0494 471111; Fax: 0494 473333.

Major Breakthrough In CD Technology

IBM have discovered a way of increasing the amount of data which can be held on a CD by around 1000%! The new technology is very much at the experimental stage and involves a disc built up of multiple layers and a specially adapted CD-ROM drive which can access the individual layers. The possibility of twelve hours of music or about the same of full motion video (using MPEG 2 compression techniques) or one million pages of text, opens up new dimensions for multi-media products. The main drawback is the fact that the CD's are very much thicker than standard ones and even if they can be slimmed down, normal CD players would be unable to access the separate layers and special equipment would be required in order to write the data to them. No indication was given as to how long the product would take to come to market.

OMEn Arrives!

OMEn is a new pre-emptive multi-tasking operating system from *Esquimalt Digital* in Canada. It was first mentioned in issue 39 but, as with all major releases, has taken a little longer to reach the market than expected. As discussed in that previous news item, OMEn is a multi-platform operating system designed to run on most of today's popular computers. At present, only the Atari version is available, with others expected to follow before the end of the year. It is written in assembler and is very fast in operation. It also boasts a low memory overhead.

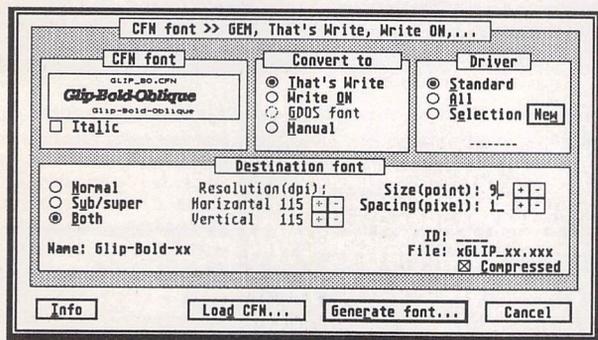
Programs written to run under OMEn will be compatible with OMEn on other computers. The only drawback at present is that, like SMS 2, you cannot run TOS or GEM programs. I am told that it is relatively easy to make a GEM program OMEn compatible but am not certain whether this can be done by means of a patch program or if the source code itself requires modification.

The OMEn development tools are due to be released within the next few weeks, so the position should become clearer then.

Both the OMEn operating system and the forthcoming development tools are distributed as "100% uncrippled demos". The author dislikes the term Shareware which he feels is looked upon as free software by the majority of users. The 'demo' is fully functional but of limited use without the extensive printed manual which is supplied when you register. In addition, although the software is usable, it is by no means the final release and several major features are to be added over the next few months. The 'demo' version is a one-off release and will not be updated.

OMEn should be available directly from your favourite PD Library or BBS and registration costs \$79.95. It is expected that the full version will also be available from dealers in the U.K. soon.

C-Font2



Converts outline fonts in .CFN file format to GEM bit-mapped fonts at various point sizes for That's Write, Write ON, K-Spread, Calligrapher, Redacteur 3, Timeworks Publisher 1 and 2, Fleet Street Publisher, and any application that uses GDOS fonts.

C-Font can be installed as an Accessory allowing it to generate fonts 'on-the-fly' from within your application. When generating fonts for That's Write, Write ON or GDOS applications C-Font will automatically work out what resolution of fonts you need to generate.

£9.95

FaST Club
7 Musters Road
Nottingham
NG2 7PP

Computer Books

DTP Books

Design for Desktop Publishing	£16.95
Desktop Publishers Idea Book	£17.99
Desktop Publishing Secrets	£24.99
Desktop Publishing: the Book	£ 6.95
Good Design for DTP users	£16.99
Looking Good in Print	£22.95
Newsletter from the Desktop	£21.95
R. Parkers 1 Minute Designer	£18.45

Virtually any computer book still in print available to order. Secondhand titles also available - SAE for lists.

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Imagecopy 3

It keeps growing and getting better all the time - Imagecopy that is. And if you want to do things with a large variety of picture formats on your ST or Falcon, you will need v3, as Peter Crush discovers.

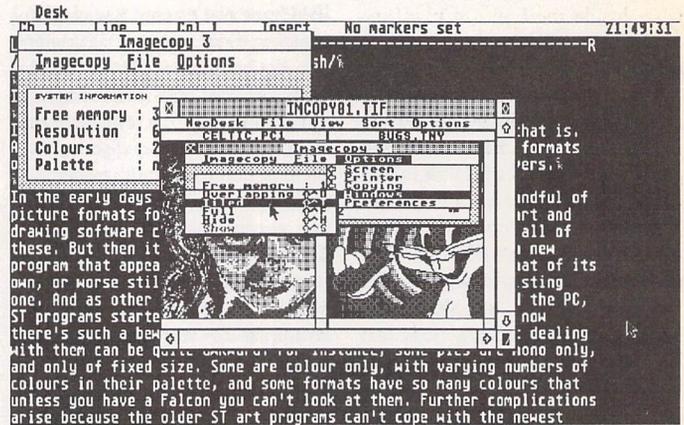
In the early days it all used to be so simple, with just a handful of picture formats for the ST, such as Degas, Neo, and Tiny. Most art and drawing software could import, display and print some if not all of these. But then it started to get more complicated, with each new program that appeared seemingly inventing some new image format of its own, or worse still, using a non-standard variation of an existing one. And as other picture formats proliferated on the Mac and the PC, ST programs started to use them too. It's all very well, but now there's such a bewildering range of image formats around that dealing with them can be quite awkward. For instance, some pics are mono only, and only of fixed size. Some are colour only, with varying numbers of colours in their palette, and some formats have so many colours that unless you have a Falcon you can't look at them. Further complications arise because the older ST art programs can't cope with the newest formats, and not even the latest programs can use all of them. As usual, the answer to these problems lies in Jeremy Hughes' Imagecopy, and unveiled recently is the latest version, available from FaST Club.

From a long line

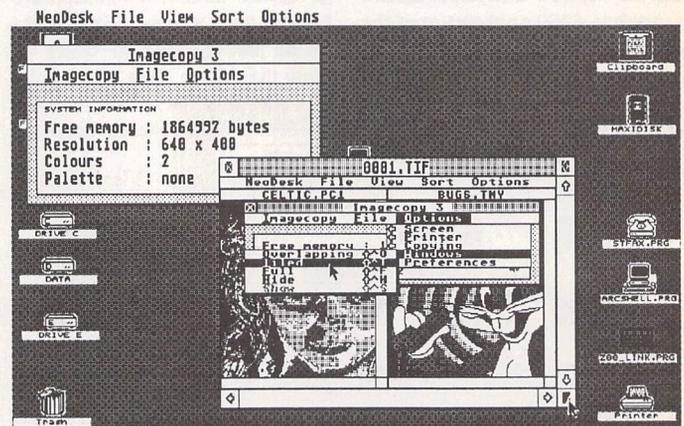
In the beginning there was Imagecopy, then Imagecopy Colour, that soon being followed by Imagecopy 2. They've all been reviewed in these pages, and I've been in the happy position of helping to beta test them prior to their launch, and even bothering Jeremy with suggestions for new features. So I can say with genuine conviction that the cream of the crop is version 3, and it really is the all-encompassing image utility

program for your ST or Falcon it's claimed to be. Jeremy has improved all the features found in previous incarnations and added stacks of new capabilities too. Right from version 1 Imagecopy has always been able to "grab" images from your screen and save them to disk, load and display pictures, print out pictures and convert between different image file formats. The new version does all of these things even better than before, and reads and writes in virtually all current popular file formats. Not only that, Imagecopy 3 has many new capabilities now, such as being able to batch process a list of files, perform a "slideshow" of pictures, and even catalogue your images and print them out complete with filenames as miniature pics.

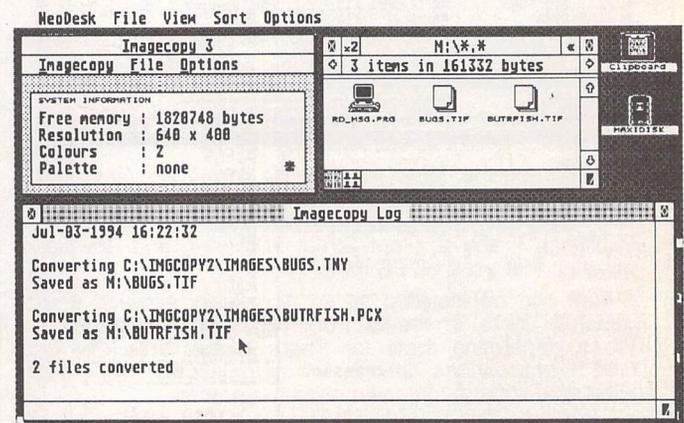
Imagecopy 3 is provided on a double-sided disk, and comes with a 96-page A5 size printed manual. As with earlier versions, you can most conveniently run Imagecopy 3 as a Desk Accessory, which means you can use it from within most of your existing programs. Alternatively you can simply run it as an ordinary program, and both versions can be "installed" on your usual or alternative Desktop. In this way when you double-click on image files of the chosen filename extensions they activate Imagecopy which then loads and displays them in a trice. The program works in all screen resolutions and on any ST or Falcon, but using it on a 520 ST is pushing things a bit in view of the large amounts of memory that the latest images can take up. Realistically, most users with such interests will probably have a machine with more memory, and 1MByte is more or less the minimum standard now for most "serious" software.



△ What a stiff test, but the Imagecopy 3 DA even works on semi-GEM compatible programs such as Protex. With standard GEM software it behaves even better, and it's seemingly un-crashable.



△ These are of course colour pictures, but Imagecopy 3 dithers them so well that even in mono you can almost see that cartoon rabbit in his full technicolour glory, can't you?



△ Here's the file list program in operation. A log of how things are going is displayed as it converts a couple of images into TIF files and saves them into a RAM disk.

National Service

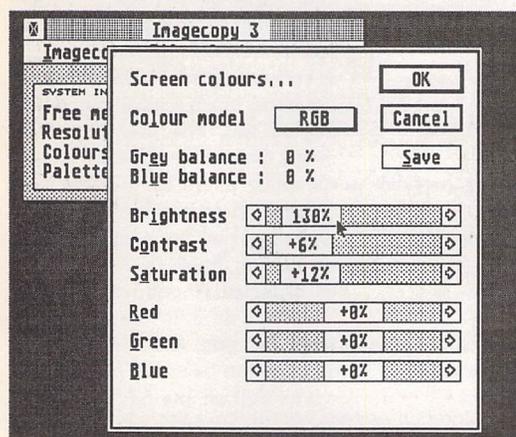
So let's call up our favourite DA! Before appraising how it can assist you, a quick overview might be in order. When called or run, Imagecopy 3's main menu appears in a little GEM-like box at the top left of the screen, and can be moved around the screen by dragging it with the mouse pointer if you wish. Inside the box useful information is displayed on the available RAM left in your computer, the resolution you are operating in and the number of colours in the palette. From the main menu you can select Imagecopy 3's pull down menu, the first being "Information" which tells you the program's version number. The second menu entry is "File", and this enables you to load, save, convert, print and grab images. This can be accomplished either by clicking the appropriate menu entry or via a simple keyboard shortcut, e.g. pressing the "P" key to Print a picture. The third pull-down menu admits one to all the many adjustable options Imagecopy 3 has. The default values are sensibly set already, but you can reconfigure and save them to suit

very easily. This is carried out in a very logical manner by a neat system of cascading and pop-up menus.

Essentially that's it! Considering how many potentially complex options and operations it embodies, Imagecopy 3 is remarkably simple to use. This is thanks to a lot of behind the scenes work and well thought out structure and design. So, assuming that you now more or less understand the main thrust of Imagecopy (if not read the previous reviews in STA or look at Paul's advert!), and to save going over well-trodden ground, let's look at just the new features in v3:

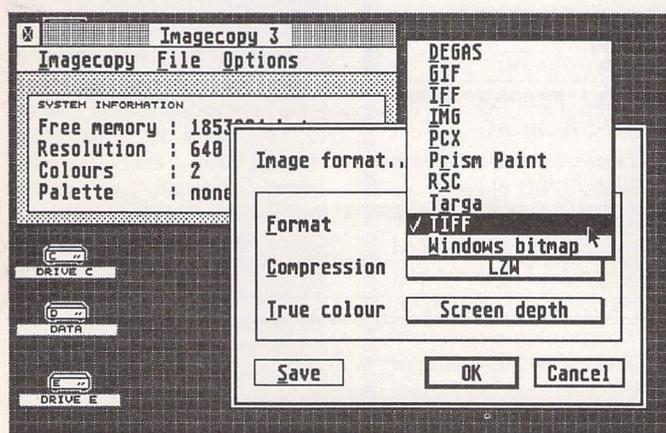
1) To make this DA even more useful than before, in addition to the large number of previously available formats, Imagecopy 3 can now read and write the following new file types:

- ✓ New read formats: Calamus Raster Graphic (CRG), Deluxe Paint ST, Doodle/PIC, JFIF (JPEG), Portable Bitmap, Pictor (PC Paint), PixArt, Prism Paint, RSC image, True Paint, compressed Windows Bitmap.



◁ Isn't it just great being in control? For instance one of the sub-menus under Display options is "Screen colours" where you can move the sliders to adjust the mix to suit.

▽ Imagecopy 3's grabbing feature is most useful for journalists or those preparing magazines or catalogues - look how simple it is to set what image format to save your screenshot in.



The New v3 Features

STILL not sure what all the fuss is about? Here's what Imagecopy 3 does then, in easy to digest bite-size pieces:

- ✓ Can be used as an accessory or stand-alone program
- ✓ Copies (grabs) images from screen in any ST/TT/Falcon video mode.
- ✓ Displays images and slide shows in any ST/TT/Falcon video mode.
- ✓ Catalogues images with up to 60 or more images on a single page.
- ✓ Creates halftone images to use in other programs (WPs, DTPs etc.)
- ✓ Batch process to convert or print lists or batches of images.
- ✓ Converts your images between different formats or to different colour types (e.g. true-colour to 256-colour).
- ✓ Prints images and screen dumps in black and white or colour on a wide range of printers: 9-pin, 24-pin, Bubblejet, DeskJet, LaserJet.
- ✓ Reads and writes: DEGAS, GIF, IFF, IMG, JFIF (JPEG), PC Paintbrush, Prism Paint, RSC free image, Targa, TIFF, and Windows Bitmap. Other read-only formats include: Art Director, Calamus Raster Graphic, DR Doodle, MacPaint, Neochrome, OS/2 Bitmap, Pictor, Pixart, Portable Bitmap, Spectrum, Tiny and True Paint.

Got it now?

- ✓ New write formats: GIF, IFF/Deluxe Paint, JFIF (JPEG), PCX, Prism Paint, Targa monochrome/palette-colour, TIFF LZW-compressed, Windows Bitmap, XIMG true-colour.

These new formats will appeal to users who may also work with computers other than the ST, or who have access to pictures from CompuServe or other online services. The JPEG facility is good news because this enables you to dramatically compress large image files used for photographic-quality work on the Falcon without any discernable loss of detail.

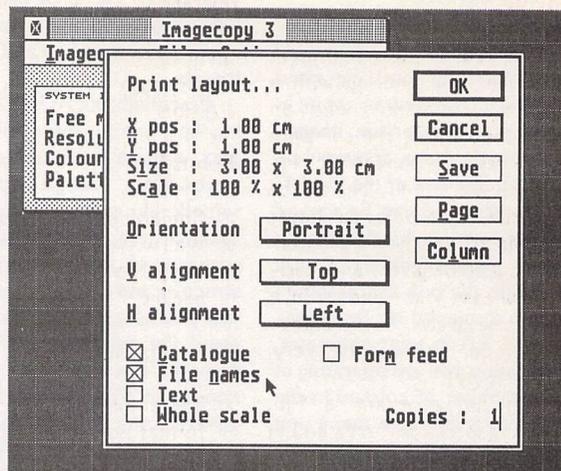
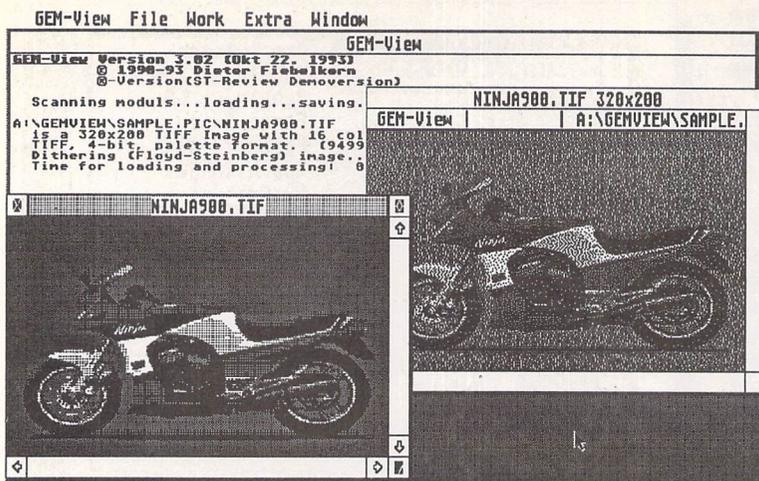
2) An improved user interface, with hierarchical menus and extensive menu/dialog shortcuts to make life easy. The Configurable single-key menu shortcuts now included enable you to chose your own keyboard shortcuts if you don't like the standard ones provided or find your own choices of letter easier to remember.

3) Improved conversion options, with the ability to convert your image colour depth as well as the image itself, will be of special interest to Falcon owners. The colour depth refers to the number of bits used by different file formats - some programs are more specific in what they best work in.

All technical details are covered in the manual.

4) Batch processing: Imagecopy 3 can now view, print or convert batches of images, and a log-file option allows you to leave this feature working unattended. It's very useful if you've taken lots of grabs in one format and suddenly realize your Editor wanted them in another. If you use Selectric, the shareware alternative file selector, Imagecopy is programmed to respond to its multiple file selection protocol. If not, you can very easily create a list of the images to convert with a small stand-alone program supplied; it lets you pick them with your normal file selector and automatically creates a list file. When you want to do your conversion simply select the list instead of an individual image, and away the process goes while you have a well-deserved break. The various files listed can be distributed all over your hard drive in various folders and partitions without problems, but the converted images will be neatly together in the destination of your choice.

5) Here's another brilliant new feature, a Slide Show option! With this you can create and display slide shows in any video mode, with all the usual controls such as determining how long the pictures



△ The only other serious contender for image display is GEMVIEW 3, and here's the two of them displaying the same pic. Imagecopy 3 produced its better looking rendition of it in just half the time.

△ This is how you set things up to "Catalogue" a set of images: you can pick what size you want the pictures to be and how much space between them, etc. It's very straightforward.

are displayed for, etc. You can even set things up so that the picture doesn't change to the next one programmed until you press a particular key, useful if you want to have a good look at them all. The sequence of pictures being shown can be "protected" from interference by a special key combination if you want, handy for situations where you need the show to go on without some idiot messing about, like at Computer Shows etc. Although there are plenty of similar slideshow utilities around, it's very convenient to have this now built into Imagecopy.

6) Print catalogue option: with this new feature you can catalogue your image collection in mono or colour, depending on your printer, of course. The best way to use this is to create a list of files (with the File List program), then to adjust the print page parameters to suit. If you set these as directed it's possible to obtain up to 60 tiny images on a single A4 page, and you can even have the filenames of the pictures printed underneath them if you want. What a marvellous way to sort out your clip art collection!

7) Improved colour reduction, including adaptive palette matching for high-quality reproduction of 256-colour or true-colour images on 16-colour or 256-colour systems. Also improved is the dithering, as Imagecopy 3 now offers a choice of five random dithering options. Ordered colour dithering allows 256-colour and true-colour images to be displayed quickly on 16-colour and 256-colour systems. Another new fea-

ture is a Greyscale options for viewing and converting images, ideal for DTP or Art applications when you may want to get away from colour. These innovations are all very clever, but without a grasp of such difficult and complex notions on your part, you can get all the benefits without any hassle. Power without the grey-cell fatigue, as it might be advertised!

8) New print quality option: draft/normal or draft/normal/best on all printers. Imagecopy was always strong on printing, and all the requisite "printer drivers" are actually built-in, and can be switched between at the touch of a menu entry. Best-quality print improves the print quality obtained from dot-matrix printers with worn ribbons, a nice touch for those who haven't got the readies for an inkjet or laser. So everybody gets looked after.

9) And lots of other goodies too...

- ✓ Falcon overscan: Imagecopy

automatically uses Falcon overscan for full-screen viewing on non-VGA monitors...

- ✓ Increased range of halftone filters...
- ✓ Crazy Dots compatibility...
- ✓ Multiple file-loading with the Selectric file selector...
- ✓ Measurements in inches or centimetres...
- ✓ Option to print file names underneath images...
- ✓ Option to print text above images...
- ✓ Printer automatic/manual feed option...
- ✓ Improved file-naming for copied images...
- ✓ Filelist program, Password program...
- ✓ Plus loads of other improvements and tweaks!

Plaudits all round

Everyone associated with Imagecopy 3 should be congratulated. It's not until you get a "behind the

scenes" peep at the development of such a program that you see the incredible amount of work involved in getting everything right. Jeremy Hughes is certainly dedicated to his craft, and thanks to FaST Club commissioning such applications, serious ST and Falcon users get brilliant home-grown software at budget prices. Imagecopy 3 is a first-class piece of software, it's a clever, powerful program, but it's easy and intuitive to use. The new improvements must make it the most useful single utility for dealing with images. When it comes to screen grabbing, viewing, cataloguing or converting between formats it's unsurpassed. About the only thing it doesn't do is to draw the pictures for you, but then it's not supposed to be an art program! It works well on any ST, giving you access to pictures you normally couldn't see without a Mac, PC or Falcon, and it's the kind of program that makes you wish you actually did have a Falcon! The way it produces colour printouts is superb, and it has better and finer adjustment capabilities than art programs costing many times its modest price. If you have a previous version you should upgrade to v3. There is a pain-free upgrade path - check the latest advert for details. I recommend you see it in action for yourself. Check out the demo copy of Imagecopy 3 which is due to go on ST Review's Cover Disk - this has all facilities fully working but overprints any pictures viewed or printed with large text proclaiming it's a demo version. Then buy the real thing!

STOP PRESS!

A late addition to the program is the provision of the Atari/Brainstorm JPEG loader, an extra program that you put into your AUTO folder if you have a Falcon. Imagecopy 3 will then use this separate routine for displaying JPEG pictures. It's much faster than Imagecopy's own processing because it utilizes the Falcon's DSP chip. In general, loading, dithering and conversion times for images are quite impressive anyway, and another innovation is a percentage display feature at the top of Imagecopy 3's main menu: as you carry out most operations it gives you a running numerical display of what percentage of the job is so far done.

Conclusion

With any review there is a great danger that you end up with a huge list of features and an explanation of how the software works. Interesting though such in-depth coverage may be, at the end of the day a potential buyer still needs to know how a program feels, how it behaves, and basically how easy to use and useful it is. So these answers are respectively: good, impeccably, very, and extremely!

Using the program is fun, everything works perfectly and at a good speed. All controls and

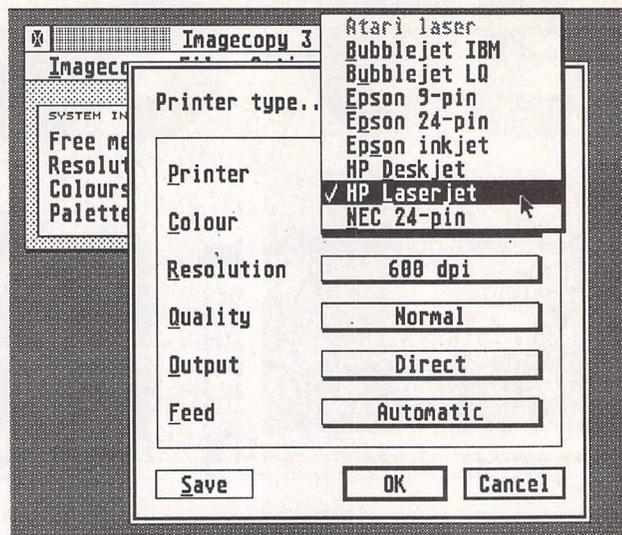
operations are dead easy to get to grips with and Imagecopy 3 is so useful in an all-round kind of way that it should always occupy one of your DA slots.

Points for:

- ✓ Couldn't be easier to use
- ✓ Well written explanatory manual
- ✓ Very powerful and feature-packed

Points against:

- ✗ There might be the odd image format not yet covered, but you can bet Jeremy's working on it!



△ 300dpi images on a DeskJet are fine, but if you're lucky enough to have a 600dpi laserprinter you can obtain really excellent quality printouts - they look like real photos.

Product:..... Imagecopy 3
 Version:..... v3.01
 Price:.....£29.95 (upgrades available from all earlier editions)
 Supplier:..... FaST Club
 Telephone:..... 0602 455250
 Manifest:..... Two DS disks and 96-page A5 manual
 System:..... Any ST/E, TT or Falcon



A feature packed true colour pixel painting program that supports all ST, TT and Falcon screen resolutions.

Features:

PixArt has very creative block manipulation facilities that will be of great use to DTP users. Block functions include rotation, mirroring, slanting, distortion, projection onto grids; it's astonishing what is possible, and the speed at which it is all done is breathtaking.

Draw any way you choose: brushes and nibs, pencils and crayons, all can be used easily and give clear results.

Graffiti artists come into their own with the spraycan tool. Radius and intensity are easily changed, as are the colour and fill pattern.

You can zoom in or out of the picture and still use all drawing tools.

The PixArt magnifying glass allows you to view all of a large picture in a window, and even here you can still use the drawing tools.

Supports resolutions from 320x200 to 32000x32000 pixels, monochrome to True Colour.

Picture file formats supported include: IFF, TIF, Degas, ESM, PCX, PIX, IMG, NEO, TGA, BIG (DRAW), PIC, and LBM.

Direct scanner support via GDPS driver system, and graphic tablet support via the Crazy Bits driver system. These drivers are provided with many kinds of scanner/tablet, or they can be ordered independently if necessary.

Comes with printer drivers for 9-pin and 24-pin dot-matrix, Atari SLM, HP LaserJet, and DeskJet 500C/550C (colour).

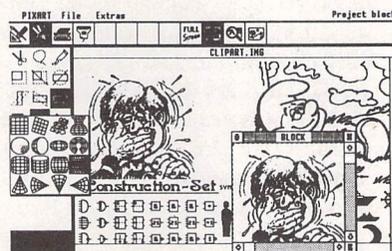
PixArt works with all known graphic cards, including True Colour cards that allow you to work with photo-quality pictures.

Compatible with TOS versions 1.2 through to MultiTOS. Fully Falcon compatible. 1MB RAM required. Large pictures need more memory. PixArt also uses TT-RAM.

Price: £34.95, Available: Now

PixArt IC: For compatibility with colour dot-matrix printers PixArt is available bundled with Imagecopy 2. Price: £49.95.

PixArt T: Bundled with Textstyle, which allows PixArt to incorporate text generated from Calamus fonts. Price: £44.95



PixArt is ideal for creating invitations, greetings cards, awards and certificates, report covers, labels, tickets, tokens, menus, posters, brochures, price tickets, letter-headings, logos, door signs, and more. The possibilities are only limited by your imagination!

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COMPANY PROFILE

Dave Howell

zzSoft is Roger Pearson, responsible for one of the first budget DTP packages in the shape of Easy Text. He has built on that success with the release of two other versions of his software. A one-man band, he is proof that if you have a good idea you can turn it into a successful software package.



a.k.a.

Roger Pearson

I visited Roger at his home which is now just outside of Accrington in the village of Clayton-Le-Moors, Lancashire. I began by asking Roger about his early life before he entered the Atari market with his first program.

Beginnings

"I think like a lot of people I started out with some good intentions and good ideas. What I actually intended to do about five or six years ago was to write an accounts package for the ST. I never finished this, but I realised what I really was doing was investigating the machine. I was doing that part time, with the rest of the time spent as a market trader.

"This continued for a while. I then wrote Easy Text as I saw a niche. I bought Timeworks for I think £80. I couldn't use it - couldn't fathom it out. I thought, 'Well, if I can't understand it then there must be plenty of other people who are in the same boat.' I'm Mr Average, but with some programming skill.

"Maybe, I thought, I could write something that would cost less than £80 or whatever it was and would be neither as technical nor as daunting as Timeworks.

"At the time I had a 520 ST with a single-sided disk drive and a black and white TV. When using Timeworks there were endless disk swaps involved. I realised that if I programmed my software in assembler I would avoid some of these things. Also I didn't know anything about GDOS at the time.

Easy Text

"So I wrote this program called Easy Text. This took quite a long time to complete. I had up-graded my hardware a bit, which just

consisted of a hi-res monitor and a double-sided disk drive. Output from the program was via a straight screen dump. If you were running a hi-res monitor then you could get some good results.

"Well, I thought, this is it, I'll make my fortune here. So I thought the best thing to do would be to release a demo into the public domain and sit back and wait for the orders. And nothing happened. I sent the demo disk to about a dozen PD libraries, but I got no response.

"Also at about this time I was writing some comms software for someone else, which I hated after being self-employed. I think that lasted six weeks. It was an unfortunate experience. But experiences like that teach you that you are not suited to that type of working. So I asked myself what I could do.

"I found I can't work for other people. There is just something about my personality that is more suited to a self employed working situation. So I needed to be self-employed. I love programming and I love the ST, so that's what I wanted to do. But nobody was showing any interest in the software. I wasn't getting any letters or anything.

"But eventually the odd letter did come about Easy Text. I was unemployed at that time so I began to work on Easy Text Plus. I had a bit of faith in myself, I felt that there was a niche in the market for a cheap DTP program and also for a book about assembler.

"Anyway one day I went down to the town and bought one of the computer magazines. By this time I had sold a few copies of Easy Text but not many. I sat down to read this magazine. I turned to the ST section and began to read about this DTP package that had

just been released. I shall always remember the first paragraph, it said: 'I have just received this DTP package, that has just landed on my desk and boy is it good.' I continued to read. I thought this is interesting. There was a screenshot and I thought that looks just like my program. Anyway this guy went on to say how good it was, and that it was free.

"I suddenly realised that this was my product. After that the phone didn't stop ringing for three days. I didn't even have time to eat! People were ringing and saying that they had heard about the package and that it was free. I had to explain each time that that was only the demo disk. They then asked how much it was. I told them that it was £15. So they said they would have one. I realised from then, that I had hit a niche that needed software."

The state of the DTP market at the time offered very little to the Atari user who wanted to try this on their machines. Calamus 1.9 didn't appear until about 1989. I asked Roger who he was aiming his software at.

"My market was totally different from the one that the Calamus and TimeWorks people are selling to. I was looking at the people who wanted to buy TimeWorks but it was £80 to £100, something like that. Then we had somebody who had a 520 ST with a single sided drive, with a colour TV. These users would have liked Timeworks but not at that price.

"That was the guy I was looking at, the same as me. This guy wanted to learn about DTP. He didn't necessarily want to produce anything like a newsletter; he just wanted to learn, say, what a bit-image was, or what a point size was or what leading was. In fact I think my product was more edu-

cational than anything. Later I received phone calls from people who said they now have a Mega ST or a PC or a Mac. But they have said that they wouldn't have if it weren't for Easy Text, as it showed them what was possible. People actually phoned me up and thanked me.

"In the end I sold a fair number of copies. It was a very crude program, as it was using a screen dump for printing. I then thought that the Holy Grail was getting it to work with GDOS. I rang Atari up. They were polite but pretty dismissive. I had worked out most of GDOS from the copy that I had which came with TimeWorks. I then realised that I would eventually have to licence GDOS from Atari. So I sent the £300 or whatever. I think they were quite shocked that I actually paid for it.

"After this I released Easy Text Plus. The problem with being a small company you have a hard time getting people interested in your stuff. I had released my next program which I sold for £20. I was looking around for ways in which I could promote the software without the expense of advertising.

"I had already been in touch with PD libraries. I thought that they might put a small advert in for me. They are like me, one-man-bands, trying to make a living. I sent the program off to a few PD libraries among them Mike Goodman. I just said to them if they were interested in selling it we could arrange something.

"The response was great. Paul (Glover-ST Club) said yes they would be interested, and so was Mike Goodman of Goodman PD. This gave me a great boost. I was then contacted by some people in Holland. We hit on a deal where I supplied the disk label for royalties.

So there was then a Dutch version."

I then asked Roger about the up-grades and re-writes that he has done with subsequent versions of his program. I wanted to know if these had been determined by the market in that he owed it to his users to improve their software, or was it the case that he had achieved his goal and was looking for the next challenge?

"In a way it was the market, but I had also heard that FSMGDOS was coming out, which I thought was great. There was also, I suppose, an element of the second point. I had written for GDOS which was my goal at the time. But here was something else to look at.

"I realised that FSMGDOS was absolutely no good within about half an hour. It just kept crashing. You would ask it for 80pt text and it would say 'No way!' It usually said that you had not set the memory buffer large enough. I had people ringing me up and asking how they did this or how they did that with GDOS, so I thought if I am having trouble with this then so must everyone else."

Users

I wondered if Roger's user base had any common denominators and if that user base had changed over the years since the first Easy Text.

"The vast majority of Easy Text users were people with 520 or 1040 ST's with a colour TV and a 9- or 24-pin printer. The vast majority had a 9-pin printer at that time.

"This has changed. Now if someone rings up for a copy of Easy Text Professional they will more likely have a mono monitor and a bubblejet printer and also have 2 megs of RAM on their machines. Also these days they are more likely to have a hard drive."

Cover Disks

As time went on and the prices of the hardware began to fall, more and more people were able to afford some very sophisticated hardware. Did Roger think that he was losing his customer base as the profile of the low-end user was changing radically?

"We are in a free market. But everything for me was going swimmingly. I don't really know what happened. But looking back I think the advent of the cover disk with real commercial software on it had a lot to do with my pro-

blems at that time. The magazines realised that they could increase their circulations if they did this. They tried it and of course this was a great success for them. I think it was at about the time that Write-On was put on a cover disk. Once that was out my sales plummeted.

"Typically I would get a phone call. They would say that they were using First Word Plus but wanted a large heading. They wouldn't know what a point size was. They just said they wanted text like a newspaper. They would say that they believed that Easy Text Plus could do it and that it was £20. So they would have a copy. This was also happening with the other people who were selling it in the shape of the PD libraries.

"But then Write-On came out. And guess what Write-On could do? It could do exactly that. Three quarters of my market disappeared over night. In those days the magazines were printing over 60,000 copies. As soon as the magazines began to put out free software, that was the end of the ST market for me. From then on the writing was on the wall.

"At this time I had an associate who I was writing Easy Text Professional with me. This was a complete re-write of Easy Text Plus. A completely new interface, and more sophisticated in the graphics area. We were probably three quarters of the way through when this happened.

"I said to my associate. I'll tell you what's going to happen: We will have TimeWorks on the front cover of a magazine before we finish this, and we had spent a year already writing it. He said that it wouldn't happen but I told him that it would. There was no doubt about it in my mind. We used to have this argument every week.

"This of course was the nightmare scenario, that Timeworks would be free on a cover disk at about the same time that we launched Easy Text Professional."

I asked Roger if, before they had begun to write the professional version of Easy Text, they had looked at the market for another niche where they could write low cost software for.

"Yes, we had looked but we couldn't find anything. We still thought the niche was in the budget DTP market, but with an improved version. We would hear from people who had bought Easy Text who would ask why it couldn't do this or that. They didn't

want to buy Timeworks because they wanted to up-grade our product.

"We were three quarters of the way through the program. All we could do was finish it and hope that the nightmare scenario didn't happen. I could see it coming. We launched Easy Text Professional about November of '91. The same week, Timeworks appeared on the cover disk of a magazine.

"So it happened. For me this was the end of the ST. All I could do was stick it out. I had to re-evaluate. My first thought was to jump ship. I cannot compete against free software. What I did however was stay with the market. A lot of other companies were also jumping ship at this time. What I found was that sales stabilised as I was one of the few left in the market itself.

"Easy Text Professional sold enough to keep me afloat. About this time SpeedoGDOS came out. I wrote for that which has sold quite a few copies and done quite well. The book sales had always been reasonable. I was earning some money but I could re-invest very little of that in the ST."

East Text is now in its vector incarnation. I asked Roger if there were any particular reasons for writing this version of Easy Text. I was thinking that GDOS was the prompt for him to up-grade the first version of Easy Text. SpeedoGDOS is now with us. I asked if this was the program that made the up-grade to a vector version a viable proposition.

"FSMGDOS came out, and I looked at that because of the nasty bit-mapped GDOS fonts. Customers were asking for text at any angle and any point size. Customers were looking for a better font system. I looked at SpeedoGDOS. It was well implemented. The drivers were good. It didn't crash out, so I thought this would be a good move.

Other Platforms

"I then thought that I had to look at this logically. I looked at the market and saw that the vast majority were buying PC's, the market was booming. So I thought, maybe that is the market you should try and get into.

"I much prefer the ST to the PC that I have, but I began to program the PC. I have also found that there are not many people in the UK who are actually writing for the ST itself. I was finding that I was becoming a big fish in a little pond. I was getting full page

reviews in the press of my software. I think I got gold, 91% in an issue of ST Format, so that was a good boost. But the ST market is not what it was."

I asked Roger if he had ever considered bringing into the UK other packages that he could distribute.

"Yes I had looked at this. In fact I was in with a chance of taking on Calamus when it was dropped by Halco. It was floating about. I can remember Mike Goodman saying give them a ring. I didn't follow it up. I guess at the time I didn't feel comfortable with doing that. Perhaps it's because I like programming more than I like marketing.

"I am now looking at other markets. That for me has to be the PC. I am learning C++ and getting into that. I will be moving to contract work in the near future so I am learning the ins and outs of the PC's.

"The market is now very different from when my first program came out. These days the PC is dominant. I have to adapt to that market, or I end up signing on. At the present time I am working on two programs for the PC. The first is a long term project involving bar coding software and the other is an astrology program."

Atari

I then asked Roger about Atari itself. All of the other interviewees in the series had very firm views on Atari. As a small scale affair I asked Roger if Atari had been of help to him or if he had found that they hindered him in any way.

"It varies really from awful to reasonable. I think you have to understand Atari. Atari sells computers and almost that's it. They don't really want to know about anything else. If you need other information they do not seem to be that interested in helping there.

"It is very difficult to get information from Atari. I wrote the book 'Introducing Atari Machine Code'. Now why did I write that book? The main reason I was able to write that book and sell it, was simply because Atari never released any information on this, except to registered developers.

"Now that was expensive to begin with. But because I had licensed GDOS from them, I think they were so shocked that anyone had actually paid for GDOS that they sent me the information, and I became a developer.

"I realised early on that Atari just made the computer. If you wanted to do anything with it you

had to do it yourself. From one point of view this is great as you have total freedom. It allows you to find niches yourself as you know that Atari are not going to bring out - in this case - a book about Atari machine code."

Falcon and Jaguar

I then asked Roger about the Falcon. I asked him if he had wanted to write for that machine when he saw the specifications of it, and also his thoughts about the Jaguar.

"Absolutely not. I guess it is down to a feeling. The ST felt right at the time, it was exciting. When the Falcon came out I didn't have any feeling for it. With the Jaguar it is very different.

"If I was a games publisher I would probably sell this house for a Jaguar, because I think that is going to make a fortune, if they bring it over quick enough. The feeling I get from the Jaguar is that it will be a big success.

"I think that at the moment the ST is in a position to almost make a come back as it is so cheap now. It is a great machine. There are

loads of software for it, and it is easy to use.

"As for me, I am almost back to where I started. I will still be supporting the Atari market, as I have plans to up-grade Easy Text Vector. But I don't think there will be any new programs from me on the ST. As a small software publisher the income is not sufficient to re-invest in this market.

The Future

Lastly I asked Roger what he was putting his energy into next.

"I have a PC program that I am working on. It is an astrology program called Astro Presentation, something that I have been interested in since I was about 14. So I will be working on that, and the barcoding program that I mentioned earlier."

With that we ended the interview. Roger's experience seems to be one that is repeated over and over in the Atari market. People are moved to write software for a niche they have spotted or simply through a need that they have which can not be satisfied with off

the shelf software.

As a footnote to the above interview. I contacted Roger again as this interview was completed before Easy Text Plus appeared on the cover disk of the March issue of Atari ST User. I wanted to know if this move had changed Roger's views of cover mounted software, and if this move had improved his business and what were his thoughts about more software for the Atari itself.

"I am still of the same opinion with cover disks. For me you have to remember that Easy Text Plus came out in 1990. It has been out a long time. It was always low cost so putting this version on a cover disk wasn't such a bad move for me. I am not after all going to devastate the market with this move."

I then asked Roger if he thought that his sales had suffered as users were in fact waiting to see if Easy Text would appear on a cover disk and save them some money over buying the program direct.

"I haven't come across that. I think with a low end product it isn't

an aspirational product. By this I mean that many users who would like a program are put off by its high cost. These are the kinds of programs that users are hoping will appear on a cover disk. Not a program that costs £20.

"Also I am thinking of doing this astrology program for the ST where I was previously only going to write it for the PC. Time is the important factor. It really all depends on how it goes on the PC."

Roger is one of the few software publishers to have survived the last few years. Like many, once their market niche has been fulfilled by other software they have to move on. Roger's next project will be for the PC but he will continue to support the programs that he has written, and all of the users out there who still use his software on a daily basis. I would like to wish Roger all the best for the future, and hope that he will come back to the Atari and write more software for it before long.

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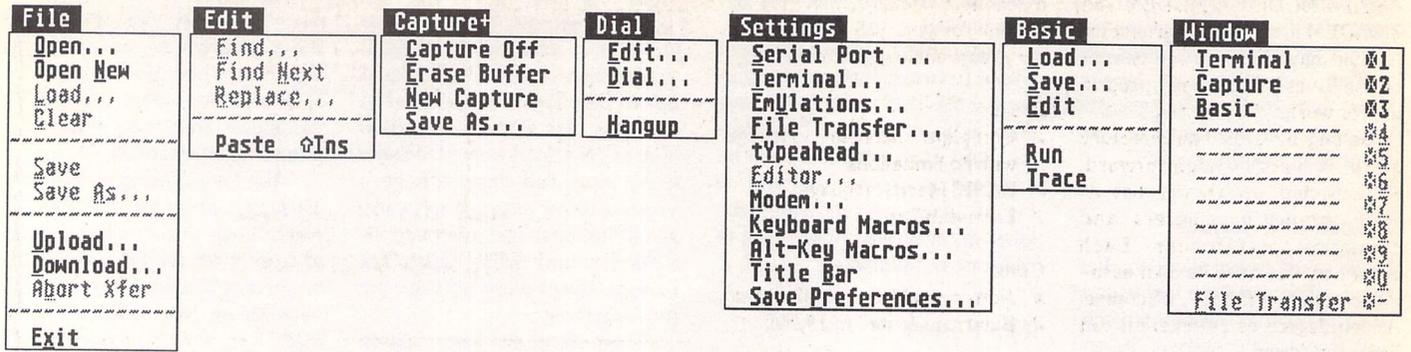
There are five typefaces comprising nearly sixty fonts in all, with point sizes ranging from seven to twenty-eight. Included are:

- three 'classic-style' typefaces (Century, Castleton Roman and Souvenir), each with its own 'true italic' version and two of them with a 'Gothic' (sans serif) variation
- an elegant 'calligraphic' typeface (Derwent, based on the 'Foundational' hand) that will add a touch of distinction to subheads, headings and boxouts
- an 8-point monospaced font useful for listings and tables
- five alternative Swiss fonts
- an alternative 12-point Bullets font

The smaller point sizes of Castleton, Souvenir and Derwent have all the European accented characters implemented as well as 'f-ligatures', M-dash, N-dash and Maths symbols.

All the fonts have been used in the ST Club magazine 'ST Applications'. Used in conjunction with a DTP package such as Timeworks Publisher or Easy Text Pro and a text manipulation package such as Textstyle, they will help you produce documents with a distinctly professional look for a very modest outlay.

Price: £14.95 from the ST Club



STorm



One of the few drawbacks to owning Atari's latest (and last?) computer is that it uses only the newer Zilog 8536 serial communications chip. This means that your old communications program is unlikely to work any more, unless you use a utility such as HSMODEM.

I had for a long time been using KComm2 by Kuma (no laughing at the back please) because it was one of few programs to support user defined terminal emulations. I appreciate that the world revolves around ANSI and VT100 terminal emulations, but I for one needed that rare beast, a Tele-video 920 emulation.

Whenever a new Falcon-friendly terminal program was released, I pored over the review to see what emulations it would support. I didn't find one which mentioned TVI920 or even 'user definable' emulation.

I first saw STorm in the Floppy Shop catalogue and thought I'd give it a whirl, partly because it sounded good and partly because it wasn't restricted in any way like the version of Connect which they also supply. Storm is written by Alan Page, the man responsible for 'Flash'.

Once loaded up on to the machine, STorm reveals quite a few pleasant surprises. Firstly it is a very simple program without any complexities to catch out an unwary newcomer. All of the available Falcon, TT and ST serial ports are supported, but baud rates stop at 19200. This may cause hardened comms users a problem, but I spend quite a bit of my comms time talking to custom

Communications Program Reviewed by Graham Curtis

remote systems which can manage little better than 2400. If you are in the 57600 baud league you will probably be looking for more sophistication in your comms program, anyway.

A non-resizable terminal window is provided, and this can look a little lost on the large screens of a Falcon or TT in high resolution. Storm, however incorporates a number of other features which each have their own window, to occupy some of the extra space.

For a mere comms program

Storm boasts its own full programming language, which rather sensibly is BASIC. I find it irritating to have to learn yet another macro language, so this is very welcome.

Although based upon a standard form of BASIC without line numbers, Storm BASIC has many additions specifically aimed at controlling communication sessions. Among the additional keywords are :- CAPTURE ON/OFF, CARRIER ON/OFF and DTR ON/OFF along with com-

mands for loading file transfer and terminal emulation protocols. If your BASIC program is renamed AUTOEXEC.BAS it will be run as Storm boots up. The disk-based BASIC manual extends to some 40-odd pages, and a number of example programs are included to get you going.

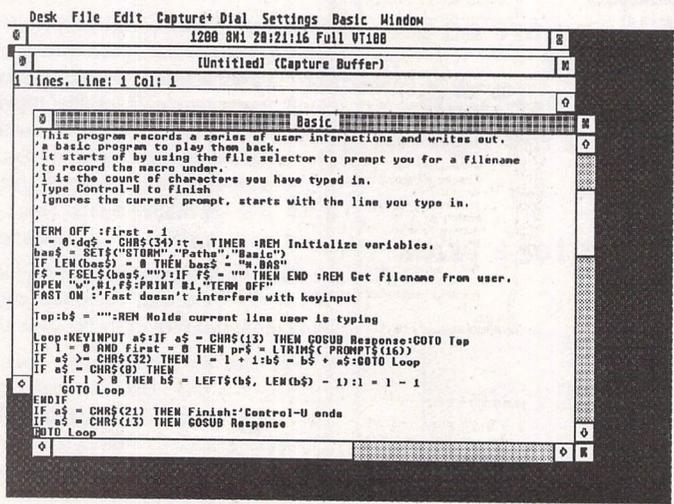
Also included is a mouse-driven text editor, complete with search and replace. Block operations are comprehensive, and well integrated with the communications program. Once a block is marked it can be saved, deleted, or transmitted to the serial port.

The file capture buffer is also very flexible, as is the clipboard function which can copy any text from the current terminal window with a simple click and drag operation. This is useful for services such as Electronic Yellow Pages which produces a file full of control characters under normal capture methods.

Because Storm runs its terminal window as a background task, it is possible to use the BASIC or text editors as a file transfer is taking place. This can be a little confusing at first, but soon becomes second nature.

Both terminal emulations and file transfer protocols can be loaded and unloaded as discreet modules. Currently provided emulations are VT100, TTY and videotext, but slots are provided for several more. Once you have registered, by sending \$25, you will be sent the secrets of providing customised terminal emulations.

File transfer protocols are



A full BASIC interpreter for automating your communications tasks.

ASCII, XMODEM, YMODEM and ZMODEM in various incarnations. I would have liked to see Kermit on the list as it is the one I need to use for work.

Setting up a dialling directory entry is very straightforward. As expected, each entry has its own comms parameters and emulation preferences. Each entry can also have its own auto-logon script, in BASIC, of course. A high degree of automation can be incorporated.

Conclusion

Alan Page has put his faith in Storm users by filling version one with plenty of useful features and comprehensive documentation. It works extremely well on my Falcon for dial-up services and bulletin boards, as well as the more mundane task of communication with my Portfolio. Indeed the BASIC should come in very useful for creating an automatic back-up system for the pocket PC. If you are an unsophisticated comms user and want a neat

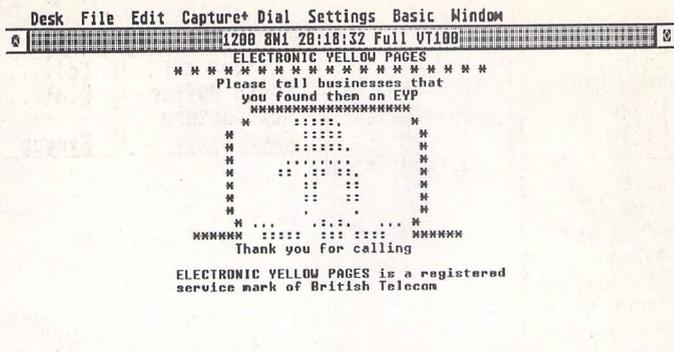
extendable package, this may be the one for you. \$25 sounds like a very reasonable registration fee.

Pros:

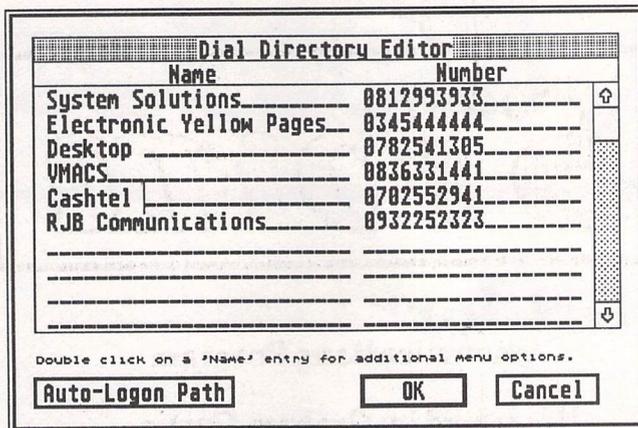
- ✓ Complete shareware package with no limitations
- ✓ BASIC Macro language
- ✓ Extendability

Cons:

- ✗ Non-resizable terminal screen
- ✗ Baud rate limited to 19,200



Let your fingers do the talking



◀ Dialling directory



▷ Upload options

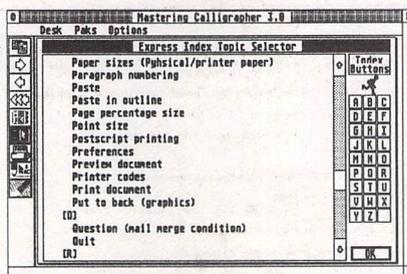
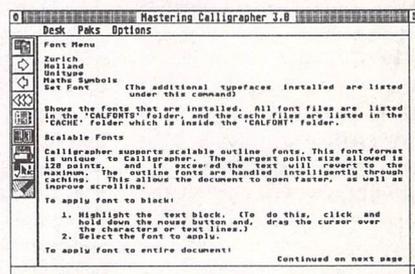
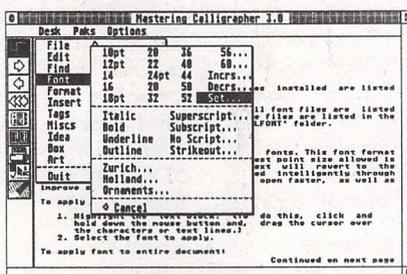
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The Hypertext Personal Guide for Calligrapher that offers quick referencing to all commands with concise screen summaries and tutorials, including tips and tricks.

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DTP

In the first of a series of reviews of some of the books currently available for the DTP enthusiast, David Smith takes a look this month at a general guide to the mechanics of Desktop Publishing and at a couple of manuals that deal more specifically with the aspect of Design.

Book Reviews

GOOD DESIGN for DTP USERS

by A J Marlow

This is a UK product, 204 pages long and published in 1990. The difference between this and the Freedman guide (opposite) is immediately obvious the moment you open it: good, clear layout, better use of illustrations, and plenty of worthwhile examples throughout the text of what the author considers both good and indifferent design.

In an introductory chapter the author explains what is meant by DTP, outlines the book's emphasis and looks at the technology involved. He then devotes four chapters to typography: its history, its nature, typefaces and styles, type size and spacing. Again, the difference between Marlow's treatment of this subject and Freedman's is all too obvious. Marlow manages to steer a line between fussiness and over-simplification. He doesn't shrink from the technical nature of the subject, rather he succeeds in presenting its awesome complexities in an unfrighting and undaunting fashion. The secret here is in the careful planning of the order in which each element is introduced; he covers such subjects as serifs, base lines, leading and spacing in a way that leads the reader on, naturally, from one to the next,

and he throws in a good number of visually appealing (if not exactly graphically stunning) examples to illustrate each point. The style is neither over-bearingly formal nor nudge-nudge wink-winkingly casual.

The next four chapters deal with general layout options - multiple columns, hyphenation and justification, kerning, and the use of headings and opening paragraphs. Marlow also uses the VA example of kerned pairs - and he gets it right! His section on headings includes a piece on 'the degree of emphasis' that looks at the respective merits and drawbacks of various text styles - bold, italics, underline, etc. Very useful for the novice DTP-er.

After a comprehensive chapter on pagination (page assembly, hyphenated breaks, tables and lists, copyfitting) he moves on to the use of illustrations, their positioning and referencing, and the captions used to elucidate them. This chapter contains one or two very good 'before and after' examples of page layout with pictures.

Two excellent chapters on 'rules and forms' and 'tables and lists' contain a wealth of worked examples, again showing how

much easier it is to read (and fill in!) form-style documents that have been carefully planned beforehand.

Chapter 14, 'Page Control', deals with aspects of page format and size, headers and footers, and the numbering of multi-page publications. Choice of typeface, typesize, alignment, spacing, use of rules and boxes, page number styles - all these are looked at from the point of view of page design for specific purposes, and this idea is carried on in more detail in the following chapter 'Suiting the Style to the Job', where different emphasis is laid upon different job requirements - stationery, price lists, timetables,

invitations, labels, etc.

The last two chapters cover the particular considerations of print production and print finishing, including costings and various forms of binding. A general DTP glossary is appended.

The only (slight) criticism I have of this book is its somewhat 'sober' appearance. It doesn't exactly yell at you to get stuck in, but I have to admit that I only have to glance at the innards of the Freedman book again to be filled with a sense of relief at the calm, classical layout of Marlow's book. Beginners and the rather more experienced DTP users alike will get a lot of good advice and ideas from this little tome.

Title:.....Good Design for DTP Users
Author:.....A J Marlow
Publisher:.....NCC Blackwell
Price:.....£16.95
Pages:.....204
Size:.....210 x 146 mm
Year:.....1990
Country:.....UK
ISBN:.....0-85012-793-9

A Guide to Desktop Publishing

by Terry Freedman

Roughly 220 pages long, this is broadly split into two parts, the first outlining the theory of DTP and the second containing practical projects.

The 'theory' covers:

- ✓ hardware (including ST)
- ✓ software
- ✓ types of publication
- ✓ DTP features required
- ✓ what DTP programs do
- ✓ how they work
- ✓ preparing text
- ✓ illustrations
- ✓ basic skills
- ✓ typography
- ✓ principles of design
- ✓ types of paper
- ✓ printing and printers

The projects include letters and letterheads, logos, posters, borders, memos, invoices, compliment slips, business cards, report covers, newsletters, books and the creation of special effects.

Sounds pretty comprehensive, doesn't it? I'm afraid, though, that the implementation and presentation of all this is both shallow and basic. This wouldn't be so bad if the book didn't also contain a fair number of errors and inaccuracies. If you already know enough about DTP to recognise the flaws for what they are then you don't need the book; if you're an absolute beginner then the book will mislead you.

Some of the errors stem from the wrong placement of graphics or captions. Two examples spring to mind. On page 2.10 three typeface examples are displayed in boxes - Universal, Old German and Times. The caption puts them in the wrong order. The section on kerning, page 7.7, has the following example:

"...when the letters A and V are placed next to each other, they appear too close together."

Below this, a large representation of the adjacent letters AV (kerned) has the caption 'Before kerning' and next to it an unker-

ned pair carries the caption 'After kerning'. Does the author really think that the kerned AV couple is the unkered display and that the unkered AV has in fact been kerned outwards (i.e. has positive kerning)? Or have the graphics been misplaced? This would seem to be the more likely explanation if it weren't for the wording of the above quote. And again, below the AV pair he gives an orthodox example of two O's with too much space between them ('Before kerning') and then with less space ('After kerning'), with the sentence: "Alternatively, the letter O often has too much space around it." It's the 'alternatively' that makes me wonder... Most perplexing.

Page 8.8 gives advice on which fonts to use for headings, sub-heads and body text: sans serif 28pt, ditto 14pt and serif 12pt. This is followed by advice on making the font sizes 'relate' to each other: "...as in the above example where the size increases by 50% each time." With body text at 12pt, surely this would give a subhead of 18pt and a heading of 27pt?!

The page opposite this states quite categorically that body text should not be smaller than 9pt; this magazine regularly uses 8pt body text and even goes down to 7pt every now and then without any great loss of legibility even though the resolution is a mere 300dpi and the paper quality not the highest imaginable! T. Freedman fails to point out that point size is largely dictated by the width of the text lines, columns, etc.

Although the author stresses the importance of proofing (and re-proofing) the material you are working with, he doesn't seem to have taken his own advice all that rigorously. There are stray commas, and he insists on putting the period of a sentence that is entirely placed within parentheses

outside the closing bracket. This is wrong. The period only goes after the bracket when it is just the last word or group of words in the sentence that has been bracketed (as in this one). (Am I being pedantic? No - merely correct. The rule is in any case logical.)

The style is verbose. T. Freedman uses expressions such as 'by virtue of the fact that' when all he means is 'because'. He uses informal exaggerations quite a lot too. On page 8.6 he writes about the malady he calls 'font mania', the symptoms of which are *dozens* of fonts appearing on every single page of a document. If the reader is an absolute beginner s/he may be forgiven for thinking that half a dozen fonts per page is okay...

The general layout of the book is poor - certainly no recommendation of good DTP design. The body text is a large-ish Swiss (12pt?) and the subheads, of which there is a good number, are in an inappropriately large Roman (18pt?). When text is placed in boxes it often touches the edges, and the line that separates the header from the text on every page is far too thick and far too close to the line of text below it.

The projects are not very exciting. Part of the trouble with the presentation of these lies in the jaggy screen grabs used. Now these may be necessary to show the gradual make-up of a docu-

ment as you work on it on screen, but the author would have done better to use actual printouts of the final results, reduced in size if necessary, as even 120x144 9-pin printouts would have looked much better than the 72/80dpi grabs used. The 'Grimsthorpe News' newsletter is not an entirely convincing example of page layout and the jaggy-looking fonts and graphics are quite off-putting.

In the 'Flower Power' logo used extensively in the business material projects (!), the author uses a flower with a diagonal stem to replace the letter 'l' in Flower; surely a nicely rounded bloom would have served better to represent the 'o'? In *both* words!

No, sorry, but this one I just cannot recommend, not even for beginners, as the inaccuracies could be seriously misleading. The book is more a glossary of DTP terms than a real guide. At £12.95 it is no bargain, either. Even though the book has no pretensions to be a guide to DTP design, it does contain a chapter on this and it isn't very good. Design is, in any event, the single most important consideration for anyone taking up the DTP challenge, and if you really want an introduction to Desktop Publishing Design you'd be far better off going for the similarly sized and priced offering reviewed opposite...

Title:.....A Guide to Desktop Publishing
 Author:.....T. Freedman
 Publisher:.....Kuma Computers Ltd.
 Price:.....£12.95
 Pages:app. 220
 Size:210 x 146 mm
 Year:.....1992
 Country:.....UK
 ISBN:.....0-7457-0039-X

LOOKING GOOD IN PRINT

by Roger C Parker

This is a much more substantial volume than either of the other two, comprising some 423 (larger format) pages. The book's subtitle is "A Guide to Basic Design for Desktop Publishing" and it must be said straightaway that it certainly succeeds in its subtlety remit – indeed, the use of the word 'basic' is somewhat modest, I feel. Although the book is aimed at the widest possible DTP readership and is therefore neither machine- nor software-specific, the production credits make it quite clear that the author is something of a Mac-fan; the book was laid out using Aldus Pagemaker 4.2.

There are three main sections to the book:

- ✓ The Elements of Graphic Design
- ✓ Putting Your Knowledge to Work
- ✓ Getting Down to Business

Although you may be tempted to assume from this that the standard "theory followed by practice" format is used, you would be only partially correct in this assumption, as the first (theoretical) section already contains a host of usable examples. It's true that while advising newcomers to the discipline to read from beginning to end the writer gives intermediate and advanced users permission to skip Section One, but I think they would miss a great deal of useful information and interesting examples if they did.

Section One contains eight chapters:

- 1 Beginning Observations
- 2 Tools of Organization
- 3 The Architecture of Type
- 4 Building Blocks of Graphic Design
- 5 Working with Illustrations
- 6 Working with Photographs
- 7 Working with Color (sic – this one's American)

8 Twenty-five Common Design Pitfalls

This is a good, meaty introduction to the tools of DTP, the underlying principles of design and the techniques needed for putting them into effect. The chapters on photographs, illustrations and colour (sic – I'm British) are particularly enlightening for those of us who, in the main, only have to worry about the positioning of screen grabs... The chapter on photos (including the 'digital' kind that may be imported into your software) covers suitable choices, atmosphere, fine tuning, lines of force and horizons, 'motion', cropping, enlargement and reduction, flipping, contrast and brightness adjustment, and special effects. The colour chapter covers the use of spot colour, duotones and full colour.

Chapter Three is very good – the best summary of the various achievable typographical effects in any of the books I've so far read, full of clearly displayed examples of formal and informal faces and styles (and when and how best to use them), and rounded off with a look at special effects such as reversing and screening, extrusion, text rotation, text fills, shadows, embossed effects, irregular text paths, and, finally, using typographic refinements such as M and N dashes in place of 'hyphen dashes'.

The final chapter in this section is titled 'Twenty-five Common Design Pitfalls', and includes such hazards as rivers and holes of white space, whispering headlines, fussy charts, floating or buried subheads, poor use of typefaces, irregular blocks of copy, unequal spacing, widows and orphans (of which he gives a different definition from either Freedman's or Marlow's), excessive hyphenation, misalignment, OTT special

effects, etc. One other pitfall I feel he might have included is one that the glossy ST mags indulged in to a hugely irritating extent a few years ago, namely placing body text over a fussy, multi-coloured picture background, thereby rendering it all but illegible. Similarly, using a receding text colour over a prominent background colour such as yellow on pink or green on red (as on many an LP or CD cover!) might have been mentioned here, though it is touched upon in Chapter 7.

The second section of the book comprises only one chapter – "Putting Your Knowledge To Work". This uses a neat 'facing pages' method of comparing the bad with the good (or the improvable with the improved). The original layouts are shown on the left with the 'makeovers' on the right. The chapter contains an absolute wealth of advice on the kind of layout that is appropriate to its subject matter. Adverts, newsletters, charts, diagrams, logos, user manuals, flyers, correspondence, catalogues, brochures – all these are put under a pretty rigorous examination, making a comprehensive collection of hints and tips on what works best for each kind of publication. Everything that has been outlined in Section 1 is brought into practical play here: typeface, typesize, alignment, columns, positioning of graphics or photos, the use of rules and boxes, white space, headers and footers, etc. Very well done.

Section 3 deals with specific business projects: newsletters, newspapers, adverts, sales materials, books and manuals, presentation graphics, business communications, forms, coupons and surveys. Each category is given its own 'evaluation checklist' at the end of the chapter. For example, the checklist for the chapter on Newsletters (Ch. 10) includes the following items:

- ✓ distinctive nameplate that identifies subject matter and editorial focus
- ✓ clear identification of volume and issue numbers
- ✓ 'teasers' or contents table on front cover
- ✓ clear separation of articles
- ✓ equal attention to front and back covers

The chapter proper covers nameplates, grids and columns, use of white space, headlines, teasers, photos, artwork and captions, decks, credits and mailing information. Visual examples are given on every page to exemplify the required effects. Each chapter in this section contains all you need to know about the planning and implementation of the project concerned.

Three appendices round off the book:

- A: Graphics and Prepress Tips and Techniques
- B: Photo and Clip Art Resources
- C: Desktop Publishers'

Resources (a list of books)

This hefty volume covers just about everything you'd ever need to know when embarking on a DTP project. It is very readable, and very 'dip-inable' or 'browse-throughable'. The layout is clear and unfussy, but some readers may be irritated by its use of 'empty left-hand columns' throughout its 400+ pages. These columns, separated from the body text by a thick grey bar, take up around 30% of the width of each page but contain on average no more than ten to twenty words of boldtype summary. On some pages this left-hand column is completely empty! I suspect, though, that most readers will find the summaries a useful way of browsing for a feature they need.

If you only want one guide to DTP Design and are prepared to pay the price asked for, this should be it.

Title:.....Looking Good In Print

Edition:.....Third

Author:.....Roger C Parker

Publisher:.....Ventana Press

Price:.....£22.95

Pages:.....423

Size:.....234 x 188 mm

Year:.....1993

Country:.....USA

ISBN:.....1-56604-047-7

Ultimate Virus Killer

Written by Richard Karsmakers

THE ULTIMATE VIRUS KILLER
Version 5.56B
Written by Richard Karsmakers

Douglas Communications
P.O. Box 119
Stockport
Cheshire SK2 6HW
England

F1	Search'n'Destroy Viruses
F2	Repair Disks
F3	UVK 5.5 Information
F4	System Status
F5	Quit to Desktop

MED 20.01.1993 20:10:37

This session took 2'51"

Viruses destroyed	:0
Disks/files checked	:0
'Boot Files' written	:0
Immunizations performed	:0
Auto-boots repaired	:0
Unrecognized bootfiles	:0

F1 Oh, well...

MED 20.01.1993 20:13:23

V6 This latest version of UVK has a new easier-to-use user interface, can run as an ACC, and recognises even more viruses and bootsectors - including the new Bellstein virus.

We always stock the most recent version. For details of upgrades contact Douglas Communications on 061-456-9587

Features:

- * Recognises all known ST viruses, both bootsector and link viruses, and virtually all software that legitimately uses the disk boot sector.
 - * All data on your disks remains 100% intact!
 - * Immunizing of disks against all known bootsector viruses.
 - * Option to repair damaged or destroyed Bios Parameter Blocks.
 - * Option to write Anti-virus.
 - * Latest version recognises over 70 viruses and can repair over 710 virus damaged boot-sectors.
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Replace the Desktop's *Show File* function with a far more powerful one! Chock-full of features, **View II** is one utility you won't want to do without.

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- Play digitized sounds through ST or STE hardware at any speed from 5KHz to 30KHz, even through DMA hardware!
- View SEQ and DLT animations, even if you don't have enough memory!
- Works on ST, STE, and TT and with desktop replacements like NeoDesk 3! Falcon version due soon.
- Takes *no memory* when installed on a hard drive. When installed in RAM, it takes 48K or less!
- Includes a custom, high-speed RAM disk and a reset-proof clock setter!
- All viewer programs written in 100% assembly for high speed and small size.
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- Supplied with comprehensive printed manual.

So why settle for plain-vanilla text file display? Add some real muscle to your Desktop with **View II!**

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Mouse Tricks 2

- * As many as 20 different settings can be named and saved, and each mode can be selected via a dialog or a user selected keycode.
- * Mouse Tricks keeps a list of up to 40 different programs; for each program on the list you can specify both the mode you wish to be installed when a program is run, and the maximum amount of memory initially available to that program.
- * Mouse Tricks contains a text reading utility, Read Text, with which you can load, read and switch between as many as eight text files from within any program that allows access to desk accessories.
- * Read Text can also be invoked by double-clicking on the desktop icon of the file you want to read, or by pressing a user defined keycode.
- * Big STE is a virtual screen utility that uses the STE's video display hardware to provide instantaneous smooth scrolling around virtual large screens of any (feasible) dimensions, with the option of an interlaced display for any screens with double (or greater) the normal screen height.
- * Tutorial function to help you learn to use Mouse Tricks.
- * Mouse Tricks combines many of the functions of existing mouse utilities in a single desk accessory and adds numerous extra functions of its own.
- * Mouse Tricks can set up suitable modes of mouse behaviour for particular programs. An optional screen saver is also included.
- * Mouse speed can be reduced as well as increased. This allows a cross-hair mouse add-on such as "Tracey" to trace artwork of any size.
- * All the functions of Mouse Tricks can be adjusted through a set of easy to follow dialog boxes.

just
£9.95

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NG2 7PP

New: Big ST now supports TOS1.4 virtual screens, and a serial mouse driver allows the use of PC mice on the ST.

Lattice C v5.6

Reviewed by Piper

It's a bit like reviewing a car that looks exactly the same as the previous model, but you'd been told that it was now a new machine because all the internal bits had been revamped to fit in with international standards. Large chunks of the engine of the compiler have been augmented so that they produce better code when compiling, and it now expects the code you type in to be far closer to the American National Standards Institute (ANSI) standard than previously. In fact, HiSoft think that it's probably completely ANSI compliant, but to get the official "I'm completely compliant" badge, they'd have to shell out Megabucks, which would mean charging us more, so they've decided to stick with the "probably" label. But when you start up, there's not anything different to see.

You begin to see a difference when you start to use newer ANSI methods. To show what I mean, we'll delve into the manuals for a while. They've gone through a major re-write, so things are now rather more integrated instead of having multiple addenda to wander through to see what's changed since last time. They have kept their original style, being fairly easy to get into as long as you've already learned how to program in assembly language.

Discouraged Intimacies

That sounds a little more vicious than they deserve. Basically, this is not a package designed to get the beginner intimate with the intricacies of programming, so they rely on a certain amount of pre-knowledge of C and assembly, but present things in a fairly relaxed style as long as you do know these languages.

With the integration of the manuals and their addenda, you'd expect them to grow. They haven't. The Library manual, for instance has gone from being 355

Yes, it's here. The new, improved, whiter-than-white C compiler from HiSoft. Now with the extra added ingredient of Falcon enhancements. Yes, folks, Falcon enhancements. You can't live without them.

Except... Well, suppose you've got an ST. What else do you get with C5.6 that you didn't get with C5.5? Tricky. They all look the same to me, John.

pages (plus a proportion of the 110 page Library addendum) to 305 pages. One way they've done this is to remove the large boxes surrounding every keyword, which previously appeared at the top of the page. Instead, they now have header file names as titles for sections, each of which contains the functions within that header, so it's no longer one function per page.

Slimming, the ANSI way

Another way (to get back to the ANSI situation - finally) is to use the current ANSI method for showing functions. Previously, strlen was shown as:

```
#include <string.h>
length = strlen (s); Measure
length of string
const char * s;
size_t length; Number of bytes in
```

```
s (before NULL)
whereas now, they've cut this
down to
#include <string.h>
size_t strlen (const char * s);
since ANSI allows you to declare
what sort of variables are within
functions during the function
declaration and lets you declare
the type of the variable that's
returned from the function rather
than just the name you've given it.
This makes it much easier to fol-
low what's going on (once you get
used to it). The explanations of the
function are exactly the same, so
what each variable within the
declaration does is covered fully.
```

This doesn't mean your old code is wrong. The ANSI standard accepts both sorts of declaration, but is now pushing the old style into the "obsolete" class, in the hopes that it'll go away.

C++

C++ is the new "in" language: Object oriented; backwards compatible; doing quite well in the "Jobs Vacancies" sections.

Someone with great enthusiasm for the Atari range has already done a port of C++ targeted at Lattice. This is great news.

Not such great news is the fact that in order to get a licence for it, HiSoft would have to hand over about £400 for every package they sold, making it a very expensive addition to the programming library. If a few thousand of you write to them now and send them the necessary funds in advance, I'm sure they'll work out a way to get it on the market. Alternatively, it's vaguely possible that the royalties to be paid may be lessened. Otherwise, it looks as though it'll be another dim and distant dream.

New Kids on the Block

Other notable new bits are the addition of SpeedoGDOS, MiNT and MultiTOS calls, all of which, along with the Falcon-specific calls, are outlined in a new manual that comes with the package, "Modern Atari System Software. A programmers' Guide", which covers not only the Lattice C calls, but also those for HiSoft BASIC 2 and Devpac 3. Anyone wanting to write new programmes for the Atari series would be wise to take note of these additions, particularly SpeedoGDOS. Now that it's finally here, it would come close to stupidity to ignore it.

So, now you know what you'll get if you've got an ST, how about the Falcon?

Refreshes the parts...

The new manual takes you into various parts of the Falcon to have a poke around. The new graphics modes are covered, as is the way of using the old ST video system. Basically, before this upgrade came along, you couldn't get at these bits in C. Now you can. It's that simple. If you want to program in C on the Falcon and take advantage of its graphic extras, you'll need to use this.

The same goes for the audio side. In the ST, there was no equivalent to what the Falcon has got, so it's a completely new area where you can determine what sampling rate is used (Device clock speed, internal 25.175MHz clock, internal 32.0MHz clock or externally supplied clock), which application has control of the sound system (Locksnd) or any of a dozen other calls.

When you get into the area of the DSP, you're entering the twilight zone between audio and video - if it's a digital signal, the DSP will process it. Here you have 32 new calls concerned with how much DSP RAM is available, locking it so that it can get on with

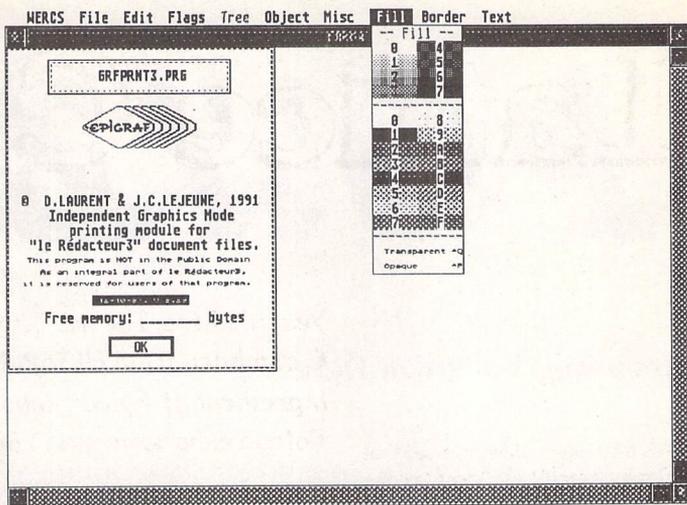
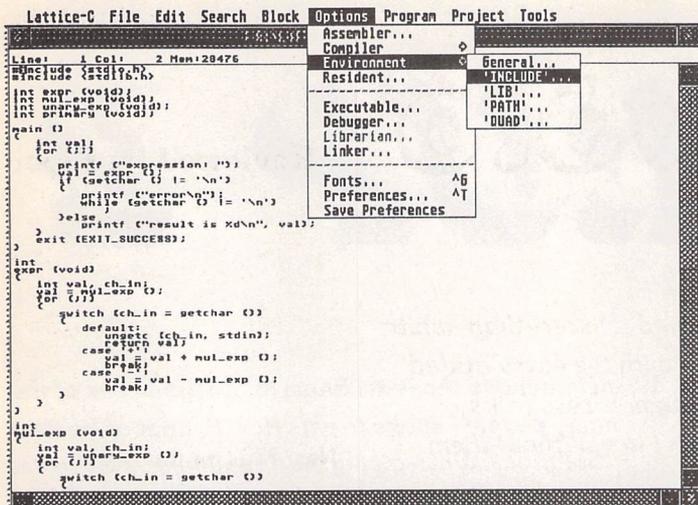


Figure 1: A little something I was knocking up in an off moment. Okay, so I copied it from a book. I can't always be a genius.

Figure 2: For Atari boxes, menus and standard forms, it's much easier to use WERCS to design things rather than try to figure it all out with numbers and statements. You can import them from existing RSC files to "customise" your own software. And those various shades of grey are colours. Honest.

a process uninterrupted, finding out if a subroutine is already present in the DSP so that you don't have to download it again.

To go through all these new calls would simply mean reprinting the manual, something we'd get into trouble for because of copyright rules. What they do, as a generalisation, is allow you control over all the new components in the Falcon which you'd otherwise have to resort to assembly or machine code for. You've got a powerful machine, this gives you the power to control it.

Same as it ever was

Something that I was very disappointed at not seeing upgraded is the debugger. This is still something taken from assembly programmers' heaven where you can follow the program through line by line as long as you speak computer. Here I have to confess to having a prejudice: I work most days in C++ with a package that lets you debug using the source code, so you can see precisely where in your program you've gone wrong. Being expected to switch languages when you want to debug is a large drawback, but is very much in keeping with the way the rest of the package is presented. They had been thinking of updating this part of the program, but again were constrained by the price increase that would go with it.

Go to WERCS for a living

The resource editor, WERCS, takes a little advantage of the Falcon's extra graphics. You can use

it at any screen resolution, and it will give you sixteen colours to play with at a time, but it's not yet moved as far as allowing True Color. In fact, it's not moved very far at all. You can make up your menus and forms, make Objects (of the Lattice type), edit icons and images just as before.

Whilst moving around in WERCS, I again came across a slight nervousness in this program: It will sometimes freeze up for no particular reason if you're moving around in it. I've run through the same sequence of events again and not come across the same problem, but at another time, with a different sequence, it's cropped up again, so there's a real fragility somewhere.

Last words

And there we have it. Externally, pretty much the same as it was before. Internally, updated to give cleaner code with greater ANSI compliance and containing Falcon specific code and libraries. Upgrading from 5.5 to 5.6 will set you back £60 which, if you're producing code professionally, would be well worth it so that you do get access to the Falcon's private bits and the newer parts of the Atari operating system. If you're just playing around with programming at home and you've got an ST, you don't get a lot of return on your money.

Pros: "Probably" ANSI compliant, updated to fit in with new standard, cleaner code production, SpeedoGDOS, MiNT, Multi-TOS and Falcon additions.

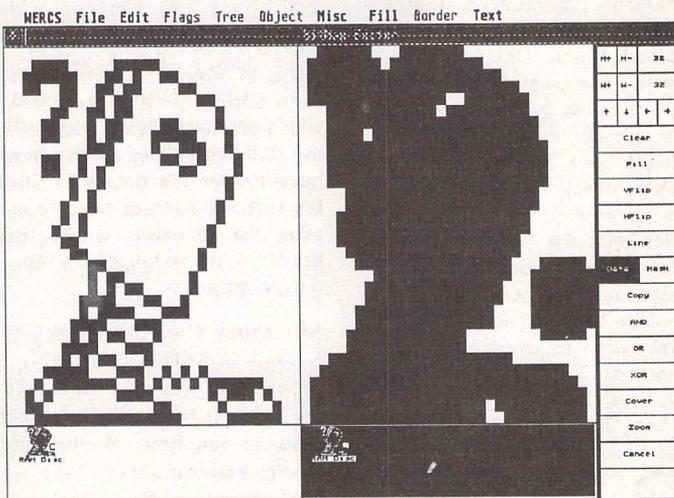


Figure 3: Another plus of WERCS: you can design your own bitmaps as well. Or edit someone else's if you're particularly unscrupulous. Like me.

Product:..... Lattice C 5.6
 Price:.....£169.95
 Upgrade:.....£59.95 from 5.5
 Supplier:.....HiSoft
 The Old School
 Greenfield
 Bedford
 MK45 5DE
 Phone:.....0525 718181

Cons: Not much new to see, still entrenched in assembler, most of the additions no use to someone learning the standard language.

POWERUP 2

Reviewed by Steve Delaney

PowerUP 2 is a smart little gadget. A little known fact about the 68030 fitted in the Falcon is that although it is meant to run at 16Mhz, it is capable of operating reliably at 32Mhz. PowerUP 2 is not a replacement 68030 processor, instead it is a clever piece of electronics which effectively doubles the clock rate of your existing CPU. This is how System solutions have managed to keep the costs down.

There is just one drawback to PowerUP 2 and that's the fact that it is not a simple plug in and go job. Competing products such as Eagle Sonic are much easier to fit, since they plug directly on to the Falcon's internal expansion bus. However, what that does mean is that you can't plug anything else on to the bus. PowerUP 2 is soldered directly to the motherboard, leaving the expansion bus free for other peripherals. For this reason, you should not attempt to fit the upgrade unless

you are competent with a soldering iron.

The kit itself consists of a 2"x½"x½" black box (the PowerUP 2 unit itself) with eight wires coming from it, a resistor, a ferrite bead (to eliminate possible interference), a switch, a disk containing the necessary software, and a single sheet of fitting instructions. The instructions are clearly and concisely written but some points could have done with a bit more explanation. The instructions conclude by saying, "If you do not understand any part of this instruction leaflet, then do not attempt installation." I am not skilled in the use of a soldering iron, nor do I understand basic electronics. For this reason, I asked my friend John Still to perform the necessary surgery!

Coming in a standard STE case, the Falcon is just as easily disassembled. Remove all screws on the base and lift off the top half of the case. Now gently un-

When I attended the Atari Show in Glasgow, one of the many people I spoke to was Karl Brandt of System Solutions. When giving me a rundown of his latest products, he mentioned PowerUP 2 for the Falcon. A 32Mhz accelerator at just £59.95, surely I must have misunderstood? I asked a few more questions, was shown one fitted in a machine and that was enough for me—I bought it!

plug the ribbon cable and power connector on the floppy drive and lift it out. Next, bend back the metal tabs and take out the fixing screws in order to be able to remove the metal shielding. The IDE drive is held in by a couple of screws as is the power supply. Remove these, unplug the ribbon cable from the drive and lift both units clear. Having stripped your machine back to the motherboard, you are now ready to start fitting the upgrade.

The first thing you must do is remove the surface mounted resistor R222. Take one look at it and you realise that this is not a

job for an amateur! The resistor is about 2-3mm long, so a magnifying glass is called for. The task is further complicated by the fact that it is glued in place as well as being soldered. After a bit of thought, we decided to use two soldering irons, one at either end of the resistor. As the solder melted, a flat bladed screwdriver was used to gently slide the resistor off the solder pads.

The next step was to remove the solder link on U46. This was straightforward enough. It was now a case of deciding where to position the PowerUP 2 hardware. The instructions omit to say where

GEM Bench v3.40 Ofir Gal 14.1.94

Falcon 030 TOS 4.02, MINT 1.04
Blitter Enabled, NVDI not present
Video Mode = 640 * 480 * 16 Colours
FPU not present
Run and Malloc from STRAM
Ref = F030, 640*480*16

GEM Dialog Box:	5.150	97%
VDI Text:	4.790	110%
VDI Text Effects:	10.265	108%
VDI Small Text:	4.660	111%
VDI Graphics:	11.570	103%
GEM Window:	11.845	19%
Integer Division:	3.225	96%
Float Math:	6.415	95%
RAM Access:	2.585	96%
ROM Access:	2.605	90%
Blitting:	3.715	99%
VDI Scroll:	6.775	103%
Justified Text:	5.455	106%
VDI Enquire:	1.835	103%
New Dialogs:	6.220	97%
Graphics:	96%	
CPU:	94%	
Average:	95%	

GEM Bench v3.40 Ofir Gal 14.1.94

Falcon 030 TOS 4.02, MINT 1.04
Blitter Enabled, NVDI not present
Video Mode = 640 * 480 * 16 Colours
FPU not present
Run and Malloc from STRAM
Ref = F030, 640*480*16
PowerUp2 ON

GEM Dialog Box:	4.890	103%
VDI Text:	4.545	116%
VDI Text Effects:	9.170	121%
VDI Small Text:	4.340	119%
VDI Graphics:	9.140	131%
GEM Window:	10.035	23%
Integer Division:	1.605	193%
Float Math:	5.860	104%
RAM Access:	2.100	119%
ROM Access:	2.115	110%
Blitting:	3.640	101%
VDI Scroll:	6.635	105%
Justified Text:	5.225	111%
VDI Enquire:	1.720	110%
New Dialogs:	5.910	103%
Graphics:	103%	
CPU:	131%	
Average:	111%	

GEM Bench v3.40 Ofir Gal 14.1.94

Falcon 030 TOS 4.02, MINT 1.04
Blitter Enabled, NVDI 2.50 present
Video Mode = 640 * 480 * 16 Colours
FPU not present
Run and Malloc from STRAM
Ref = F030, 640*480*16

GEM Dialog Box:	2.445	206%
VDI Text:	0.755	703%
VDI Text Effects:	1.795	619%
VDI Small Text:	1.305	397%
VDI Graphics:	4.725	253%
GEM Window:	7.140	32%
Integer Division:	3.230	96%
Float Math:	6.440	95%
RAM Access:	2.600	96%
ROM Access:	2.595	90%
Blitting:	3.495	105%
VDI Scroll:	4.790	146%
Justified Text:	3.680	158%
VDI Enquire:	0.855	222%
New Dialogs:	3.535	172%
Graphics:	273%	
CPU:	94%	
Average:	226%	

GEM Bench v3.40 Ofir Gal 14.1.94

Falcon 030 TOS 4.02, MINT 1.04
Blitter Enabled, NVDI 2.50 present
Video Mode = 640 * 480 * 16 Colours
FPU not present
Run and Malloc from STRAM
Ref = F030, 640*480*16
PowerUp2 ON

GEM Dialog Box:	2.335	216%
VDI Text:	0.710	747%
VDI Text Effects:	1.625	684%
VDI Small Text:	1.150	450%
VDI Graphics:	4.145	289%
GEM Window:	6.560	35%
Integer Division:	1.600	194%
Float Math:	5.850	105%
RAM Access:	2.105	119%
ROM Access:	2.110	111%
Blitting:	3.465	106%
VDI Scroll:	4.740	148%
Justified Text:	3.475	167%
VDI Enquire:	0.785	242%
New Dialogs:	3.375	180%
Graphics:	296%	
CPU:	132%	
Average:	252%	

to place the unit on the board. We found the most convenient location to be between the 68030 CPU and the Combel chip. PowerUP 2 does not have to be soldered in place—it is fixed down using a sticky pad.

Once the unit itself was fixed securely in place, it was a case of soldering five of the eight wires to the appropriate points on the board as shown in the instruction sheet. One of the remaining three wires goes to a leg on the CPU and another to pin 5 on the 6850 (keyboard processor) chip. There are two such chips and it is important that you use the correct one. We were unlucky enough to have the instructions which suggested wiring to the chip on the right hand side of the board and the software to address the chip on the left! A quick call to System Solutions solved the problem. The software had been updated and we had accidentally been sent the old instruction sheet! Five minutes' work saw the relevant wire moved to the correct 6850 chip. This is the connection which performs the switching between 16Mhz and 32Mhz. It's good to know that there are expert technical staff at the end of a telephone line, should you run into difficulties. Finally, the remaining wire goes to the short leg of the LED.

You must now decide whether or not you want to fit the hardware switch. The alternative is to use the supplied CPX or programs to turn PowerUP 2 on or off. Without the hardware switch fitted, your Falcon defaults to

16Mhz (for the sake of compatibility) and requires that you run software to switch it on. The software may be placed in an Auto folder or the CPX configured to be on each time you boot up, so we saw no real need to fit the switch. Nothing is said about the fitting of the switch. A diagram is given, but that's your lot. If you just happen to be handy with a soldering iron but are not knowledgeable in electronics, you will be lost with this one. The switch requires to be connected to +5V and 0V but the instructions do not suggest sensible places to take these supplies from. A prod around with a multi-meter soon sorts this out but some helpful hints would have been appreciated. In my case, I saw no reason to mutilate the Falcon's casing for something that isn't really necessary, so I did not bother getting the switch fitted.

We decided to mount the supplied LED next to the floppy/hard drive light to the top right of the keyboard in order to avoid the need to modify the Falcon's casing. It had to be positioned slightly higher than the existing LED and to the right of it. You will probably have to experiment to find a position which makes the LED clearly visible from your normal sitting position. We then fixed the LED in place with a bit of sticky tape. Finally, we reassembled the Falcon and switched on. Running the appropriate software switched on the LED and Ofir Gal's GEM-Bench confirmed that the upgrade was indeed working.

Compatibility was a concern of mine but has thankfully not proved to be a problem. I have PowerUP switched on at all times and have not experienced any hiccups in about two months of constant use. In fact I've even tried switching PowerUP on and off when running a program (via the CPX) and have encountered no system crashes.

In conclusion, I would say that the speed increase offered by PowerUP 2 is significant enough to be noticeable, but less than I had hoped for. The TT is also a 68030 based computer and is clocked at 32Mhz, so you may think that PowerUP 2 will give your Falcon the speed of a TT. Unfortunately this is not the case because the Falcon's data bus is restricted to 16-bit wide as opposed to the 32-bit width of the TT's. Although processor intensive tasks will run at twice their normal speed, everything else shows only a modest increase in speed. Having said that, MultiTOS is actually usable and I definitely notice a difference with Calamus.

As regards value for money, PowerUP 2 is clearly a bargain at £59.95 but you will have to take advantage of System Solutions' fitting service unless you are competent with electronics. By the time you add £40 to the cost, you have to weigh up whether or not the benefits offered by the upgrade are really worth £100. Personally I think PowerUP 2 is well worth £60, but not £100. Having said that, Eagle Sonic



should give similar performance and costs £179, so perhaps I'm being a bit unfair here. Have a look at the comparison tables and judge for yourself.

Points For:

- ✓ Affordable
- ✓ Reliable
- ✓ Compatible
- ✓ Does not occupy internal expansion bus slot

Points Against:

- ✗ Not a DIY job
- ✗ Instructions could be better

Product:.....PowerUp 2
 Price:.....£59.95 or £99.95 fitted
 Supplier:.....System Solutions, The Desktop Centre, 17-19 Blackwater Street, London SE22 8RS
 Tel:.....081 693 1919
 Fax:.....081 693 6936

GEM Bench v3.40	Ofir Gal 14.1.94
Falcon 030 TOS 4.02, MiNT not present	
Blitter Enabled, NVDI not present	
Video Mode = 640 * 480 * 16 Colours	
FPU not present	
Run and Malloc from STRAM	
Ref = F030, 640*480*16	
=====	
GEM Dialog Box:	4.580 110%
VDI Text:	4.755 111%
VDI Text Effects:	10.145 109%
VDI Small Text:	4.575 113%
VDI Graphics:	11.510 104%
GEM Window:	2.170 108%
Integer Division:	3.085 100%
Float Math:	6.140 100%
RAM Access:	2.580 97%
ROM Access:	2.205 106%
Blitting:	3.615 101%
VDI Scroll:	6.705 104%
Justified Text:	5.315 109%
VDI Enquire:	1.715 110%
New Dialogs:	5.600 108%
=====	
Graphics:	107%
CPU:	100%
Average:	106%

GEM Bench v3.40	Ofir Gal 14.1.94
Falcon 030 TOS 4.02, MiNT not present	
Blitter Enabled, NVDI not present	
Video Mode = 640 * 480 * 16 Colours	
FPU not present	
Run and Malloc from STRAM	
Ref = F030, 640*480*16	
PowerUp2 Installed	
=====	
GEM Dialog Box:	4.355 115%
VDI Text:	4.480 118%
VDI Text Effects:	9.050 122%
VDI Small Text:	4.260 121%
VDI Graphics:	9.140 131%
GEM Window:	2.085 112%
Integer Division:	1.545 201%
Float Math:	5.610 109%
RAM Access:	2.135 117%
ROM Access:	1.755 133%
Blitting:	3.580 102%
VDI Scroll:	6.555 107%
Justified Text:	5.060 114%
VDI Enquire:	1.620 117%
New Dialogs:	5.315 114%
=====	
Graphics:	115%
CPU:	140%
Average:	122%

GEM Bench v3.40	Ofir Gal 14.1.94
Falcon 030 TOS 4.02, MiNT not present	
Blitter Enabled, NVDI 2.50 present	
Video Mode = 640 * 480 * 16 Colours	
FPU not present	
Run and Malloc from STRAM	
Ref = F030, 640*480*16	
=====	
GEM Dialog Box:	1.915 263%
VDI Text:	0.725 732%
VDI Text Effects:	1.760 631%
VDI Small Text:	1.255 413%
VDI Graphics:	4.590 261%
GEM Window:	1.490 157%
Integer Division:	3.095 100%
Float Math:	6.130 100%
RAM Access:	2.485 100%
ROM Access:	2.115 110%
Blitting:	3.445 106%
VDI Scroll:	4.740 148%
Justified Text:	3.610 161%
VDI Enquire:	0.800 237%
New Dialogs:	2.910 209%
=====	
Graphics:	301%
CPU:	102%
Average:	248%

GEM Bench v3.40	Ofir Gal 14.1.94
Falcon 030 TOS 4.02, MiNT not present	
Blitter Enabled, NVDI 2.50 present	
Video Mode = 640 * 480 * 16 Colours	
FPU not present	
Run and Malloc from STRAM	
Ref = F030, 640*480*16	
PowerUp2 ON	
=====	
GEM Dialog Box:	1.835 274%
VDI Text:	0.690 769%
VDI Text Effects:	1.595 696%
VDI Small Text:	1.090 475%
VDI Graphics:	4.025 298%
GEM Window:	1.440 162%
Integer Division:	1.545 201%
Float Math:	5.600 109%
RAM Access:	2.030 123%
ROM Access:	1.735 135%
Blitting:	3.415 107%
VDI Scroll:	4.700 149%
Justified Text:	3.390 171%
VDI Enquire:	0.740 256%
New Dialogs:	2.765 220%
=====	
Graphics:	325%
CPU:	142%
Average:	276%

FaST Club Upgrade News

Issue 2
August 1994

Gemulator

Version 3.02

New features:

- Reduced memory requirements. Gemulator requires almost 1 megabyte less memory than Gemulator 3.00 when run from DOS, and almost 2 megabytes less when run from Windows.
- Gemulator 3.02 uses the DOS/4GW Professional DOS Extender, which offers better compatibility than the DOS/4GW 1.8 DOS Extender used with version 3.00. This reduces or eliminates random crashes that some users have experienced, especially from within Windows and OS/2.
- Better access to the hard disk, support for 4 hard disk partitions. Plus, the ability to boot from the hard disk without using a floppy boot disk. Gemulator now supports both Atari HDX and ICD hard disk drivers.
- A hard disk is no longer required. Due to the reduced size of Gemulator 3.02, it can be installed entirely on a floppy disk.
- Atari disks C: D: E: and F: can now be remapped to any valid DOS drive or any Gemulator virtual drive. You can now Autoboot from real DOS partitions.
- Serial port support up to 19200 baud.
- 800x600 and 640x480 graphics modes.
- QUICKGEM screen accelerator.
- Sound support using the AdLib and Sound Blaster sound cards.
- Improved GEMUL8R.INI commands that allow totally automated booting. Support for multiple INI files.
- Numeric keypad support.
- Cartridge ROM support and multiple Gemulator card support. ROM checksum for diagnosing ROM problems.
- QUICK command now supports all TOS versions and gives more of a speedup.
- Much greater compatibility with Atari ST software.

Price:
from £135

Upgrades:
from 3.x: £4.95
from 2.1: £16.95
from 1.x: £call

Fontkit Plus

Version 4.1

New features:

- The 'spacing' option (in the Size menu) now contains three options. Characters can be spaced with cell columns and negative offsets, cell columns and no offsets, or with horizontal offsets.
- Hp2gem and Gem2hp can read and write DeskJet 500 fonts.
- Cal2gem calculates cell widths with greater accuracy.
- Fontkit Plus 4, Fontswitch and Fastprint now fully Falcon compatible.
- The 24-pin version of Fontprint has been upgraded to work with That's Write.
- A number of bugs have been fixed.

Price:
£24.95

Upgrade:

from Fontkit Plus 4: £3.95
Return master disk 1 only
from earlier versions: £call

CalAssistant

Version 1.80

New features:

- Upgraded to support Calamus 1.09N.
- The interface and help files have been rewritten as has the manual, which now runs to 40 pages. It gives online help for all the icons and menu functions. Text summaries can be sent directly to your printer and the program runs in a GEM window which can be moved and re-sized.
- Topics covered in the illustrated manual now include: Calamus Frame Types, Calamus frame modes, clipboards, working with text, text macros, master pages, layout tips, special design effects, and layout tutorial.

Price:
£19.95

Upgrade: £3.95
Return master disk only.
Upgrade includes new 40 page manual.

Mortimer Deluxe

Version 3.09

New features:

- Falcon, TT and TOS 2.06 compatible.
- File Selector window may now be controlled with keyboard shortcuts.
- File size and date/time attributes can also be shown in the file Selector.
- Files may now be sorted according to different criteria: Name, Type, Date, Size, or None (displays AUTO folder order in which files are executed).
- RAM function now shows free ST and TT Ram.
- Text entry fields are now easier to use with keyboard shortcuts to move the text entry cursor.
- Can convert picture files between PIC, PAC, PI? and IMG formats.
- You can now call up the calculator from within the editor and move it about within the editor window.
- Find routine allows you to find a file on hard or floppy disk. Forgotten the name you gave to your last letter to the Gas Board? But know you used the words 'sheer lunatic idiocy' somewhere in it? Mortimer will search your files on disk for this string. Each file found is loaded into the Editor and automatically searched for the string. If it is found, the cursor is placed at the corresponding position.
- You can turn the cursor on and off. Some programs 'forget' to turn the system cursor on before a text entry, others end without turning the cursor off.
- The Notepad is a supplementary editor whose contents are automatically loaded when Mortimer is run.
- The Alarm function allows you to set an alarm time and date. When the entered time is reached, you are alerted on screen.
- The date planner manages a list that consists of Date, Time and Note. When the date arrives it is announced on screen, along with the note allocated to it.
- The file protection routine in the Editor bars use of a file to anyone who does not know your keyword.
- You can now move files as well as copying them.
- The ATTRIB function sets or removes file attributes (Read only, System, Hidden, Archive).

Price:
£24.95*

Upgrade: £12.95*

*Subscriber Specials. Prices rises to £34.95 and £14.95 from 1st September 1994.

Fonty

Version 1.09

New features:

- The drag and move routines can be aborted by pressing the right mouse button while still holding down the left button.
- The curve calculating routine has been speeded up considerably. Curves are now drawn on the screen about four times as fast in version 1.09 compared with version 1.08, the auto kern routine has also been speeded up by a similar amount.
- You can now turn on and off linking between control points in adjacent curves so that the smoothness of a set of curves is maintained.
- In Hammer Mode the next line or curve to be drawn can be previewed by holding the Left Shift Key down.
- PFB2CFN can be launched from within Fonty.
- The Save Directory menu option has been replaced with a Save Setup option. The file saves the default data directory, the number of segments drawn in a curve, the sensitivity of point selection for both the current and other points, whether the direction and relation of paths is shown or not and the preferred method of closing paths.
- The current character being edited can be viewed as it will appear filled (by Calamus).
- Undo Current Edits lets you restore the character to the state it was in before you selected it as a different character from the Character Selector.
- The Clean Up Paths alert box has an option that allows you to clean up an entire font at once.

- The option Move Start Point has been added. This allows you to change the initial Moveto object around to any end point in the path.
- Split Current Curve allows the user to split an over long curve without distorting the overall shape.
- The Set Curves dialogue as now been changed and instead of an editable text to enter numbers into there is a now choice of six preset buttons.
- The sensitivity of the mouse to the points within the window can be changed.
- It is now possible to see the relationship of one path to another.
- The Character Selector dialogue box has been slightly altered and a one character editable field has replaced the cancel button. This allows you to select the next character to edit entirely from the keyboard.
- Fonty now loads and edits CFN Fonts that have serial number protection, without removing the serial number protection. So the resulting saved font can only be used by a copy of the owners original copy of Calamus.
- The process of finding the offsets in the PFB file has been speeded up enormously. This used to be the longest part of a conversion.
- PFB2CFN now lets you echo the input file name and path to the output file name and path with the PFB extension being changed to CFN.
- AUTOPFB.PRG converts batches of fonts without the need for a batch file.

Price: £11.95
Upgrade: £3.95
Return master disk.

Multiprint

Version 1.05

New features:

- Falcon compatible.

Price: £14.95
Upgrade: £5.00
Return master disk only.

Mouse Tricks

Version 2.20

New features:

- Falcon compatible.

Mouse Tricks isn't MultiTOS compatible - and nor will it ever be. It has too many roots that are probably MultiTOS incompatible.

There are no plans to write a version of Big ST for the Falcon. Falcon Screen, Screen Blaster and Blow Up make virtual large screens less useful (and the latter two come with virtual large screen utilities anyway).

Price: £14.95
Upgrade: £5.00
Return master disk only.

Imagecopy

Version 3.01

See our full page advertisement on the inside front cover of this issue of ST Applications for full details of the new features in Imagecopy 3.

Price: £29.95
Upgrades:
D - from Imagecopy 1.xx: £22.95
E - from Imagecopy 1.5x: £17.95
F - from Imagecopy 2.xx: £12.95
Return master disks.

All available from:

FaST Club
7 Musters Road
Nottingham
NG2 7PP
Phone (0602) 455250

Please use the order form on page 57, add £1.25 p&p on orders under £20, and remember to return master disks as required.

Warp 9

Version 3.81

New features:

- Warp 9 works in all Falcon screen modes except true colour modes.
- Compatible with SpeedoGDOS
- You can now disable Warp 9 at boot up.
- PinHead (the program fastloader from Little Green Footballs Software) is now built into Warp 9.
- You can now load different pictures and system fonts for each program run.
- The Extend-O-Save screensaver has been enhanced so that more features can be used in screen saver modules.

- The Extend-O-Save Pack supplied with this upgrade includes lots of new screen saver modules.
- Bug Fixes: Version 3.81 the Falcon version contains a fix for problems with the Screen Blaster screen expander and the TT version contains a fix for a problem which would cause a crash when using a background picture.
- Version 1.6 of the Warp 9 Control Panel adds a "poor man's randomizer" feature, with the ability to automatically load a different screensaver module at every bootup.
Upgrade: £16.95
Return master disk.

Price: £29.95
Upgrade: £16.95
Return just your master disk.

Beyond GFA

Part 3: Machine Code String Search Routines

by Mark Butler

This month we are going to dissect the GFA BASIC INSTR command and produce our own machine code version that we can then modify for our own use. The BASIC search commands are INSTR and RINSTR. RINSTR is the same as INSTR but works from the other end of the string being searched, so we'll concentrate on the operation of INSTR.

INSTR Operation

The following GFA BASIC code demonstrates its use:

```
main$="Data to be searched is stored in here"
search$="search"
PRINT INSTR(main$,search$)
```

Running this program will give us a value of 12. The search string is found in the main string at position 12. It doesn't matter that the whole word 'searched' in the main string isn't being looked for - as soon as the characters in the search string are found the search is satisfied.

Search Start Value

An extra value can be included in the command to give us:

```
PRINT INSTR(main$,search$,x%)
```

The value x% tells the function to start looking for the search\$ string characters at the character position x% in the main\$ string. The GFA BASIC code:

```
main$="Data to be searched is stored in here"
search$="search"
x%=13
PRINT INSTR(main$,search$,x%)
```

will give us the value 0. This value denotes that the search failed to find a match. A value of x% between 0 and 12 will still produce the old value of 12, but 13 has meant that the routine started looking past where the search\$ occurred in main\$, so missing it.

This extra value allows us to find further occurrences of the search string further on in the main string, skipping over earlier occurrences to search for them.

The following code demonstrates this:

```
main$="Data to be searched is stored in here"
search$="e"
x%=0
DO
  x%=INSTR(main$,search$,x%+1)
  PRINT x%
LOOP UNTIL x%=0
```

Running this program will produce all occurrences of the search string 'e' in the main string. x% is first set to zero and a search performed on this value plus 1 with the result being stored in x% for the next search. The resulting values are 10, 13, 18, 28, 35, 37 and 0, zero being the point at which no further matches are found and the program is quit, the condition LOOP UNTIL x%=0 having been met.

The x%+1 sum is required to skip over all previous occurrences. If we didn't increment x% we would get the first occurrence repeated in an endless loop, forcing us to use the Control + Alternate + Shift GFA BASIC Break combination to STOP the program.

Case Not Dependent Search

There is one more trick that we can perform with the standard INSTR command, a 'Case Not Dependent Search'.

All the previous examples have looked for an exact character match. Setting search\$ to "E" would give us no matches, A search\$ of "d" would give us 19, 29, 0, and a search\$ of "D" would give us 1 and 0. The case of the characters in the search\$ has been distinguished between - the search is case dependent.

Finding exact matches is fine most of the time, but there are many times that we aren't sure what the case of letters will be. Capitalising the first letters of some words for example would prevent them from being found. Fortunately there exists a function called UPPER\$ that allows us to get around this problem.

```
PRINT UPPER$("Data to be searched is stored in here")
```

will give us DATA TO BE SEARCHED IS STORED IN HERE. It doesn't matter if the characters in the string are already upper case or not - after the function they will all be upper case. A small change to the INSTR line thus:

```
x%=INSTR(UPPER$(main$),UPPER$(search$),x%+1)
```

will give all occurrences of search\$ in main\$ no matter what the cases of the letters in either string are - a 'case not dependent search'.

By including the UPPER\$ command within the INSTR function we have made the change temporary; both search\$ and main\$ will remain as they were. If we had set them to UPPER\$ before this line they would have been permanently changed.

Adding the line PRINT main\$,search\$ to the end of our code will prove that these strings are indeed unchanged.

As Powerful and useful as the INSTR command is, that's about all that you can do with it. If we want to perform more complex searches then we'll have to write our own version of INSTR, which is what we are about to do.

Before we improve on INSTR we must first understand how the old function works.

INSTR Theory

A main string holds the data that we want to be searched, and a search string contains the characters that we want to look for within the main string. If a match is found the position of the match is returned by the function, or if no match is found then 0 is returned. So all we have to do is 'hop' the search string along the main string until every character in the search string finds a match in the main string, or not.

INSTR Practice

Run GFA BASIC from within GFA Assembler (See Beyond GFA 1: call the assembly file INSTR.IS) and type in the following GFA BASIC.

To list variable types correctly enter Direct GFA BASIC Mode by pressing the Esc key. Type DEFLIST2, press Return and then Esc to take you back to the editor. Failing to do this will make the editor appear to swallow your % characters.

```
DEFINT "a-z"
INLINE a_instr%, &H1000
main$="search searched searcher searches ssearch"
search$="search"
x%=0
PRINT " New Routine Results"
DO
  INC x%
  x%=C:a_instr%(L:ARRPTR(main$), L:ARRPTR(search$), L:x%)
  PRINT x%
LOOP UNTIL x%=0
PRINT " Old Routine Results"
DO
  INC x%
  x%=INSTR(main$, search$, x%)
  PRINT x%
LOOP UNTIL x%=0
~INP(2)
```

The strange squiggle on the last line is obtained by pressing Shift and # (found to the right of the Return key) and stands for VOID. We're only interested in whether a key has been pressed and not which key it is. VOID or ~ throws the result of the INP(2) function away. It is faster than LET a=INP(2) or PRINT INP(2) and doesn't waste a variable or write to the screen. DON'T try to run this just yet.

This routine compares our new a_instr routine to the old built in BASIC INSTR, calling both routines to produce every instance of the search\$ "search" within the main\$ "search searched searcher searches ssearch". his routine needs to know where main\$ and search\$ are stored, how many characters they hold, and where to start looking within main\$. We could have used VARPTR and LEN to pass this information, but there is a better way!

GFA ARRPTR Command

ARRPTR was discussed in part 2 as a means to access a string arrays descriptor table where the position and length information are stored for the whole string array. ARRPTR used with a single string variable points to an individual descriptor value that does the same.

If we LPEEK the descriptor value then we get the VARPTR information (where the string is stored in memory), and if we DPEEK past this information we find the LEN information (the length of the string).

GFA BASIC example (try this out later as we still have to save our INSTR code):

```
a$="Hello"
PRINT VARPTR(a$), LEN(a$)
a=ARRPTR(a$)
PRINT LPEEK(a), DPEEK(a+4)
```

Running this will prove that the VARPTR and LEN information can be obtained by way of ARRPTR. Going back to our original code, save it as INSTR.GFA, position the cursor on the INLINE line and press Help and then 'A' to take you back to the Assembler.

Type in the following Assembler program. You can leave out the comments if you wish, and don't worry about the many versions of cmp, add and sub etc. Just type in the basic command such as cmp.w, and the editor will automatically change it for you if you require cmpi.w instead for example. Also you don't have to worry about the spacing on the lines. Typing in:

```
move.l 28(sp), a2; Get ARRPTR main$
will automatically produce:
  movea.l 28(sp), a2 ; Get ARRPTR main$
when you press the return key. Also, extra blank lines won't affect the compiled program, but you can get rid of them if you want to by
```

holding down the Control key and pressing Z.

There are various labels found to the left of the code, the first being d2_is_zero:. These are used exactly like a GFA BASIC label as something to aim at with the Assembler equivalent of GOTO, the Branch command.

Assembly Language INSTR code

```
; Note Registers used, a0, a1, a2, d0, d1, d2, d3 - Useful Reminder
; Store values of used registers for operating system, d0 used by us.

  movem.l d1-d3/a0-a2, -(sp)

; Get passed values from Stack and work out VARPTR and LEN values
; Note have moved stack down 6*4 bytes to accommodate movem.l

  movea.l 28(sp), a2 ; Get ARRPTR main$
  movea.l (a2), a0 ; Get VARPTR main$
  clr.l d0 ; Clear out long word rubbish!
  move.w 4(a2), d0 ; Get LEN main$
  movea.l 32(sp), a2 ; Get ARRPTR search$
  movea.l (a2), a1 ; Get VARPTR search$
  clr.l d1 ; d1 cleared as well
  move.w 4(a2), d1 ; Get LEN search$
  move.l 36(sp), d2 ; Get Search Start Position

; Set up store pointer with special lea relative command

  lea data(pc), a2 ; Note reused a2
  move.l a0, (a2) ; Store VARPTR main$ for final calc

; Now check valid input, Return 0 if not.

  cmpi.w #0, d2 ; Set to zero?
  beq d2_is_zero ; Yes, so skip next sum
  subi.w #1, d2 ; d2=d2-1 or DEC d2

d2_is_zero:

  adda.l d2, a0 ; Increase main$ start address
  sub.w d2, d0 ; Decrease length of main$ by same

; Check search$ not bigger than main$

  cmp.w d1, d0 ; D0 smaller than d1?

; cmp does sum d0-d1 and sets various flags, These flags are then used
; in a Branch instruction, There are many Branch possibilities.

  bmi failed ; Branch if minus, d0<d1
  sub.w d1, d0 ; Take off length of search string
  addi.w #2, d0 ; Put 2 back

; store values in data store, Register values can now be changed

  move.l a0, 4(a2) ; Posn of main$
  move.w d0, 8(a2) ; Length main$
  move.l a1, 10(a2) ; Posn Search$
  move.w d1, 14(a2) ; Length search$

pre_char_1: ; Jump back point

  move.b (a1)+, d2 ; Get 1st Search character

char_1: ; Find first character loop

  subi.w #1, d0 ; Reduce main$ length
  beq failed ; Zero, Failed
  cmp.b (a0)+, d2 ; 3 GFA lines to 1 Assembler!
  bne char_1 ; No match, Keep Looking

; Got here match found, Look for match rest of search$
; Remember where we are in main$ first

  move.l a0, 4(a2) ; Remember Position
  move.w d0, 8(a2) ; Remember Characters left to search

rest_chars: ; Search rest of characters loop
  subi.w #1, d1 ; Decrease length of search$
  beq success ; Found it!
  move.b (a0)+, d3 ; Get next main$ char
  cmp.b (a1)+, d3 ; compare with next search$ char
  beq rest_chars ; OK so far
```

```

; Got here - Failed so far, Set up and go back to char_1: search
    movea.l    4(a2), a0      ; Restore last position in main$
    move.w     8(a2), d0      ; Restore length of main$
    movea.l    10(a2), a1     ; Position of search$
    move.w     14(a2), d1     ; Length of search$
    bra        pre_char_1    ; Go back to look for 1st char match

failed:
; Failed Return

    clr.l     d0              ; Set d0 to 0 failed value
    movem.l   (sp)+, d1-d3/a0-a2 ; Restore registers for system
    rts                               ; Return to BASIC

success:

; Got here, Found match
; Work our relative search posn found

    movea.l    4(a2), a0      ; Restore found position
    suba.l     (a2), a0       ; Subtract Start of Main$
    move.l     a0, d0         ; Copy over to return Register
    movem.l   (sp)+, d1-d3/a0-a2 ; Restore registers for system
    rts                               ; Return to BASIC

data:
    .DC.l 4      ; Reserve data store 4 long words.

```

SAVE this routine as INSTR.IS and assemble and return to BASIC. Note the program length produced (should be Hex a2). When run it should produce:

New Routine Results

```

1
8
17
26
36
0

```

Old Routine Results

```

1
8
17
26
36
0

```

This shows that both routines produce the same results. The speeds of both are comparable especially when the BASIC is compiled, so we must have done a reasonable job with the code!

Bug Fix

In fact it manages to fix a bug. Set the search\$ and main\$ to the same "search" string. Then run the program to get an Endless Loop!!! After breaking out of the program with Control + Alternate + Shift, insert a STOP command after the first LOOP UNTIL x%=0 line. Run again and we see the correct values of 1 and 0 produced with our new routine. It's the old INSTR that is messing up!

Crash Recovery

If your computer crashes at this point, possibly returning to the Assembler, switch it off and on again, Reload the Assembler, run GFA BASIC, load in INSTR.GFA, return to the Assembler via the INLINE line, LOAD INSTR.IS and take a very good look at the code. It doesn't take much to foul things up. Don't try to continue after a crash - your computer will be seriously confused and in need of a lie down. Power down and up with the mains switch as Reset may not work properly.

Now that you have a working program you can reduce the INLINE length to &HA2. Return to the Assembler and re-assemble it to fit into the new compact INLINE.

Code Improving

On assembly you may notice a set of buttons under the heading Code Improver. Selecting these will ask the Assembler to try and improve your code to produce a faster and more compact version. Selecting all the options will produce a code length of just Hex 92, saving 16 bytes.

A tip for more advanced users is not to use the Improver options until the code has been proved to work, as you may not recognise the improved code as your own if you are using a Debugger such as

GFA-DBG.PRG to work through it.

Assembler Program Explained

Now we'll work through the assembly code to see how it works. Remember that Assembly code is read left to right, move.l #1, d0 moves 1 immediately into Register d0, This is opposite to GFA BASIC that would use LET d0=1. Other examples include the Assembler code add #1, d0 which in GFA BASIC would be ADD d0, 1.

Move Multiple

The first thing that we notice is the movem.l command. Move Multiple allows us to move a group of registers to and from consecutive memory locations. In this example by using the stack pointer as the Address Register we have moved d1, d2, d3 (d1-d3 means all registers from d1 to d3), a0, a1 and a2 (a0-a2 all registers from a0 to a2) on to the stack. The '-' symbol before the bracketed (sp) makes sure that the stack pointer is decremented to allow for all this data.

Operating System Crash

If we plough straight into our machine code then we can overwrite existing register values that may contain important information for the computer's operating system, causing a crash. By storing the values of these registers before we use them we can then restore their values just before we exit our routine, leaving the computer how we found it.

The Remark statement before it refers to the registers that we are going to use in our own routine including d0. As we have to restore the register values before we return from our code any return value in d0 would be lost, so don't include d0 in the movem.l line. It's perfectly safe not to do so.

When I wrote the movem.l line I typed in:

```
movem.l d1 d2 d3 a0 a1 a2, -(sp)
```

The editor automatically converted this to:

```
movem.l d1-d2, a0-a2, -(sp)
```

Retrieving Data Passed from GFA BASIC

Storing all these registers on the stack has left our own data passed from GFA BASIC further from the stack pointer, so that when we access this data we have to take this into account. Storing 6 long words has moved the stack pointer $6 * 4 = 24$ bytes, so that our first data long word is found at 28(sp) and not 4(sp) as with previous examples. First the ARRPTTR values for main\$ and search\$ are obtained - we explained this earlier. The move.l and move.w instructions are the Assembler's versions of LPEEK and DPEEK. The VARPTR and LEN information is obtained from the ARRPTTR values and the search start position is also read. Note that even though the LEN values are Word values we have taken the trouble to clear d0 and d1 (clr.l is a quick version of move.l #0) to remove any rubbish from the higher 16 bits as we are about to use them in a 32 bit sum.

Load Effective Address

Then the lea command (Load Effective Address) is used to set up a2 as a pointer to a portion of memory that has been set aside for storage. You can find this at the end of the assembler code. Only having 7 Data and effectively 6 Address registers to play with (a7 is used as sp) means that we can soon run out, so an extra means of storing data is very valuable. We could have got away without using a data store in this instance, but it's a useful technique to learn

Note that moving data between the internal 68000 Registers is faster than storing and fetching from external memory, so try and restrict data stores to less frequently used data. The first use for this data store is the storage of the initial VARPTR value for main\$. This will only be used at the end of the program so we can safely use this slow storage without compromising the routines performance.

Valid Input

Next we move on to a set of routines that check that our input is valid. First there is the question of the search start position stored in d2. The values 0 and 1 will both start the search at character position 1, so we have to check for the special 0 value and make it equate to the values 1 and above. We could have added 1 to every zero passed to achieve this, but have instead chosen to reduce every value that is not zero by 1. This is to simplify the operation that will soon be performed on the main\$ values.

Compare Instruction

The `cmp` instruction works by subtracting the first value from the second and throwing the result away. Various flags are set which remember if the result was negative, positive, zero, or if a carry or overflow condition occurred. These flags can then be interrogated by branch instructions that perform a branch if a condition is met. This is similar to the GFA BASIC `IF THEN` command structure.

Branching

What we want to know is if the result was zero, and so we compared `d2` to the immediate value `#0` and then performed the branch instruction `beq` (Branch if Equal) which interrogates the zero flag (if both values are equal then subtracting one from the other will produce zero) and performs the branch (`GOTO`) to the label `d2_is_zero`: if it is. The `beq` instruction is one of the many branch instructions available.

If the value wasn't 0 then we don't branch but instead drop down to the `sub` instruction below that subtracts 1 immediately from the register. We then use this value to operate on the `main$ VARPTR` and `LEN` values. The `d2` value is added to the `VARPTR` information for `main$`, and subtracted off its `LEN` data. The reason for reducing the value of `d2` now becomes obvious. A value of 1 would have increased the `VARPTR` value to point to character 2 in `main$`, and the Length of the `main$` would now be one character too small. By reducing the value of `d2` by 1 we will get the result that we want. An initial value of 1 reduced to 0 would leave the `VARPTR` and `LEN` information unchanged, while a value of 3 for example would move the `VARPTR` 2 characters on to point to character 3 and reduce the length by 2. Note that we haven't actually lopped any characters off `main$` – our `LEN` value is only used to determine when we have run out of `main$` to search. Starting the search further on in `main$` will reduce the number of characters left to search, so we reduce the length to compensate.

Search Impossible

There is one more check to perform: is the length of `search$ (d1)` still smaller or equal to the remaining length of `main$ (d0)`? The `cmp` instruction is used again; `bmi` (Branch if Minus) is performed to the label `failed`: if the result of the sum `d0 (LEN main$) minus d1 (LEN search$)` is negative, 0 being taken as a positive value (`d0 = d1`). A negative value shows that the `search$` is larger than the `main$` making the search impossible.

Corrupted Stack

The code found after the `failed: label` is required for a smooth return to BASIC. We have modified the stack by storing the used registers to it at the start of our program, and they must be restored before we finish. Not doing this or even getting it slightly wrong will corrupt the stack pointer and cause a crash, so you must be very careful when writing and reading to the stack. The `failed: code` also sets `d0` to zero to be returned to GFA BASIC as the failed value.

There is one final computation to perform before we start searching. The Length of `main$` is reduced by the Length of the `search$`. We actually need to reduce the length of `main$` by one less than the length of `search$`, and the following routine relies on the length of `main$` being one more than its actual length, so immediately following this command we add two back to the Register `d0 (LEN main$)`.

Attempting to find a match for the `search$` in `main$` past the point at which it will fit is obviously a waste of time, and so we have reduced the length of `main$` to prevent this happening. It also stops the routine from looking past the end of `main$` where it could find just about anything, possibly finding a match that isn't within `main$` – that would really mess things up!

We then store our values in the data store using the data pointer `a2` that we set up earlier with the `lea` instruction, using good old Address Register Indirect With Displacement. `a2` points to the data store and any number before the (`a2`) is temporarily added to `a2` to point to positions further on in the data store so that we can access data stored there. This frees up the registers for subsequent calculations.

Now we move onto the search routines proper. Passing the `pre_char_1: label`, we copy the first `search$` character into `d2`. We don't need the value in `d2` anymore so we might as well re-use the register. Note that the `a1` Address Register is incremented at the same time so that it now points to the next `search$` character.

Find First Character

We then pass the `char_1: label`. This denotes the start of the loop to find the first character in `search$` within `main$`. It's a waste of time trying to match the whole of `search$` if the first letter isn't found yet! The length of `main$ (d0)` is reduced. If we have reached the end of `main$ (d0=0)` then the search has failed and we branch to `failed:`. Remember that we set the length 1 high to account for this initial check.

So where was the `cmp` instruction? Other instructions such as `sub` will also effect the flags used by the branch instruction. If the subtraction results in the value of 0 then the zero flag is set. The `beq` (Branch if Equal) instruction performs the branch to `failed:`

If we haven't failed yet, we get the next available byte character from `main$`. The `main$` address pointer (`a0`) is increased to point to the next byte, and a comparison is made with the value of the 1st `search$` Character stored in `d2`. If a match isn't found then we loop back to `char_1:` to keep looking. `bne` is used which stands for Branch if Not Equal, the opposite of `beq`. If a match has been found then the `bne` branch is not performed and we carry on to the next part of the routine that looks for matches for the rest of the `search$` characters.

Find rest of search\$

First we remember the `main$` position and length information. If the second part of the search fails then we need to restore these values and continue the `char_1` search.

Find rest success

Passing the `rest_chars: loop label` we decrease the length of `search$ (d1%)`. If the length is now 0 then we have reached the end of `search$` and the search has been successful. A `search$` one character long would immediately succeed at this point. The `beq` instruction takes us to the `success: label` where the position in `main$` where `char_1` was found is restored to `a0%`, and the initial start position is subtracted from it to produce a relative position within `main$` that is returned as the search result. The stack is then restored with the `movem.l` command and we return to BASIC with our result.

If `d1%` isn't yet 0 then we continue to compare the next characters in the `search$` and `main$`, looping back to `rest_chars` if the characters continue to match. Note that we have performed a comparison with a character that is still in memory, we don't always have to move values to registers to operate on them; also that the `post_increment + symbol` found after (`a0`) and (`a1`) will increment (add 1 to) these address registers to point to the next `search$` and `main$` characters for next time. It's a shame that `cmp.b (a0)+,(a1)+` is an illegal addressing mode!

Find rest failure

A failure at this point means that the whole of `search$` hasn't been found in `main$`. The Position and Length values for `main$` are restored to how they were when the first character match was found, and the `search$` values are reset to their initial values. The program then returns to the `pre_char_1: label` to start looking for the first `search$` character at the position in `main$`, one character on from where it was found last time. Remember that the `a0%` register was post-incremented to point to the next `main$` character before it was stored.

Define Constant Data

The last instruction in our code is `.DC.l 4`. `DC` stands for Define Constant Data, and in this example sets aside 4 Long Words (16 bytes) for our own storage. To the left of the instruction is found the data: `label`. This was used by the `lea` command to set Address Register `a2` to point to this data store early on in the program.

T.T.F.N.

Unfortunately we've run out of space this month, so I'll have to ask you to be patient and tune in next month for details of how we're going to modify our new INSTR code to give Wild card, Case Not Dependent and a version that can search a complete string array in one go. See you soon.

Shareware Column

Joe Connor keeps us up to date with the latest supported Shareware software and introduces support for another two!

I can't believe the number of new versions this month - my hard disk is bulging with goodies for your perusal...

Two-in-One V1.07e

[Order FaST Disk UT.504]

Many minor changes with two significant enhancements:

- ◆ Two-in-One (via TWO-VIEW) can now direct files, according to their file extender, to a choice of file viewers or applications. For example you can set up Two-in-One to call GEMView to display or process graphic files or Everest to view or edit text files. Up to ten different viewers can be specified.
- ◆ ST-Guide on-line hypertext help implemented. ST-Guide is rapidly becoming the de-facto standard in Germany and is an excellent method of distributing documentation for Shareware. Images and text styles can be included and pages printed out as desired. I'm currently organising UK support - more details next month!

Everest v3.3e

[Order FaST disk WP.154]

From this release a key is needed to remove the Shareware reminder screen. All registered users are entitled to a free upgrade. Send me an SAE and floppy disk. Since adding the key, German registrations have rocketed! There's a few welcome improvements:

- ◆ Search & Replace improved (faster & fewer bugs)
- ◆ New 'Replace selection' and 'Select word' menu options
- ◆ Line feeds within abbreviations now possible up to 1000 lines
- ◆ ST-Guide support implemented

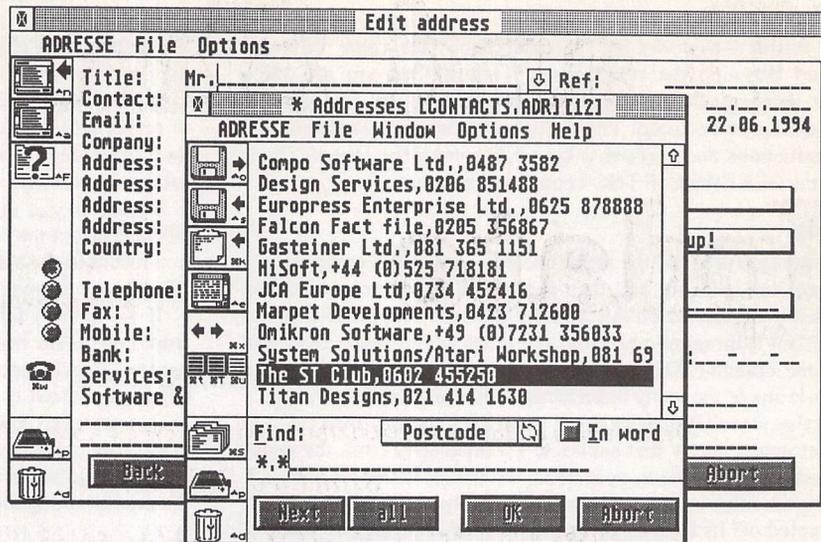
Idealist V3.5

[Order FaST disk WP.251]

By popular request I've taken over support for this popular printer manager. V3.3 was reviewed by Sam Marshall in STA 33 (Page 22/3) and since then Christoph has released V3.5 which offers lots of new features:

- ◆ Expert mode added for experienced users
- ◆ Speedo GDOS output to printer and Metafiles including optional frames and lines
- ◆ 'Joker' line to change printer parameters on the fly
- ◆ Progress indicator during Output
- ◆ ST-Guide and external file viewer support
- ◆ Windows in dialogs, can be left open in background, drag & drop, standard keyboard shortcuts, MagiC, MultiTOS, Selectric and GEMINI support added
- ◆ Footer now available (works just like header, which has several new parameters)
- ◆ Rich-Text-Format support (RTF)

Version	Software	UK-Fee	Status
V1.70e	Kandinsky:	£15	Shareware
V1.10e	Selectric:	£13	Shareware
V1.07e	Two-In-One:	£ 9	Shareware
V4.8	GFA Fluidials	£13	Shareware
V3.3e	Everest:	£ 9	Shareware
V1.521	Egale:	£10	Shareware
V4.7	GSZRZ:	£13	Shareware
V1.25e	OCR	£8-12	Freeware
V27.05.94	ST-Guide	£ 5+	Freeware
V3.5e	Idealist	£13	Shareware
V1.8e	Adresse	£15	Shareware



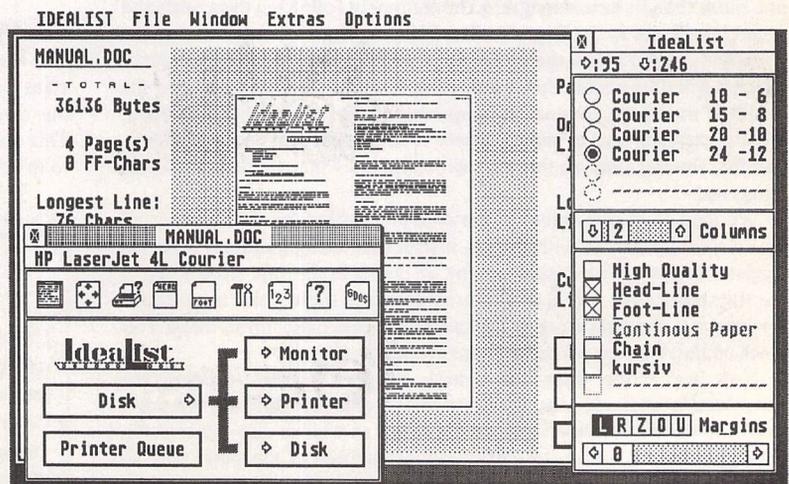
Adresse is an elegant and simple name and address manager which runs as either an application or accessory.

The sporty enhanced GEM interface supports all the latest desirable features including multitasking, colour icons (they're really cute) drag & drop, Atari Clipboard, ST Guide and best of all the XAcc protocol which makes it easy to exchange data with Write On and That's Write amongst others.

I'm currently using it to maintain the Shareware database and it's a definite improvement on Easy-Base which couldn't cope with the plethora of Auto folder and other widgets I have on my system. The Import/Export feature is very flexible and I managed to convert most of my EasyBase data into Adresse without tearing my hair out!

All the action takes place from the main windows illustrated in the screen grab. The smaller 'List window' provides various search tools for quick and easy access to your data and the larger 'Record window' is used to edit, create and display more complete information. Two pop-up 'tags' provide an easy method of sub-dividing records into categories and the birthday pop-up makes sure I don't miss those important annual events! Every heading in the record form can be edited which makes the entire form user-definable. Each field is assigned a fixed token, for example 'Telephone:' (irrespective of what you decide to call it), is always '%TEL'. Using this method it's easy to import/export any desired field(s).

Idealist provides a super environment for handling ASCII, Wordplus and RTF files. Runs as accessory or application and even includes a built-in spooler!



A
D
R
E
S
S
E

The telephone dialer has also taken the hard work out of dialing and even adds my Mercury PIN number which I always forget to add when I dial manually.

[Order FaST disk AP.140]

UK Support and Registration

Adresse is Shareware and may be freely distributed for non-commercial purposes but may NOT be included on magazine cover disks, CD-ROM or other compilations without the author's prior written permission.

- Make a cheque for £15.00 payable to Joe Connor
- Be sure to include your name and address in a legible format as it's used to generate your key.
- Send to: 65 Mill Road, Colchester, Essex, CO4 5LJ, England

Please do NOT send cheques to the FaST club as this causes unnecessary delay and expense. After registration you will be Emailed or posted your personal 'Key' which removes the registered only users features. Registered users can obtain the latest English Version at any time by sending a Stamped Addressed Envelope enclosing a floppy disk to the address above. The author reserves the right to sell the rights to Adresse and to charge an upgrade fee for future versions, although neither eventuality is planned!

PD and Shareware Update

Version 14.6 ~ August 1994

Premier Range Disks:

Disks in this update with two-letter prefixes cost £1.25 each (£1.00 to subscribers).

Standard Range Disks:

Disks with a three-letter prefix cost £2.75 each (£2.00 to subscribers)

Applications

AP.200: The comprehensive stats and graphing package **B\STAT** has been updated to version 2.471 and now includes a large screen TT version.

Clip Art

AM.180 and **AM.181:** The files on these two disks have been re-arranged into a logical order and there is now a comprehensive list of all of the pictures.

FaST Club Disk Mags

DM.41: May 1994:

3D_EYES - Computerized 3D Effect Stereogram 'pictures'.

ALBION17 - File utility to set Fatbits, rename files with extended characters, and totally delete files.

ALTHELP - Displays free memory, toggles disk verify flag, toggles video sync frequency, and cold start the machine with Alt-Help key combinations.

ARTWEIRD - Adds a little artificial weirdness to your text files.

BFRD_10 - Bootsectors, FATs and Root Directory backup and restore.

COPY_MUL - Multitasking disk copier—two drives very highly recommended!

DICE - No room on your desk to throw a die?

FCLK_114 - Desktop clock.

FLOP_FIX - Floppy drive patches for TOS 2.06+

FONTLIST - Lists all Calamus fonts in a directory.

FONTUTIL - Creates new variants of Calamus fonts - this demo version is limited to generating bold and compressed fonts.

GEN_GDOS - Displays and prints GDOS fonts.

GOOD - Hard disk backup package.

HOURLGLAS - Changes the busy bee mouse cursor into an hourglass. (M)

KBD_BELL - Replacement

keyboard bong for TOS 1.6+.

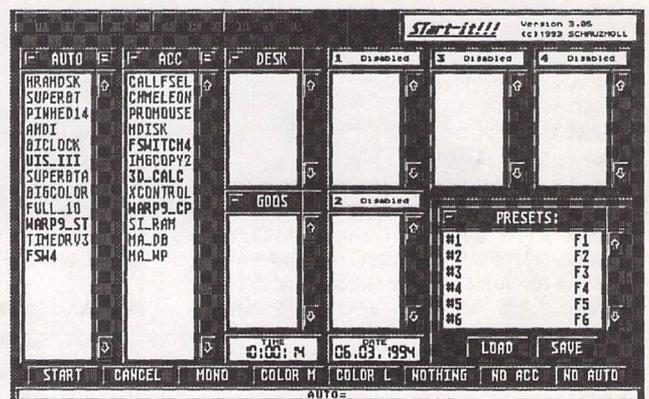
LPS123 - Plays long sound samples.

MAGIC - 'convert' your colour monitor to give amber or green screen displays.

MIDI - increases MIDI buffer size.

MODEMT - Modern Testing utility.

OHNO! - Lemmings sound effects when reset button is pressed; STE+ only.



Artificial Weirdness Generator - Virgin 4.0

by George Pope
86-38-93

Hello and welcome to the world of artificial weirdness! Yes, now you and your loved ones can witness the latest technological breakthrough in the quest to simulate the intricate workings of the human brain. And here's how...

I. What it does

This program takes a large text file, analyses it, and spits out a hilarious/grotesque/just-plain-stupid parody of it. Note that whenever I write 'large text file' I mean something larger than a page of text, but not more than about 20K for the 4 Meg version of the program (10K for the 1 Meg version). The text file should be something like a letter, academic paper, story, or list of instructions.

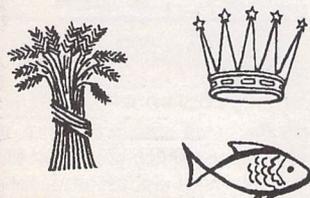
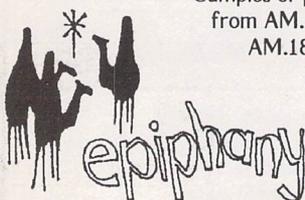
II. Getting to know it

I have provided a very short text file that I was using -None-

Above: A boot-up utility on Disk Mag DM.41.

Left: Also from DM.41, 'Artweird' adds a little artificial weirdness to your text files.

Samples of pictures from AM.180 & AM.181



OTHELLO - the game.

PFORUM42 - listing from Programmers' Forum.

POWERDOS - GEMDOS replacement.

RESET - Plays music and displays a picture when reset button is pressed.

SHBUF13 - Increases New-desk.Inf buffer.

SNATCHER - grabs screens.

SPEECH - C and GFA routines for using the SPEECH.PRG module.

START_IT - 'Set up at boot up' utility.

STSF27A - Fixes STOS programs to work on your version of TOS.

TOS4_FIX - CodeHead utility to undo the GEMDOS changes in TOS 4.

DM.42: July 1994:

BACKDROP - Install a picture as wallpaper for your desktop.

EGAL126E - The ideal tool for easy file comparison.

GIP - image processor.

HOWFAST - quantify hard drive performance.

HPCHROME - prints pictures in colour on HP DeskJet printers.

KOBOLD - Demo version of this fast file manager.

MEMWATCH - ACC/PRG to monitor free RAM status.

MLT_SHEN - accessory that records everything sent to printer, RS232, midi, console, and either diverts the data to another device or replays it repeatedly.

MNILU - latest version of this compiler for GFA Basic v2.

OCR125 - Optical Character Recognition package.

ONE_JACK - Program launcher.

SPEEDOM - Speed gauge for use with multi-tasking OS's.

WATCH - keeps a pair of eyes on your mouse pointer.

Graphic Fonts

GRA.195 to GRA.197: Three disks of multi-colour fonts in Degas format picture files. Ideal for use in your own programs, for incorporating into paint programs, and despite their low (screen) resolution they could also find some applications in (colour) DTP applications. Over 110 fonts on these three disks. Originally

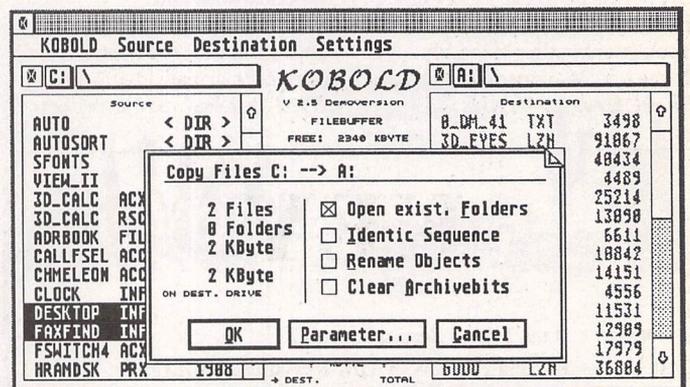
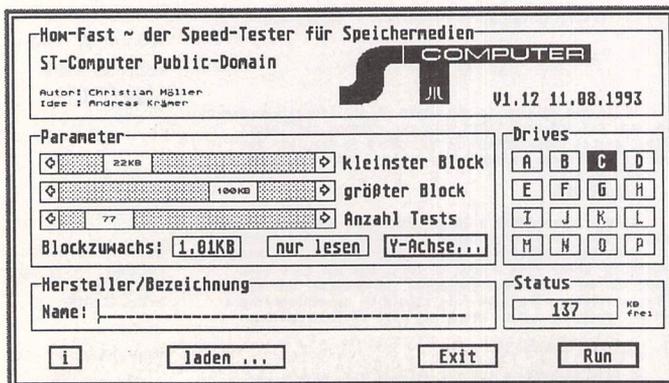
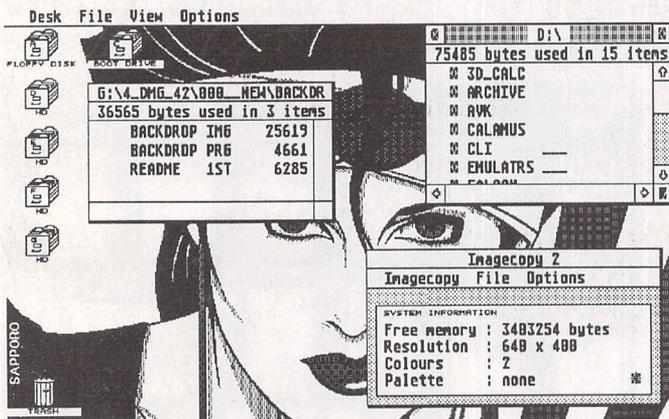
JPEG Picture Disks

PJPG-01: JPEG Picture Collection Pack #1.

Price: £8.95

Pictures on these disks are textures, backgrounds and patterns especially suitable for use as backgrounds in ray traced pictures, as desktop wallpaper (tablecloths surely?), or as backdrops in colour DTP applications. This pack comprises ten disks of JPEG files plus a collection of viewer programs.

The picture files are: Rain Cloud Cluster, White Peaked Cloud, Blue Sky, Cloud Profile, Pebbled Cloud Blanket, Icy Reflections, Gold Satiny Water, Lake Ripples, Silver Satin, Gold Satin, Gold Satin Folds, Grey Satin Folds, Gold Mesh, Yellow Fur, White and Chestnut Fur, Silver and Grey Filaments, Red Brick Closeup, Medium Red Brick, Used Brick Wall, Red Brick Small, Red Brick Very Small, HoneyComb, Rock Slabs, Recessed Pattern, Metallic Geodesic Dome, Sand Dollar and Coloured Stones, Pits and Shadows, Shadowed Pits Closeup, Black and White Whorls, Wet sand Patterns, Frost on rounded rocks, Rocks Through Water, Shadow Lines on shore, Sandstone Shadows, Patterned Red Glass, Blue and White Glacial Ice, Ice Crystals, Ice Crystals Closeup, Furry Frosted Rock Closeup, Steel Ornamental Tracery, Long Frost Crystals, Grey Rock Texture, Grey Seamed and Fractured Rock, Coloured Marbles, Metallic Marbles on red background, Metalic Marbles Close-up, Wooden Balls, Detail Cut Purple Cabbage, Red Leather Patchwork, Yellow and Black Feathers, Green and Red Marbling, Red Paint Pubbles on blue Background, Purple Spheres, Green Frothy Whirlpool, Water Pattern in wet sand, Mud Deposits, Sand Impressions, Waterline in smooth sand, Wavy sand, Animal Tracks in sand, Golf Tees, Gold Balls, Spools of Thread, Feather Closeup, Patterned sand, Sand Patterns, Grass in sand, Big ripples from little shells, Red Tree Bark, Vertical Patterned Tree Bank, Birch Tree Bark, Fragmented Rock, Gray Board Fence, Tree Cross Section, Bleached Driftwood W/Shadows, Bleached Driftwood Whorl, Broken Rock Layers, Whorled Wood, Brown Weathered Wood, Bleached Driftwood Log, Purple and White Flowers, Lake Grass W/Sun Highlights, Bright Pink Cineraria, Red Leaves on Stones, Fallens Leaves on Water, Raindrops on Veined Leaf, Red Rose W/Dew, Pink Flower Cluster, Snowy Forest, Autumn Leaves on Gravel, Orange Autumn Leaves on Branch, Brown Leaf Closeup, Leaf Frozen in Water, Underwater Leaves, Surf Waves, Orange and White Lichen, Feather Arrangement, Tumbleweed, Black and White Coffee Mugs Rims, Clustered Coffee Mugs, Turquoise Coffee Mugs.



Left and above: Three of the offerings from Disk Mag DM.42. In clockwise order from top left: *Backdrop* (installs a picture as 'wallpaper' for your desktop), *Kobold* (a demo version of this fast file manager), and *Howfast* (quantifies your hard disk performance).

compiled as ZUUL Megafonts Disks 9 and 10; and Bizonia Fonts Disks A, B, and D.

Pack Price: All three disks are available as a pack.

Order code: PGRF.01; cost: £3.75 (£2.95 to subscribers).

GR.205: Kadinsky 1.70e Updated Disk - see Shareware Column issue 43 for details of new features.

GRA.198: HAPPY PAINT v1.2e - comprehensive easy to use mono paint program. Particularly good at generating graduating greyscales. Can load ASCII text for inclusion in pictures; text can use (converted) Signum fonts. Supports Degas PI3 and PAC picture file formats as well as its own PAK format. English version of a German package. (M)

GRA.199: PAINTSHOP Plus v2.03 - another great Shareware art package from Germany. Loads Degas, NEO, Art Director, IMG, STAD, Doodle and Atari Clipboard formats and saves in PIC format. Has all of the usual tools and effects plus a couple of fancy ones including bend and cylinder. Best feature is a macro language that allows drawing functions to be linked together in a program that can be run within the paint package. Supports GDOS and Signum bit-mapped fonts as well as Borland's BGI vector fonts which can be scaled and slanted. Falcon compatible and comes with printer drivers for 9-pin, 24-pin, HP and Atari SLM printers. (M)

GRA.200: Movie Player - the Brainstorm FLI/FLC Player. ACC to load and play FLI or FLC animation file from the PC packages AutoDesk Animator and AutoDesk Animator Pro. Runs in any resolution on the ST, TT or Falcon. A fast package that displays animations smoothly. Three sample animations supplied: Mouse, Links, and Hand.

Music

MUS.105: Noisetracker Samples: 90 sound samples for use with any NoiseTracker.

MUS.106: Noisetracker Samples: another 88.

MUS.107: Sound Samples. 52 sound samples, most of them usable for incorporating in your own games. Samples include: Aliens, Explosions, Machines, Warnings and Weapons. Player program included.

MUS.108: Sound Samples. Another 25 samples; includes: Screams, Laughs, Thunder, Wolves, and Sawing off of legs (humph)... Player program included.

MUS.109: Sound Samples. Seven long samples: Applause, Burps, Explosion, Bath, Radio, Raspberry, and Twangs.

MUS.110: Crapy Instruments Disk 1: over 60 instrument samples in .SPL format for use with Noisetracker, TCB Tracker, Digi-Composer or similar.

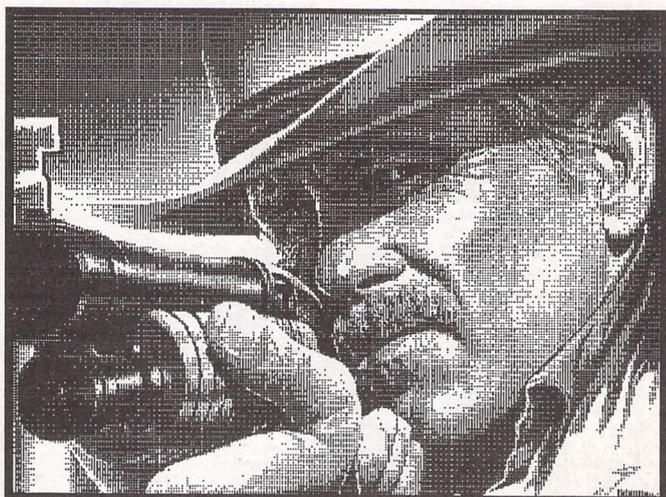
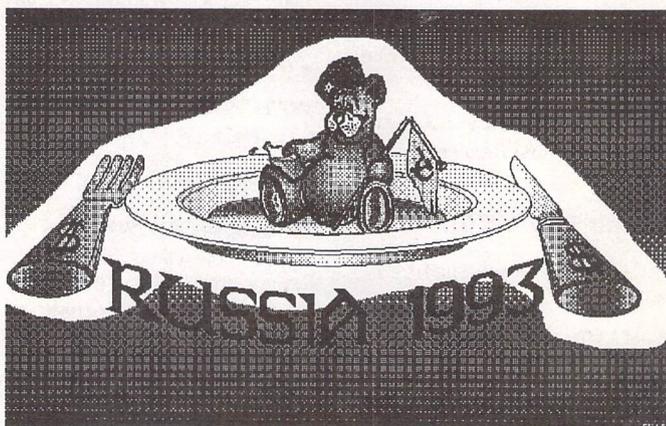
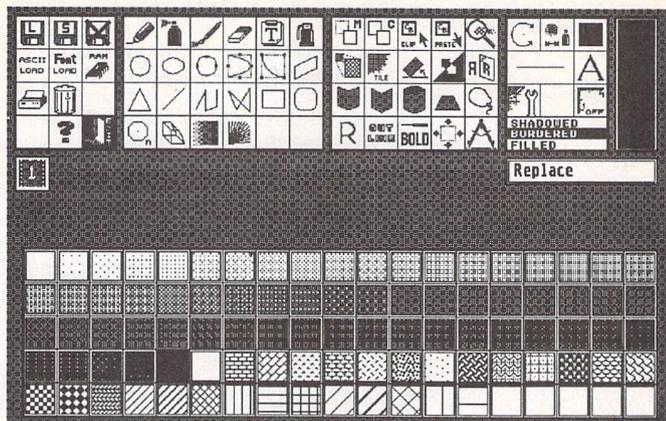
MUS.111: Crapy Instruments Disk 2: another disk of 60 instrument samples.

MUS.112: Crapy Percussion Disk 1: over 100 percussion samples in .SPL format, plus Equinox, Noisplay and Fusion player programs.

MUS.113: SOUND MACHINE V2.0 - excellent sampling-sequencer from Tommy Software in Germany. Also on this disk: file compressor, a music file converter and BEAT MACHINE - a rhythm generator program.

Programming

LAN.179: Atari ST/TT implementation of a Fortran-to-C compiler originally developed by AT&T Bell. Best used with a copy



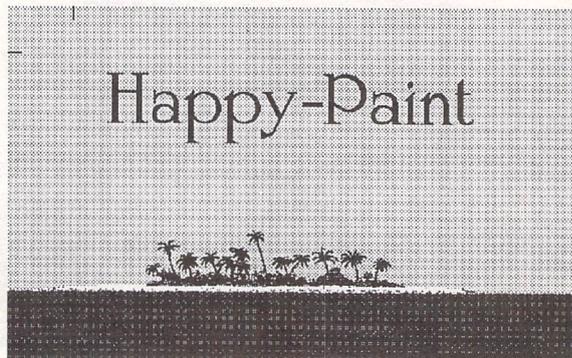
Happy Paint v1.2e

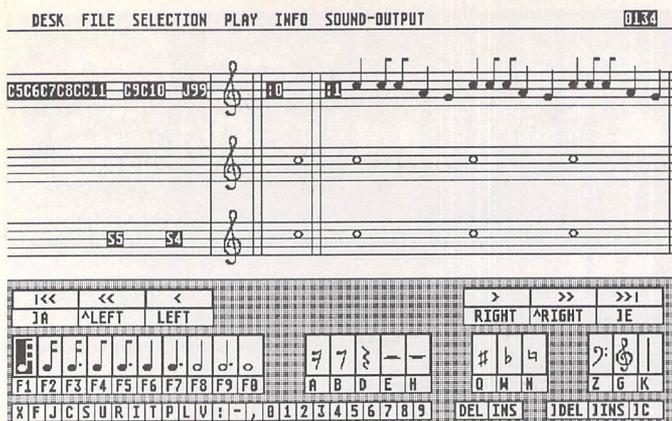
- a comprehensive and easy to use mono paint program

KEY

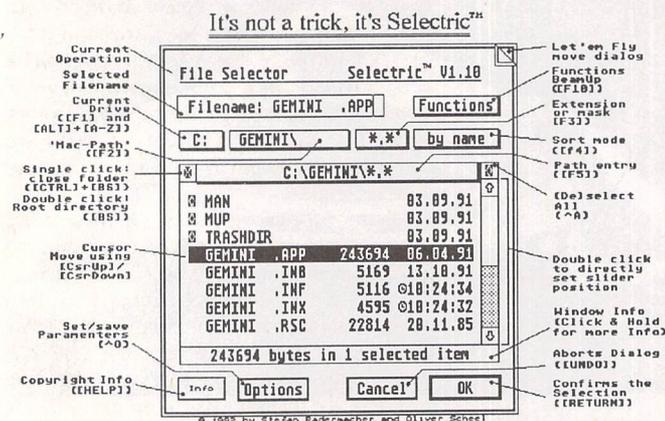
(M) Runs in high Resolution only.
 (C) Runs in Medium or Low Resolution Colour only.
 (1Meg) Needs at least one megabyte of RAM.

Disks with a three-letter prefix cost £2.75 each (£2 to ST Applications subscribers). Disks with a two-letter prefix cost £1.25 each (£1.00 to subscribers).



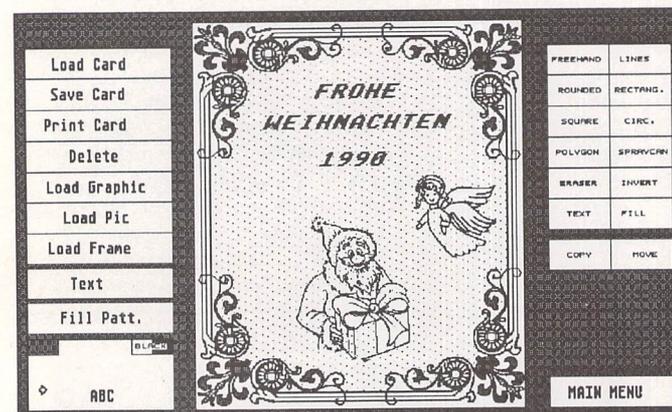
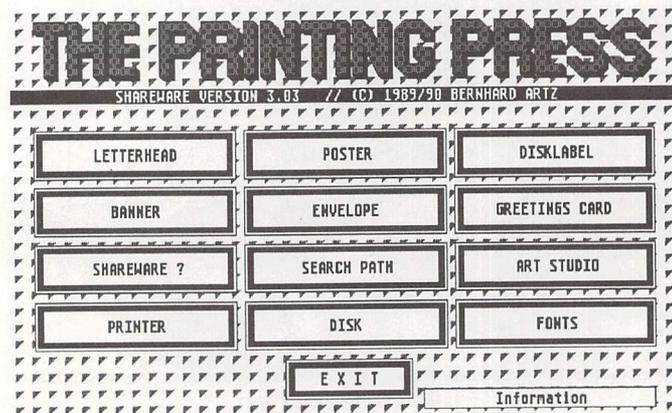


Above: 'Sound Machine' v2.0 on MUS.113



Above: The replacement file selector 'Selectric' on UT.380

Below: 'Printing Press' on WP.600



of GNU C and requires a hard disk and 2MB RAM.

Utilities

UT.331: Now includes the file comparison package 'Egale'.

UT.350: Now includes 'Let em Fly'.

UT.380: Now includes the replacement file selector 'Selectric' version 1.10e.

UT.504: TWO-IN-ONE v1.07e: This disk has been upgraded. See Shareware Column on page 32 for details of new features. This disk now crams in the compression utilities for use with Two-in-one (were on UT1.324): ARC 6.02, LHarc 3.10, PFX Pack 1.1, SFX LHarc 1.2, ST ZIP 2.6, unARJ

2.41, UUENCODE, VD Quick 095, and Zoo 2.10.

WP and DTP

WP.154: Everest 3.3e: This disk has been upgraded. See Shareware Column on page 32 for details of new features.

WP.204: Word Processing Utilities #4: Now includes OCR 1.25e.

WP.251: Idealist 3.5. This disk has been upgraded. See Shareware Column on page 32 for details of new features.

WP.600: DTP Packages: This Disk now includes Printing Press, a simple but useful 'DTP' package for creating letterheads, greeting cards, disk labels, etc. (M:ME)

Disk Codes

We now carry four ranges of PD and Shareware Disks:

Premier Disks (AB.123 - £1.25 ea.)

These disks contain the best and most popular titles that we have. For maximum value for money many of the files on these disks are compressed. Uncompressing the files is simple - we use the same methods as some magazine Cover Disks and our Disk Mags. Full instructions on unpacking the files is supplied with your disks. Files which are not compressed are given a Ready-to-Run legend (RR) at the end of the disk description.

Premier Disks have disk codes made up with two letter followed by three digits (AB.123). Because copies of these disks are kept in stock your order will despatched the same day and these disks cost just £1.25 each. (£1 each to ST Applications subscribers.)

Standard Disks (ABC.123 - £2.75 ea.)

The full range of disks from our catalogues up to v13 are now designated Standard Disks. The disk codes for these disks are made up with three letters followed by two or three digits (ABC.123). Because these disks are now copied to order you need to allow five working days for us to send out your order and these disks now cost £2.75 each (£2.00 to ST Applications subscribers).

Licenseware Disks (LCW.123 - £2.75 ea.)

These disks are semi-commercial products (see What is PD Software box) and we pay royalties to the authors of the programs on these disks. Licenseware disks have the disk code prefixes GBU, GBD, BPR, and LCW. These disks cost £2.75 each and are they are kept in stock so that we can offer a same-day despatch on orders for them.

ST Computer Disks (STC - £2.75 ea.)

These disks are compiled by the German ST magazine ST Computer. They have the disk code prefixes STC and are copied to order for a 5-day delivery on your order. Disks cost £2.75 each (£2 each to ST Applications subscribers.)

Catalogues

Version 14 of our printed catalogue describes all of the disks in our Premier range and the more popular disks in the Licenseware range. The disks in our Standard, Licenseware and ST Computer ranges are described in two disk based catalogues, C.01 and C.02, which cost £0.75 each.

Updates to all three catalogues are printed first in ST Applications.

Graphics Arts

Paul Keller

TECHNIQUE – Perspective

Perspective is a very important subject if some form of realism is to be obtained in our picture creations. It is the art of drawing on a flat surface, such as our computer screens, to give the effect of solidity and relative distance and size to what we are trying to recreate.

It may be found that careful planning on a piece of paper using the rules and ideas discussed herein will first be necessary, before starting to draw with any computer art packages. You would be surprised how much time can be saved by careful planning and the deeper understanding of perspective which can be gained from drawing on paper in a rough outline before using the computer.

With relation to computer graphics two approaches can be made to perspective, both of which have their advantages and disadvantages inherent in them.

Bitmap Graphics

Bitmap drawings, such as those created with art packages like Deluxe Paint or Degas Elite, offer a much more conventional way of drawing images with perspective. By this I mean that any picture drawn tends to be more or less static with what you can actually do with it in regards to perspective. This means careful planning of any or all perspective lines created before the outset of any actual drawing. Use of the K-line function can prove invaluable and aid greatly in the planning of any actual angles created on the computer by this method.

Ray-tracing

Ray-traced pictures offer a greater scope for experimentation when working with perspective. The great thing is that the computer will work out most of the complex calculations for you! A large amount of differing perspectives can be created from just one picture, producing a more versatile way of working with 3D pictures. The downside is that generally anything which is sophisticated will take many hours for the computer to calculate and produce as a final image. The time taken will depend on many factors, a time of between one hour for a programme like 'GFA Raytrace' to anything like twelve hours plus for programmes using more complex calculations such as 'POV'. It must be said that for really professional use the ST(E) on its own without a graphics board and maths co-processor or faster central proces-

sor, something like a speed of 32MHZ, is not up to the task of this computer-intensive type of creation. You would need something much more like the Falcon with its much faster processor, higher resolution and greater range of colours. However as a beginning point the ST(E) certainly does offer some insights into the problems and solutions of working with perspective in ray-tracing programmes.

There is a great wealth of quality ray-tracing programmes to be found in the public domain libraries and these offer a good starting point for any would-be enthusiasts.

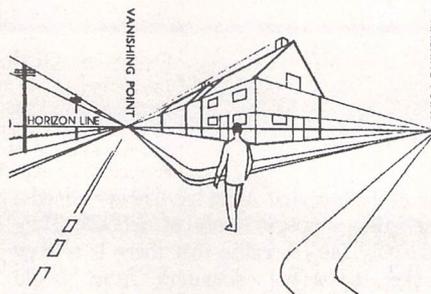


Fig. 1: Horizon Line

In perspective drawings the 'horizon line' is that part of the picture to which the 'eye level' is at. If you look at the example Fig 1. you can see the man in the road may look to the left or right but that his eyes will still remain on the 'horizon line'. A simple rule when using the horizon is to remember that all lines below the horizon recede upwards to it, while all lines above the horizon recede downwards. The end effect is three dimensional and gives the impression of distance created.

Where these lines converge on the 'horizon line' we have our 'vanishing point'. In this picture we have two vanishing points presented, adding to the depth and interest.

When there is no 'horizon line' present we still have to remember the 'eye level', this effectively taking the place of the 'horizon line'. Such cases where a 'horizon line' might not be used is close up pictures of objects. Foreground pictures rely on their own inherent perspective and very often a 'horizon line' is not needed because of this.

Many shapes take on a very different outlook as they are viewed from their vary-

ing distances from the 'horizon line' or eye level. A good case in point is circular objects. Take for example a simple bowl. When viewed exactly at 'eye level' the round top becomes a straight line. When such a bowl is viewed from a view point below the level of your eye it becomes an ellipse, when looking up we lose this ellipse of the top view and instead see the ellipse at the base of the bowl (if it has one).

Some further examples worth a study are giant factory chimneys and skyscrapers. If you stand near the base of such a construction and look up you will see the way the building seems to get smaller the higher you look up. This is especially the case with large factory chimneys that you could be mistaken for thinking that they are actually built that way!

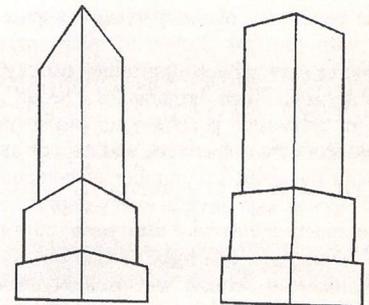


Fig. 2 and 3: Pillar

Exaggeration

A problem with some perspectives found in very tall subjects such as skyscrapers can be the exaggeration of perspective. This problem arises as you gaze up, raising your head so creating a higher horizon line than the true one. To counteract this you need to reduce the sharp angles as found in example Fig.2. to that of something like Fig.3.

This is also a problem with photographs. It is advised NOT to copy a photograph in this situation but instead to refer to it for detail only. However, it can be useful sometimes to purposely exaggerate the perspective. This will certainly make a picture look more interesting.

Classroom Computing

A look at the benefits gained by both teachers and pupils when they use Atari computers in schools.

Matthew Townsend

Part One: Why Use Ataris in Schools?

In the Beginning...

The history of school computers started back in the days of the 8-bit machines when a few schools equipped themselves with a lone Vic 20 or PET. As you can imagine, these were very popular with the pupils, as well as the teachers. Pupils enjoyed the introduction of a bit of novelty to their lessons, while teachers enjoyed the benefits of a new teaching aid and a great incentive to encourage students to finish their work. "You may use the computer when you've finished your work" were the words many teachers spoke at least once, especially in primary schools.

The popularity of these school computers, along with the fast decline in micro prices, resulted in most schools upgrading, usually to BBC micros and then Archimedes. Encouragement for schools to purchase computers then arrived from many quarters, and a lot of hype was built up about the number of computers schools would soon have in every department. While much investment has been put into school computing, this hype turned out to be merely dreams. Schools will probably never have the walls of all classrooms lined with computers as once promised.

One reason for schools not being as well equipped as expected is that computers are currently evolving faster than schools can get hold of money to upgrade, so that the schools are always left two steps behind. Some schools even use Archimedes still, and the aged BBCs are used in some circumstances. More often than not, these machines are left to rot in the corner of a store cupboard. Their replacements have mainly been in the shape of IBM PC compatibles, often the RM Nimbus. Even more recently Apple Macintosh have made their mark in the classroom. Their superior GUI has made them more popular, with both teachers and pupils, than their PC counterparts.

Atari in Schools

There is very little to write about Atari's role in educational computing so far. The occasional school owns a few STs and some schools did buy Atari 8-bit machines, but Atari have made very little real impact in schools. This is mainly

Welcome to the first part of a regular feature of ST Applications. Every month I will look at how schools can benefit from using Atari's range of computers to perform a wide range of tasks. Currently most schools use expensive RM Nimbus or Apple Macintosh machines, but inexpensive ST's can normally be used to perform all the same functions.

due to the fact that Atari have never aimed a marketing strategy solely at schools. They seemingly fail to realise that there is a large market for school computers. Atari should start showing schools how they can benefit from buying hardware with Atari's label on it. This is what Archimedes and RM Nimbus have done in the past, and there's no reason why Atari couldn't do the same with equal, if not greater, success. If the TT and Mega STE were marketed to schools in this way they may have had much longer lifetimes with much larger sales. We'll never know.

Uses for School Computers

School computers have many uses. I would break these uses up into four main categories, all of which this series will cover in due course:

1 - Teaching

Although I would not recommend that schools replace teachers totally with computers, I do feel that they are, when used with the wide

range of PD and commercial software, very good teaching tools. Their interactivity offers something that textbooks will never offer. Pupils would much prefer to have a lesson where they 'play' on a computer to a lesson where they are sitting at their desk copying sums from the blackboard.

2 - Presentation and Data Collation

Before the computer revolution, pupils had no choice but to handwrite or typewrite essays, and other pieces of work. This is no longer the case. Now pupils can word-process their work on computers, resulting in great improvements in presentation. Also computers can be used to collate data for use in these essays, using databases and spreadsheets. There are also data collection devices available, such as the Met 2 satellite receiver and modems. Also, using one of the newer word-processors, various graphics including flow diagrams and graphs can be incorporated into the otherwise aesthetically unappealing essays.

3 - Computer Experience

Because most jobs now involve the use of computers, it is only natural that schools should teach pupils about using computers and give them hands-on experience. This is where Atari computers may appear to have their biggest downfall when used in schools. The computers used outside of schools are generally PCs and Macs, so most schools want to give pupils experience in using PC and Mac hardware and

I would recommend to anyone interested in using STs in a school environment to read David Waller's article in issue no. 8 of ST Applications. He gives a very good description of how he battled to put STs into his Essex school.

software. I feel that schools who take this approach have got totally the wrong idea.

It's much more important that students know the machine independent basics, and how to touch type, than the ins and outs of software that will be replaced within a few years. It is highly unlikely that the school will be able to offer exactly the same software that all places of employment use anyway; in fact, it's impossible.

4 - The Running of the School

As with the running of a business, the running of a school is made much easier with the use of computers. Timetables can be planned with much greater ease. Letters to parents and notices around the school look much better when produced on a computer. Even reports can be made more readable. This is especially useful when you have to write reports for all your pupils within a couple of weeks and don't want to get hand cramp.

Spending Techniques

Many schools seem to have a very strange idea about how to go about buying a computer. Most seem to look at how much money they have available and then buy the best computer they can possibly afford. This results in a massive waste of money. To be more cost efficient schools need to take a totally different approach to buying. Firstly the school should look at what the computer is needed for, and then aim to spend the minimum possible on a computer that satisfies these needs.

The various Atari computers are very capable machines when it comes to performing various functions. They are also very cost efficient. Often a mini network of STs can be bought for the same price as a good PC or Macintosh. Also Atari have built all their com-

puters to be easily upgradable, ensuring that when more power is required a new computer usually won't be needed.

User Friendliness

If you're really looking for a reason for schools to buy STs, then it has to be user friendliness. Let's face it, PCs aren't the easiest machines to get to grips with. Sure, some PC programs have excellent user interfaces and Windows is a decent enough shell, but the horrific DOS will always be lurking under that attractive desktop somewhere, just waiting to attack you with confusing commands that take years to learn. Mostly, students and teachers don't need over-featured computers, they need to be able to produce various artifacts quickly, to meet the ever nearing deadlines that loom over everyone's heads. For maximum usability a school should, in my opinion, use Ataris or Macs. PCs are too clumsy and slow; they were never designed to be user-friendly.

Compatibility

Many schools are probably worried that, by purchasing Ataris, they would lose file compatibility with their existing PC network. This doesn't have to be the case. While Ataris and PCs can't be included on the same network a null modem cable can be used for file transfer, and PC formatted discs can be interchanged easily between the two formats anyway. Many ST programs can create files in formats compatible with PCs or file converters can also be used.

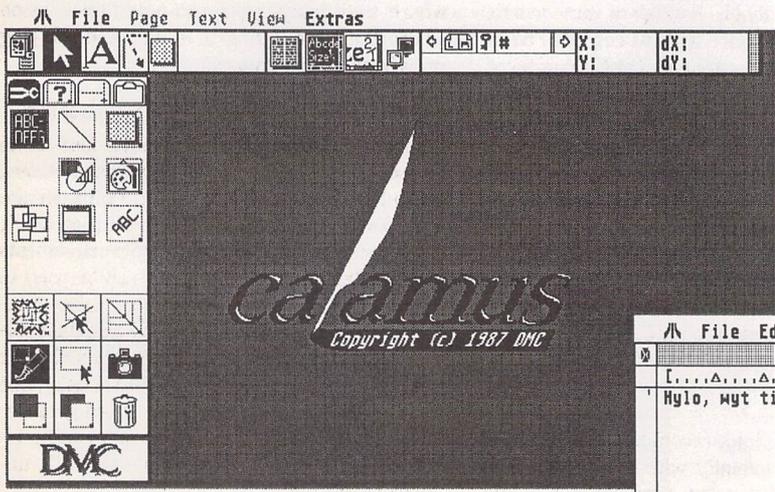
When it comes to Mac data, it's still normally fairly easy to interchange various sorts of files. Macs can transfer files onto PC discs using one of several utilities. Failing this, STs can read Mac format discs when used in conjunction with the Spectre GCR emulator, that is

available at a very good price if you shop around.

Some hardware can also be salvaged from an ancient PC or Mac network that is being replaced. Printers that use Centronics ports plug straight into the back of any ST, and can normally be used with only a few DIP switch alterations and a little configuring of your software. Bare SCSI hard drives can be re-housed and linked to an ST with an adaptor, or to a Falcon using a simple cable that is now widely available. Even some monitors may be re-cyclable. (See Paul Rossiter's article in issue 40 for more details.)

So, what's to stop schools from buying Atari? Very little as far as I can see. The only other reason that schools may be slightly wary about buying Atari is that nobody knows what situation Atari are going to be in in a few years' time. They could just be manufacturing consoles, or they could even be out of business completely, but I doubt it. At the end of the day technology is moving very quickly - blink and you might miss an era. Whichever computers schools buy now will be out of date in a few years' time and even 486 PCs will be unsupported eventually, as software and hardware manufacturers move to supporting better mechanical beings. Whichever computer your school buys now, eventually you'll end up with a dinosaur in the classroom anyway.

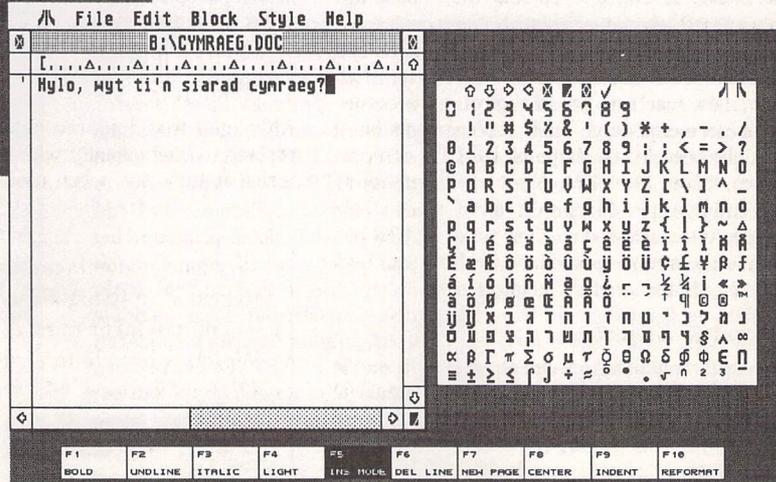
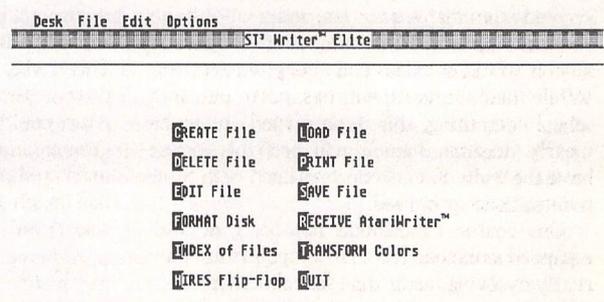
Join me next month when I will be taking a look at school newsletters.



Above: CALAMUS - With professional software such as Calamus available for the ST, why fork out for a PC?

Right: FIRST WORD - Schools can save loads of money by using the wide range of PD available for Atari computers, such as the once commercial First Word.

Above right: ST WRITER - ST Writer is a great example of the free, yet fully functional and professional software that schools can use on the range of Atari computers.



Beginners' Forum

Mark Baines

Setting Up Super Boot

I've had several letters recently where the writer has had problems dealing with the multitude of possibilities when booting up their computer. Which of all the AUTO folder programs or accessories should they load? How do I make another particular DESKTOP/NEWDESK.INF file the default file without losing the current file? How do I make sure that the correct GDOS ASSIGN.SYS file is available where I have different ones for different programs?

The answer to these questions is simple: get a boot manager program and wonder how you ever coped without it! A boot manager program loads up when you first switch on and helps you select which files are to be active and available to the system. Much of it can be automated and configured so that all you have to do is press a single key to get the ideal system setup for a particular application or situation.

The alternative is to boot up with whatever setup you last had and mess around renaming and copying files and then reboot again. On a floppy disk only system this may not be so bad, as you can easily set up various boot up disks to suit the situation you want. On a hard disk system with all your files in one place it can be really troublesome and a boot manager is imperative. I covered much of this ground in another article on Boot Disks in issue 32. However, since then I've had several requests to cover the setting up of a boot manager, in particular Super Boot, the most popular and powerful one available.

Setting up Super Boot v8.1

Super Boot has three programs. SUPERBT.PRG should be the first program in the AUTO folder and SUPERBTA.PRG the last. If you don't use a Desktop replacement program such as NeoDesk that allows files to be reordered in a folder then you will need AUTOSORT.PRG. Do note that the 'order' referred to is that in which the files appear on disk and not anything to do with the file's date, name, type or when they were placed on the disk.

In the AUTO folder, make another folder called SUPERBT. Put in this directory all your various DESKTOP/NEWDESK.INF files and ASSIGN.SYS files that you are going to get Super Boot to select from at boot up. Also to be included here are any other multiple variations of program configuration files that you often want to choose from depending on the setup required. For instance, you may have a RAM disk program in the AUTO folder that takes its size from a configuration file. This file may also contain a list of files to copy over into it at boot up. You may have need for different configuration files, say, different RAM disk sizes when doing DTP where you want to copy some font files into the RAM disk, or when doing programming you might want the compiler and linker copied over and the RAM disk smaller. All these multiple configuration files are also placed in the SUPERBT folder. You can name them anything you like but Super Boot will display these names for you to select from so make them recognisable.

The file extender is most important though. In this folder, you can only have one set of files with the same filename extender. So, if you have several DESKTOP/NEWDESK.INF files, you can't have any other group of .INF files as Super Boot will get confused. The answer to this is to have another folder for these files. I have a NEODESK folder within the SUPERBT folder in the AUTO folder (!) containing my different NEODESK.INF, NOT and BAT files that NeoDesk uses for my various setups. You will tell Super Boot where these files are so there is no problem about multiple folders.

Now load up the SUPER_CS.PRG configuration program. You will get a dialog with various buttons. I will go through the important ones here and those items where the meaning may not be apparent.

Specify Disk Drives: The disk drive containing your AUTO folder will usually be A: or C: and the same for the disk where the DESKTOP/NEWDESK.INF file will be placed. Select the search path for your accessories, usually A:*.AC? or C:*.AC?. The '*' is a wildcard meaning any set of characters whilst the '?' means any one character. Active accessories will have the filename extender .ACC of course. Inactive ones will be renamed .ACX and so 'invisible' as accessories to TOS and therefore *.AC? will find all accessory program files with either of these two extenders.

Edit Program Parameters: If unsure about some of these leave them.

Welcome Screen: You can have a picture shown whilst the system boots up, something for floppy disk users to look at whilst the files are being loaded. Hard drive users may find that the picture isn't on screen long enough to

bother with this. Read the Help information for more details about formats. You can choose when and how the picture is displayed and the paths configured at the bottom.

Password Protection: You can prevent unauthorised use of your computer by the use of a password at boot up. Don't put too much faith in this, it can be bypassed very easily.

Program Termination Options: You can choose the colour resolution (ST Low or Medium) to boot up into after Super Boot has finished and whether you keep the colours set in Super Boot or those by the CONTROL panel accessory.

Use Multi-Page Mode: Select 'Yes'. When setting up your Function keys and at boot up, the different sections for AUTO folder, accessories, DESKTOP/NEWDESK.INF files etc. will be shown on separate screens rather than all crammed onto one. If single-page mode is selected you can determine how many columns are used by each section.

Options for bypassing Super Boot: Option D is the most useful - Super Boot always runs except when bypassed by the hot key which is selected at the bottom (CapsLock doesn't conflict with any other software that I know) and aborts if the preset time delay passes. I normally select the File Selection Screen option here. This means that I can boot up and do something else and not have to press a key to tell Super Boot what to do. In this case it will select my default setup automatically.

Method for Autobooting a GEM Program: If you have TOS 1.00 or 1.02 then you will need Start-Gem which comes with Super Boot to have it run a GEM program after Super Boot has finished.

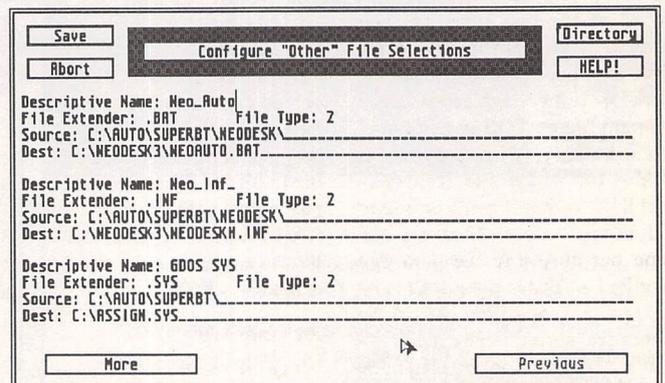


Figure 1. The Configure "Other" File Selection screen showing how to install ASSIGN.SYS files.

Default Autoboot GEM Program: This program will always be run whatever setup you chose - which may be awkward if you want to sometimes boot up with an empty system to test some software. Your Desktop replacement program can go here.

F-Key Only Mode: If on, this will show the 30 F-keys setup names on the screen at start up.

Bypass Delay: This is the number of seconds that you wait at the Welcome screen before it moves on to the File Selection/F-Keys List screen at start up. Five seconds may be enough.

Default F-Keys: This enables your default setup to be run if you don't select anything and the bypass delay has passed. My mono default setup is on the F1 key so I have 01 here.

Digitised Sound: Super Boot can play a sound sample of which there are hundreds available. I have a folder H:\SOUNDS full of sci-fi and old movies samples which Super Boot sequentially plays at cold boot only. Only DigiSound compatible samples work but the SOX PD program will convert other formats to these.

Reboot Delay: I have it set to 0.

Hide Files from Super Boot: You can select some files to be invisible to Super Boot so that they cannot be selected by it or you as they won't appear in the selection screens. This means that they will always be loaded, useful if your system must always have a particular system patch present.

Configure "Other" File Selections

This is where you tell Super Boot how to deal with all your various configuration files in the AUTO/SUPERBT folder. There are two types of files. Type 1 have a specified filename extender located in a source directory and will have an 'X' as the last letter of their name to make them inactive. So, a PRG file becomes PRX and is therefore unrecognisable as a program file by TOS and not loaded. Similarly, if a program is looking for an INF file, it is renamed INX so that it can't be found and used. Type 2 files are the same but only one file with that specified extender is allowed to be active at any one time. All of the others are automatically made inactive by Super Boot by renaming with an 'X'. These are the most common configuration files, as it is rare to want more than one of any type loaded at once.

Figure 1 shows the setup for the GDOS ASSIGN.SYS files. The Descriptive Name will be shown as the title of the selection screen at boot up and F-Keys configuration. The Destination pathname is where the chosen file will be copied to from the source folder and what it will be called. Hence, Super Boot can, if told to do so, copy C:\AUTO\SUPERBT\ASS_TW1.SYX to C:\ASSIGN.SYS ready for GDOS to act on at boot up.

DESKTOP.INF and NEW-DESK.INF files don't need to be included here as they are taken care of separately by Super Boot but do need to be in the AUTO/SUPERBT folder and are copied to the root directory of the disk specified earlier. However, if you have other files with the INF extender they will need to go into a different source folder as mentioned above.

Edit Function Keys

You can have 30 different setups assigned to the Function keys - Normal, Alternate and Control. The currently selected ten are shown on the right of the screen. Click on a Function key button, say Normal F1, and you'll get the first selection screen - the AUTO folder programs. Move the cursor and select which programs you want active in this particular setup by pressing the Space bar. You move to the next selection screen with the Return key where the accessories are selected. Keep pressing the Return key to get to the "Other Files" and the Desktop INF files screens. The Undo key will cancel the whole operation without making any changes. The Esc key will save the selection where you give the setup key a name and can choose a GEM program to automatically load at boot up. Here, you can designate a Desktop replacement or a specific application.

The Edit/Copy/Erase Keys screen can be rather daunting. Any setup on the left of the screen can be copied to any setup key on the right choosing whether the key name is also copied or the destination name is kept. To move key definitions you choose two keys on the right and they will be swapped over. Erasing is similar.

At boot up

When all is done you can reset and Super Boot should start up and display the 30 F-Key names. Press the one you want or press 'F' to get to the selection screens

where you can define an alternative setup 'on-the-fly'. This is ideal if you are having problems with some conflicting AUTO folder programs and you need to boot up adding one at a time to find the culprit. In this case you'll need to press Esc to get Super Boot to carry on with the boot up.

Send me a letter or e-mail with ideas for future articles. Thank you for the letters received so far. Although I can't promise to respond to all personal queries, I'll do my best if a SAE is enclosed. You will also find me on CIX and the NeST, TurboNet and FidoNet BBS networks where this magazine is supported.

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STA support in N.ST.MISC echo
FidoNet: 2:259/29.10
STA support in ATARIST echo
TurboNet: 100:106/0.10
STA support in T.ATARIS echo

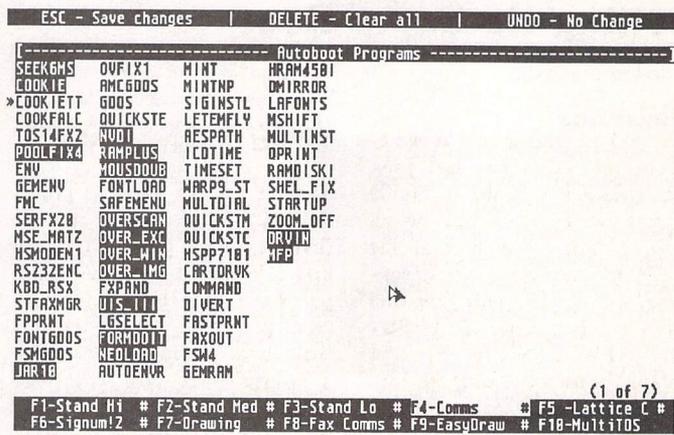


Figure 2. Selecting the AUTO folder programs for the F4 Comms setup. Any number can be selected.

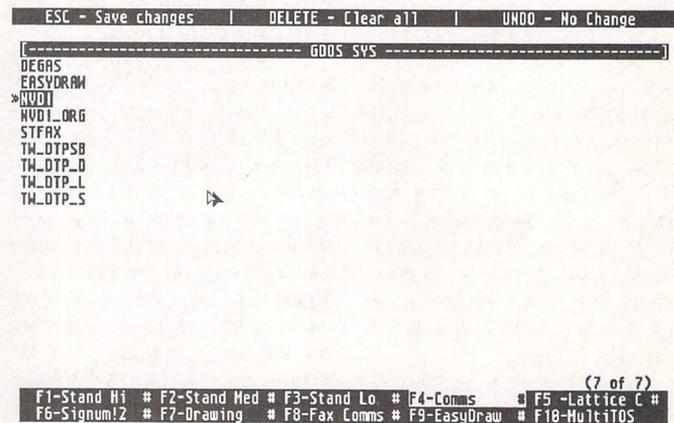


Figure 3. Selecting the relevant GDOS ASSIGN.SYS file for the F4 Comms setup. Only one is allowed to be selected.

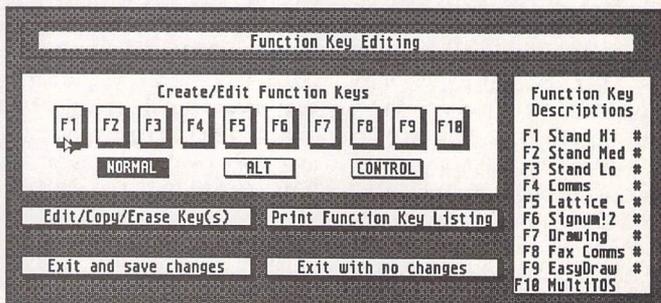


Figure 4. The Function Key Editing screen with the current list of ten F-keys on the right.

Going On-Line

Network News and Usenet

Mark Baines

One of the most interesting areas available to anyone on the Internet is Network News; in fact, without it (and apart from e-mail), the Internet would be a very lonely place with the user confined to communicating with impersonal computers and software.

News Groups will be familiar to anyone who has logged on to a BBS and read the public conferences and echoes there. In fact, many BBSs in the UK are now taking these news groups off the Internet and making them available to BBS users, something unthinkable a year ago.

Questions

So, what are they? Well, what if you wanted to know if it was possible to use a CD-ROM in your ST and what software you needed? Or, where Terry Pratchett got his ideas from for Soul Music? Or, where you can get the latest pictures from the Hubble Space Telescope? Maybe you don't have a question, but just wish to discuss your favourite topic or latest hobby or let off steam. In fact, whatever your interest, however obscure, there will be a discussion group for it somewhere. There are over 8,000 news groups in all and still growing.

One of the advantages of news groups is that you can join one at any time and browse through the messages with a suitable off-line reader to see if it is to your liking. No one knows you are there, 'lurking' until you wish to send a message. If it isn't suitable then you can drop it at any time. Better still is to just download the message headers instead of the whole message and by examining the subject title see if it is likely to be of interest. Then, again with a suitable news reader to help you, you grab just those messages keeping the on-line time down and keeping the news group relevant to your particular needs and interests. You can quite easily set up script files that, when processed, can collect only messages from certain people or not from others, only messages with certain words in the subject line, or messages belonging to discussion 'threads'.

Each message belongs to a thread. When creating a message this starts a new thread and if someone replies to that message they make 'follow-on' postings to that thread. A news reader will allow you to read all those messages belonging to a thread one after another rather than in the order they get received by your host and posted to

you. BBS users trying to follow a single discussion will know how frustrating the lack of threading in BBS software can be.

Usenet

Most news groups come as part of Usenet which originally stood for US Education NETwork but this reference is seldom remembered these days. The Usenet is not a computer network and it does not require the Internet. It actually predates the Internet. In fact, your site can receive Usenet news without being attached to the Internet and you can be in the Internet without taking Usenet news groups. The Usenet is a set of voluntary rules for passing and maintaining news groups, the messages within them and their structure. It is also the volunteers who use and respect those rules. Receive and read messages and you become part of the Usenet.

The Usenet is made up of seven news groups arranged hierarchically with the broadest grouping the first part of their name followed by the subgroupings separated by a 'full stop'. So, the news group *comp.sys.atari.st* belongs to the major *comp*uter science discussion group and the subgroups *sys*tems, *atari* and *st*.

- comp Computer science - anything related to computers
e.g. *comp.sys.atari.st*
- news News network - groups concerned with the news network and software
e.g. *news.newusers.questions*
- rec Recreational - hobbies, arts, any recreational activity
e.g. *rec.music.classical*
- sci Science - sciences and their application
e.g. *sci.bio.evolution*
- soc Social - social issues, politics
e.g. *soc.culture.celtic*
- talk Talk - debate and argue controversial unresolved issues
e.g. *talk.politics.animals*
- misc Miscellaneous - anything else that doesn't fit the above
e.g. *misc.forsale.comp*

Any site can take any number of news groups but is unlikely to take all of them because of the huge

overheads of downloading all those messages every day and storing them. However, Internet providers such as Demon do so. Some systems will also create their own local news groups for their site staff, campus students and subscribers for announcements, events, policy discussion and such like. Sometimes these become so popular that other sites request to take them and they expand becoming transmitted with the regular Usenet news. These Alternative News Groups are not Usenet news groups but since they look like them they are often referred to as the Usenet. The most common alternative news groups are:

- alt Alternative - bizarre and different ways of looking at things
e.g. *alt.fan.pratchett*
 - bionet Biology network
e.g. *bionet.genome.chromosomes*
 - bit Bitnet listserv discussions groups
e.g. *bit.listserv.autism*
 - biz Business - especially announcements not allowed elsewhere
e.g. *biz.books.technical*
 - de News groups in German
e.g. *de.comp.sys.st*
 - fj News groups in Japanese
e.g. *fj.lang.c*
 - gnu Free Software Foundation's GNU project
e.g. *gnu.ghostscript.bug*
- There are many groups for countries or states in the US or universities, such as *uk.org.com-munity*, *us.jobs.offered* or *utexas.class.cs356*.
- Several commercial information services are also distributed via news groups, the biggest example being Clarinet which is the United Press International and various syndicated columns. A server must have a contract with Clarinet to obtain these news groups and they cannot be passed on elsewhere. The news groups are prefixed with *clari.*, such as *clari.news.headlines*.
- ### Atari News Groups
- There are six news groups specific to Atari computers, two of which don't carry messages but files in a special form called an UUENCODEd encrypted file which allows files to appear as text messages.
- comp.sys.atari.st Atari matters not technical
 - comp.sys.atari.st.tech Atari technical matters
 - comp.sys.atari.advocacy Atari informal chat
 - comp.binaries.atari.st Atari programs
 - comp.sources.atari.st Atari source code to programs
 - comp.sys.atari.8bit Atari 8-bit
- E-mail:
Internet:
msbaines@cix.compulink.co.uk
FidoNet: 2:259/29.10@fidonet.org
NeST: 90:105/5@nest.ftn
TurboNet: 100:106/0.10@turbonet.ftn

```

CixRead System Files Conferences Messages Info Search Misc 16:17
-----Cixread 3.4.3-----
*****
comp.sys.atari.st.tech #1821 of 1199, 950 chars, May 25 17:36 94
From: msbaines@cix.compulink.co.uk
-----
Article: 11366 of comp.sys.atari.st.tech
Newsgroups: comp.sys.atari.st.tech
Path: cix.compulink.co.uk!msbaines
From: msbaines@cix.compulink.co.uk ("Mark Baines")
Subject: Re: Falcon Blitter problems
Message-ID: <CqDcxE.G8u@cix.compulink.co.uk>
Organization: Compulink Information exchange
X-Newsreader: CixRead/CixComm
References: <Zromk9doo@dux.dundee.ac.uk> <Zrpscm6849kelly.telreport.com>
Date: Wed, 25 May 1994 17:36:50 GMT

>Since the Falcon BLITTER partially controls the internal IDE
>interface, Atari didn't provide an 'off/on switch' for it --
>I've HEARD it may be possible to disable through some software
>hacking, though.

On the WE line of the MEMDESK.INF file set the third digit to 1 for BLITTER
on and 0 for off.

Regards
Mark
More?]]
    
```

A reply from me to a chap at Dundee University in the comp.sys.atari.st.tech news group.

DESKTOP DISCUSSIONS

Deskbound Dinosaurs

A six week loan of a laptop computer left a profound impression on William Hern. As a result, he can see the writing on the wall for the traditional desktop computer.

Confession time: for many years I've been deeply prejudiced against laptop computers. My cynicism can probably be traced back to one night in September 1989 when I struggled to write a two thousand word summary on the PCW Show while travelling back to Aberdeen on an overnight coach. Typing on the cramped and uncomfortable keyboard, I squinted at the faint characters on the borrowed Toshiba T1000's non-backlit display, all the time hoping that the batteries wouldn't run out before I finished the piece. Ever since then I have been extremely dubious of those who promote the joys of computing while on the move.

I've now had to change my opinion on the subject however. The reason for my conversion? A Macintosh PowerBook laptop computer which was lent to me while I was on the road around North America for six weeks on business. The PowerBook was equipped with an internal modem so that I could log into my workstation every night and read my electronic mail.

I was initially skeptical - could I cope for six weeks with a laptop computer as my only computing resource? Could I do real work on a 'toy' computer?

My expectations were low at the start but by the end of the trip the PowerBook had really impressed me. First of all it is extremely easy to carry around. It's the size of an A4 piece of paper, a little over two inches thick and weighs six pounds. This makes it very comfortable to carry around during the day while moving between meetings. It also fits well into a small carrying case for taking on to a plane as hand luggage.

In spite of its small size, the computing performance has not been noticeably sacrificed. The PowerBook I used packed about the same performance punch as a Falcon, allowing me to use standard Macintosh software rather than cut down versions. The keyboard is comfortable to use and doesn't feel at all cramped. The backlit LCD display is easily legible in almost all lighting conditions. The built-in palm rest makes typing extremely comfortable and reduces the risk of repetitive strain injuries.

My positive impressions of the PowerBook started me thinking about the future of the conventional desktop machine. Whereas in the past, laptops could only play a supporting role in serving a user's computing needs, the new generation of laptop computers, as typified by the PowerBook series, are good enough to act as a user's only computer. Putting it another way, with laptops getting this good why would anyone want to buy a desktop machine?

Laptop computers have numerous advantages over their deskbound counterparts. There's the obvious advantage of not being tied to a power outlet so enabling you to work while travelling. However there are

bonuses even when you are in your own home/office. Personally, I like the idea of being able to write my columns while relaxing in my favourite chair, strategically positioned so that it is in the optimum stereophonic spot for my hi-fi. I couldn't do this easily with a desktop machine.

Laptops have other advantages as well. At a time when people are worrying more and more about the quality of their electricity supply and are buying expensive uninterruptible power supplies to protect their computer equipment, most laptops have a UPS built-in for free. The PowerBook always runs off its battery and so is protected against sudden breaks in the supply.

Another reason why laptop computers are the fastest growing sector of the computing market has been the steady improvement in LCD technology. High quality colour displays, which rival traditional cathode ray tubes in terms of image quality, are falling rapidly in price. Unlike CRTs, LCDs do not suffer from any flicker and so are easier on the eyes. Those who are worried about radiation emissions from CRTs will be glad to hear that LCDs have no such problems.

Up to now, the big advantage that desktop computers have offered is expandability. Laptops have to be small so generally don't have any space within them for adding peripherals. However even that advantage of the desktop is fading. Recent laptop models such as the Macintosh Duo incorporate docking stations which provide expansion slots for additional hardware. On the road the Duo acts as a standard laptop. On return to the office or home, it can be plugged into its dock,

turning it into a powerful and expandable desktop computer. During its development, the Duo was codenamed within Apple as the "Best of Both Worlds". It's easy to see why.

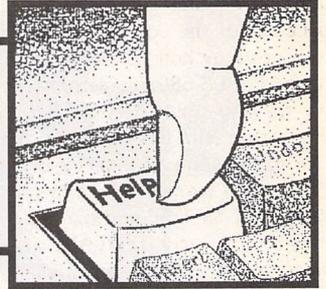
The rise of the portable computer should come as no surprise. The computer is, after all, a servant to us. What use is a servant if it can't be with you? Why should it make you choose where to work? Can a personal computer be regarded as truly personal unless it is capable of being taken anywhere?

I didn't intend this article to be an extended advert for the Apple PowerBooks. Similar technological advances have been made in PC and Unix laptops. The reason I write is to highlight a trend which I believe will eventually result in the near elimination of the traditional desktop computer.

If the rumours are correct and Atari is playing around with the idea of a PowerPC machine then they ought to consider developing it as a laptop. While Atari's track record with producing portable computers is hardly good (the heavy STacy was followed by the rarely seen ST Book and the ST Penpad which didn't even get off the drawing board), neither was Apple's for a while. The Macintosh Portable was heavy and a commercial flop. The company's second attempt, the PowerBook, was much better and has now clocked up over a million sales. If Atari can follow Apple's example and bounce back with a PowerPC laptop then the future will look a lot brighter.

William Hern

FORUM



A Question of Quality

Jane Lucas - Forum STA 43

I Since I happen to work in the quality control section of a mill making Inkjet paper (Gloryjet), a few comments on Jane Lucas's excellent piece:

There will be 1.2 million plus inkjet printers in Europe by 1996, which means the market is growing fast. The main technological problem is indeed 'bleeding', that is the ink spreading out as it soaks into the paper. This is controlled by applying a secret formula coating, which is why specialist Inkjet paper is one sided (well, we'd coat both sides if you wanted but it would cost more). Too little bleeding creates other snags—the ink dries too slowly, especially multiple layers of colour, and the result looks wrong. It doesn't help that, as Jane Lucas has noticed, the inks are different.

HP's Glossy Paper has a 'strange plastic-like feel' because it is—ahem—plastic coated! With polyethylene actually, the same process as is used for photographic paper, which is my company's main product. We make a matt version as well. The price is indeed high but (regretfully from my point of view) I expect it will drop as competition amongst suppliers grows.

A device ST people will probably not have encountered is the Novajet, which is a wider (one metre) printer using HP ink cartridges. We make rolls of paper to run through it, and though naturally slow it produces very pretty posters. Ours is linked to a PC with lots of memory and is perfect for blowups of Photo CD pictures.

Hartley Patterson

Psion/ST File Exchange

Mike Playle - Forum STA 39
John Richards - Forum STA 40
Derryck Croker - Forum STA 40
Mike Playle - Forum STA 43

I Further to Mike Playle's letter in STA 39 and Derryck Croker's letter in STA 40, I would like to say that I have had no problems downloading files from my Psion Series 3a to my Atari ST using the built-in comms program running at 19200 baud, and the X or Y-Modem batch protocols which are built into the 3 link. On my ST I use Harlekin V3 which also has X & Y-Modem batch protocols and seems to accept files perfectly every time.

The problem I have been experiencing is that whilst I can get the Series 3a to receive files from my ST using X-Modem, I cannot get it to accept files (either singly or in batches) using Y-Modem. The Series 3a just reports "Comms.\$10, process exited, exit 27". Maybe someone more comms literate than I am can suggest what I am doing wrong?

Chris Phelps

No Heat Seeker

I I'm grateful for every news item you publish about the amazing Atari Computers, but I think some untruths ought to be revealed.

I've seen news items about the Heat Seeker by R.O.M. in Berlin that interfaces with the

Falcon and the Atari Lasers. I contacted them, ordered their product and mailed my cheque in Jan '94. They were happy to take my cheque. However, in the last five months I've made twenty or more contacts with them by phone, Fax, correspondence and even my representative in Germany, but they have always found some excuse not to ship to us.

I believe the product either does not exist or does not work—and I sure wish they'd return my money.

Thanks for your great magazine, but be careful about what "truths" you publish - others too could lose their money.

Ted Elden
Elden Computers USA

Programming Overload?

I In the past I have had no hesitation in renewing my subscription, but this time it has taken me several weeks to decide. If I tell you the reasons behind this indecision, I hope that you will not think it an unwarranted criticism of ST Applications, but rather the genuine concerns of someone who has for many years subscribed to ST Applications and its predecessor Newsletter, and who is an ardent supporter of The ST Club and all the excellent work you are doing to further the cause of Atari computing.

Although I am certain that you try to maintain a balance of articles in ST Applications, I feel that there has been a definite shift recently towards the more advanced of your readers to the detriment of the less advanced. Also, a shift towards a greater proportion of programming articles, so squeezing out the more general articles which would be of interest to a greater proportion of your readers. This movement appears to be lead by Jon Ellis, whose 'advanced programming' articles are, in my opinion, taking up a disproportionately large part of the magazine. Let me use the latest (June) issue (in which there are eleven pages of programming out of forty five pages of editorial) to illustrate my points.

1) Two pages of the start of a series on GFA Assembler—programming! This begins with "I have to assume a fair understanding of... Assembler, but then you are Applications readers, so that shouldn't be a problem." Does this imply that Mark Butler is of the opinion that any of us who are 'dim' enough to have problems understanding Assembler shouldn't be

The Forum pages are a regular feature of ST Applications, enabling readers to exchange ideas and help each other out with problems. Whilst we attempt to briefly answer questions here, if you have additional information or ideas please do submit them for publication. What you consider to be trivial information can often be of considerable use to other readers!

Please send your letters on disk if possible. Disks will be returned with a PD of the writer's choice. Longer submissions may appear as articles, in which case you will receive payment at our standard page-rate.

Key:

The following codes are used for each Forum entry:

J Pringle - Forum STA 20: Author who first raised the subject, and in which issue.

Q Question

A Answer

I General information or 'Input', advice, discussion, hints and tips, etc., with or without reference to previous Forum pieces.

● Editorial reply

Applications readers?

2) Three pages of a review of "Devpac DSP" by Jon Ellis. To illustrate my point about his apparently leading a crusade to take the magazine out of the comprehension of us average readers, look how he starts the article: "Bored with SIMPLE 680x0 assembly language? Want to try something HARDER?". A few lines further on (and this is in a product review, not the explanation of a piece of complex programming), we get "When the pipelined architecture of the DSP and the 32K words of zero wait state private RAM are taken into account...". I can but ask myself if that statement actually means something. If so, could it not have been written in such a way as to be understood by your average reader of inferior knowledge? Was it written in this way to prove something?

3) Six pages of the mis-named "Programmers' Forum". A more accurate name for this series should, I feel, be "C Programmers' Forum". I get the impression from this series that if anyone writes in with a problem in any language other than 'C', it is treated with a "let's get rid of this CHILDREN'S language as quickly as possible and get back to the PROPER programming language" response.

With the column being entitled "Programmers' Forum", this should signify that it is for all programming problems, and all languages should be treated in the same comprehensive way as 'C' is.

This is a serious suggestion:

If your contributor is not familiar with any other language apart from 'C' (as he appears to have indicated in the past), perhaps he should write his "C Programmers' Forum" either bimonthly or two months in every three, with the other month's programming column being written by other contributors who are familiar with, and can answer questions about, other programming languages.

I am sorry to have to say this, but as the months have passed, I have become more and more convinced that "Programmers' Forum" is inclined towards a band of 'elitist' advanced 'C' programming experts; ones who can show their superiority by the use of esoteric programming jargon. The more incomprehensible it is to others, the more superior it makes them feel. I am well aware that a programming language, as with most things, has its own terminology: but this should be used when communicating with others who understand it, not when writing for a general readership. In my own way, I am probably as keen on computing as most, but I do feel aggrieved at being apparently looked down on as an inferior being, just because I am not a member of the elite 'C' programming band.

Mr Ellis, and certain others of your contributors, should remember that there are those of us who subscribe to ST Applications who have had no formal computer training, who are not professional computer users, and for whom computing is strictly a self-taught and limited spare time hobby. However, several of your contributors, Mark Baines for example, are able to make any subject on which they write interesting and lucid. I am not referring just to his Beginners' Forum articles. We don't play computer games, and we prefer the edi-

torial style of ST Applications to the style of the glossies, so please don't anyone suggest we change magazines.

I had not used a computer until I obtained one when I took early retirement a few years ago. At my age, with the 'old grey cells' more than a trifle sluggish, even trying to learn BASIC is not all that easy - let alone finding Assembly language boring. There is no question of my expecting, or wanting, all the articles to be understandable by the likes of myself, or asking for the rudimentary type of articles which appear in other ST magazines; it is only a request for the magazine not to forget us 'non-expert' readers who, because of the jobs we have (or had), must be quite intelligent, but who nevertheless only have a general level of computing knowledge.

I hope that this has not looked like a vitriolic onslaught against Mr Ellis, programming in general and the level of articles in ST Applications. It is not meant to be; just a friendly letter airing my concerns. When I look at back numbers of ST Applications and see how much more readable they were, it makes me wonder what has happened to the magazine of late and why it has changed so. I like your editorial style and think you are producing an excellent high class magazine. There is no way I would like you to degrade the mature style of ST Applications to the editorial style of others. No, I am not contradicting myself—it can still be an excellent magazine even if I cannot understand it all!

I wonder if I am the only reader who feels that ST Applications has become too much a magazine for advanced and professional ST users? If I am, then you are satisfying your other readers, so please ignore these observations. With all its faults, in my opinion ST Applications is still the best ST magazine by far.

Keith Powell

● Your comments on Jon Ellis' review of DevpacDSP are maybe a bit unfair—he does conclude the review by saying that DevpacDSP is aimed at 'Falcon owners who have who have the inclination and skills to program the DSP chip'. The review was necessarily technical in parts, but we felt that it did include enough straightforward information to convey to users how the product worked and just how difficult DSP programming can be!

On the other hand, I can agree with most of your sentiments about the Programmers' Forum. We don't see the Programmers' Forum 'postbag' every month but I'm sure that Jon is not scornfully discarding bundles of tiresome Basic problems in favour of some nice meaty C and Assembler queries. Rather, it's in the nature of magazine columns that they become self-regulating and after reading a few installments of Programmers' Forum it's unlikely that many readers are going to write in with 'simple' problems when it seems to them that column is aimed at readers a few ladders ahead of them.

We've not asked Jon to go out of his way to 'simplify' the column because it is very valuable just as it is. It's essential for all ST users that there continues to be a steady flow of new software and we hope that we are helping this

along with a column aimed at professional expert programmers.

An appropriate move may be to tag an Advanced label onto the existing Programmers' Forum pages and run a (down to earth) Programmers' Forum alongside it. Whether it is a good idea to have one 'author' for the whole column is open to question. Send in your questions and offers of help/write and we'll tie them all together.

On a general note, the content of ST Applications is driven in part by the type of proposals and submissions that we are sent. The nature of the quality and type of articles that we publish makes it difficult to commission quick 1500 word pieces. Suggestions and proposals for new articles and series are always welcome.

Wot?

I The essence of my complaint about Joe Connor's Ghostscript Tutorial in the May 1993 issue of ST Applications is this: it misled me into paying you people good money for a program I could not use as I thought I should be able to.

Connor's article is not, as it should be, directed towards a professional audience. It seems to be directed towards the ST user with an amateur's interest in PostScript design and printing. Yet only a professional programmer can, it seems to me, understand and properly use the technically explicit documentation that comes with Ghostscript. This plethora of arcane instruction totally disorients the amateur. I cannot, for instance, get rid of that "ugly" font. I can neither add nor switch fonts. But why bother? Ghostscript won't let me print text, anyway. All it lets me do is view and print those third-rate graphics that accompany the program. Ghostscript for the Atari will never be finished, never be user-friendly, and never contain a tutorial - not as long as Joe Connor heads the project.

No, I don't want my money back. I want to keep Ghostscript as a monument to one man's folly.

Guy Hillmer, Canada

● You think you're confused? Joe Connor only wrote a one-page article on how he had managed to make good use of Ghostscript. He has never had anything to do with the the programming of the package.

Ghostscript is a PostScript interpreter. In order to make real use of the package you need an application that exports PostScript files. You are right about the plethora of arcane instructions that come with Ghostscript, but these are written for PC users (Ghostscript was first written for PC/UNIX users). The most recent Atari version of Ghostscript (WP.700) comes with a GEM shell that makes the package a lot easier to set up and run.

Scanner Software

Q I would like some help in writing a program to input scans via the serial port from a

Victor Scanner VP-33S (actually made by Chinon). I have the program to use it with an IBM compatible and the command and data protocols and I wish to scan A4 documents at 300-dpi and, after editing, to print on my Hewlett Packard 510 DeskJet.

Graham Ruffell

Cake Software

Q I recently noticed an advertisement you placed some in a computer magazine and wondered if you are in a position to help—I am looking for a cake design program or similar to run on an Atari STFM.

Leila Turk

● I'll eat my cake if you can find an ST package specifically intended for cake design. I presume that what you are looking for is something to plan cake decorations, rather than a structural design package for planning the construction of a multi-layer wedding cake.

There are numerous PD and shareware art packages that could be used to do some basic design work. There are also plenty of disks of clip art on the usual Birthday, Easter and Christmas themes. If the size of the STs screen is a limitation then you could try PixArt or EZ Art; both of these packages support large format pictures and will allow you to incorporate text into your designs. These packages also allow you to save parts of a picture as a block that can be saved to disk and used again in future designs. Most paint packages support printing to 9-pin and 24-pin printers, and if they don't there are rudimentary drivers in the PD or you can use a commercial utility such as Flexidump or Imagecopy.

A more outlandish idea would be to try printing in colour on to rice paper and sticking this on to the cake. (Probably best on a DeskJet as dot-matrix printers would most likely mash the rice paper.) The icing ornaments can then be piped around a picture of the birthday boy or girl. Rich hobbyists could go down the PhotoCD route and end up with photo-realistic cake decorations. The (im)possibilities are endless.

But don't blame us if your DeskJet chokes on a wodge of multicolour rice pudding or if the whole party go down with toxic ink poisoning.

Calligrapher

Alan Johnson - Forum STA 40

John Ash - Forum STA 42

Trevor Burlingham - Forum STA 42

Mick Jackson - Forum STA 42

David Bolton - Forum STA 42

Q I have Calligrapher installed on my 210Mb internal Hard Disk on my 14Mb Falcon. I read with considerable concern of the eventual corruption of floppy disks because of the CACHE.CAL folder. Is my hard drive at risk?

Nigel W Scott

● No reported incidents. At worst the hard disk would need to be reformatted—there is no way that Calligrapher is going to cause any physical damage to the drive.

Desktop Discussions

William Hern - STA 41

I My housemate was reading issue 41 last night and brought my attention to William Hern's 'Desktop Discussions' column. In fact, he was laughing and I asked him why.

It seems that Mr Hern feels that the Jaguar wouldn't make a very good computer. He's quite right, of course. A couple of RISC co-processors and a 68000 controller would make an abysmal computer. However, he's also quite wrong - because this isn't how it'll be (if Atari decide to follow this route).

You don't make a computer from a console by adding a keyboard. You use console technology to design a computer. You use the Tom & Jerry chip-set as the basis for a pretty mind-blowing computer by adding a PPC chip or even a 68060. If you had a system with a fast general purpose processor and two 27MIP co-processors to off-load graphics and sound on to you'd have a pretty damn marvellous machine.

As far as cost goes, no, of course a 'Jaguar computer' wouldn't be cheap - no new technology is cheap. But it needn't be expensive either - I guess you'd be looking at slightly over Falcon price for a machine running at ten times the speed (conservative estimate). This is well worth it, IMO.

I also don't understand Mr Hern's comments on TOS. Yes, it was based on CP/M 68K but it's a very different beast to that ancient system these days. If we look at MTOS (the latest version of TOS) we already have the multi-tasking system Mr Hern craves and it would be the work of a few moments to add VRAM capabilities using the memory management units that are in most, if not all, modern chips. We have such an investment in TOS that it would be foolish to dump it now - the latest AES (the part of the system which handles the graphics user interface) is one of the best developed of its creed and IMO blasts Windows out of the water and is only a shade off being as good as System 7 on the Mac.

I don't understand Mr Hern's views at all. I don't believe they're realistic and they certainly don't show the level of imagination that we see time and time again from Atari's R&D department.

I think I'll leave it to my housemate to close this e'letter - when he'd passed me the magazine last night and I was reading it with growing incomprehension he said, "I may be an unemployed upholsterer but even I can see that this guy's talkin out of his, er, Jaguar." [g]

Graeme CIX #652

(with valuable assistance from Doug)

Hard Drives

Q Does Vault have a hard drive formatting

option (the article in ST Applications is not too clear on this issue)? My Hard Drive is doing some strange things: it won't autoboot Neo-desk any more and I am worried that it might have some dodgy sectors. I want to back up, reformat and then reconfigure—all from Vault, I hope. I own a rather old Atari SH 204 and an STe (4-Meg). Also, is there any way that I can use my Syquest 44meg removable to back up my Atari hard drive which has no DMA thru port as far as I can make out? I am under the impression that I can't do this but I am not sure.

Andy Wood

● No, Vault doesn't format hard drives. The Atari utilities supplied with the drive will do the job, or try the ICD or Atari utilities on FaST Club disk UT.180. The bee's knees (bees' knees? Just how many bees are we talking here?) of hard drive utilities is the ICD Pro package from System Solutions or Ladbroke Computing. At the first sign of any damage to your hard drive you should back it up and re-format the drive. Don't delay. If there are no reported problems while the hard drive is being reformatted then it is possible that you have an STE DMA chip problem. We had similar problems with an Atari SH205 hard drive.

Q At the Computer Fair on 22/5/94 at the M/C Museum, I bought a Hard Drive controller marked Atari ST506, which had an autoboot pcb ST506 AB, then from another stall I bought a 3.5 inch Hard Drive marked Rodime R03055, Type 90, which I was told was an MFM drive and was compatible with the controller ST506 (and also my 1040 STFM).

I assembled the two parts and got a soft-ware disc with which to format the HD. All came together nicely and I found a program ICDFMT.PRG and here is where I have come unstuck! The program caters for Rodime RO 3055 drive but not for the Atari 506 controller. There are two or three MFM's listed and I tried the Omti 3520 which fits the bill but it will not fill out the Drive-Size question part. All it tells me is that the Partition must be between 1.00 and 16.00 meg.

Can you assist me please? I am sending, amongst others, for your disk Hard Disk Utilities (UT.180) to see if it will explain how to format my drive.

K W Smart

● The ICD or Atari hard drive utilities on UT.180 should be fine for formatting the hardware combination you have. Are you sure that you are using the ICD software correctly? I've a suspicion that you are expecting the program to enter the partition sizes for you. What you have to do is click in the appropriate field and enter the partition size(s) you want from the keyboard. This is not immediately obvious as ICD use a hairline cursor in the data entry field. The Atari software is much easier for a beginner to use.

Falcon Forum →

FALCON FORUM



Falcon Scanners

Daniel Cohen - Forum STA 41

A Daniel Cohen said his Daatascan scanner would not work on his Falcon. I did the software for the various Daatascan scanners and still have the source code. Version 2.35 was modified to cope with different processor speeds (specifically my TT) and might help with his Falcon. The last version I did was 2.41 which fixed problems with the .IMG file handling.

If anyone would like the final version then please send me a floppy, return postage and disk envelope c/o FaST Club. As I don't have the hardware anymore I can't offer much in the way of technical support.

Andy Pennell

Q I haven't yet upgraded to the Falcon... but as I also have the Pandaal Daatascan A4 scanner I kept a note of a message which previously appeared on cix.

It said that V2.3 Daatascan Professional works on the Falcon in ST Hi-Res mode at 100 and 200 dpi, but produces a scrambled image at 300 and 400dpi. In colour mode (at least 640x480x4) it puts 2 pink stripes down the screen instead of the image.

I'm afraid I didn't keep a note on the originator of this message, and I am not clear whether taking this in conjunction with Daniel's message means the A4 scanner will not work whilst the handscanners will.

From my point of view the ideal might be if someone came up with an IDC scanner accessory for the A4 scanner which would work on the Falcon and also permit direct import of graphics into Syntex OCR (not that I know yet whether Syntex is Falcon compatible). (I think some notes on writing an IDC acc came with Syntex.)

Oliver Skelton
CIX #648

I A future version of the Freeware 'OCR' package will directly support Scanners. At the moment you can cut and paste into OCR using the Atari Clipboard in IMG format, a nice package. English support and latest version release RSN...

Joe Connor
CIX #649

● See this month's PD and Shareware Update.

GFA Basic

A On upgrading from a 520STFM to a Falcon a year ago I found three difficulties with GFA Basic 3.5. The first was that it was not possible to print out either listing using LLIST or to print results using LPRINT. The second was that although a block could be marked using Blk-start and Blk-end from the menu bar the block manipulations using the Block sub-menu and the mouse did not work. Thirdly, the Compiler did not work at all but simply produced two bombs, not much use to say the least.

I knew, from your pages I think and from GFA, that Basic 4.0 or a version of 3.5 was unlikely to appear for the Falcon. I wrote to GFA about version 3.6 for the TT which also has an 86030 processor to ask if it worked on the Falcon. They were unable to tell me but did say that there was an upgrade from 3.5 to 3.6 for £5 each for the interpreter and the compiler plus £1 postage. I took a chance and sent off £11 and received two single-sided disks. As is always advisable I made a working copy, and they both fit on a double-sided disk. I also copied them on to the hard disk.

My third problem was completely solved: the compiler compiled and linked perfectly. One minor snag was that I was not able to access the interpreter or the resource editor from the menu in the compiler shell but that is really not much of a problem. I will try to modify MENU.GFA and compile it to do this when I get round to it.

The second problem with the block manipulation almost solved itself. If the block is marked and Block clicked on the menu bar the functions can be accessed from the keyboard, eg. block Move using the "m" key, block Hide using the "h" key etc. exactly as in v.3.5. In fact it is unnecessary to upgrade the interpreter unless the additional BIOS calls are required.

The printing problem is in two parts. Printing out a listing can be done from the desktop by double clicking on the *.LST file or by using the print option from Universal File Selector if that is being used. The latter can be accessed from within Basic 3.5 or 3.6 using the UIS accessory.

Printing from within a Basic program can be done by accessing the printer in the same way as a disk file, this is the method used in other versions of Basic, e.g. IBM Basic on the PC. The command OPEN "o",#1,"filename" opens channel number 1, to write to a file "filename". If the filename is made LST: the parallel port is addressed i.e. the printer.

The command PRINT #1,expression is used to print out "expression" on the printer. Expression can be anything that could be printed to screen using PRINT. The channel is then closed using CLOSE #1.

As an example:

```
OPEN "o",#1,"LST:"
PRINT #2,"This is a message."
CLOSE#1
```

will print out This is a message.

Another example

```
OPEN "o",#1,"LST:"
PRINT #1,CHR$(27);CHR$(15);
PRINT #1,CHR$(27);CHR$(48);
CLOSE #1
```

will send the escape sequence Esc,15 Esc,48 to the printer to tell it to print with 1/8in linefeed and with condensed type if the printer is Epson compatible. Other printer commands can be found in the printer manual.

Another command which can be used is OUT 0,x,y,... where the 0 (zero) addresses the printer and sends characters with ASCII codes x, y, etc., to it. A channel does not have to be opened in this case.

The second example could be written
OUT 0,27,15
OUT 0,27,48

or even <mono2>.OUT 0,27,15,27,48

The first example would need ASCII codes for all the characters in the text.

R A Stevens

GFA Basic

R A Stevens - Forum STA 42

A R A Stevens asked in STA 42 if the TT version of GFA Basic works on the Falcon. I have no knowledge of a TT version but I do know that version 3.07 of the interpreter works fine in mono or ST screen modes. A problem does exist with the compiler version 3.02 but there is a trick to get around it which might also work with the compiler for 3.5.

Instead of running the compiler shell program as you normally would, drag the shell source code file MENU.GFA and drop it on GFABASIC.PRG. The interpreter will then load and auto-run the shell program. The compiler for 3.07 only works reliably if run this way.

Gair Shields

GFA Basic V4

Q I was very disappointed to read in STA 40 page 44 that GFA "no longer seem to be in existence". Does this mean that GFA System-technik and GFA Data Media UK have ceased trading, or have they just stopped developing for the Atari market?

If the company is out of business, I would very much like to take over the development of GFA BASIC for the Falcon and wondered if anyone might know where I can contact Frank Ostrowski or whoever would now own the rights to the program.

Gair Shields

I A few months ago, there was a comment in STA which I understood to mean that GFA had gone out of business. This is incorrect. On the off-chance that someone was still there, I rang their number, half expecting it to have been disconnected. It wasn't, they were still in business, and I placed an upgrade order with them there and then. It arrived three days later. They did not want my old master disk, they just checked on their database that I was

a registered customer. As an upgrade, I got the Interpreter, Compiler, GEM Utility Package, a Software Development Package and all the manuals for fifty pounds including postage. I know that the Interpreter has appeared as a magazine cover disk, but I cannot complain at this price for the complete package.

As an aside, would it be worth doing a Company Profile article about them, as there only seem to be snatches of information as to

what they are doing/not doing/intending to do on the Atari front? Showing interest in them might even do some good. That is, unless you know something I don't!

Keith Powell

● We don't. You can contact GFA on 0734-794941; they are running a series of "while stocks last" special offers on GFA Basic for the ST.

NVDI Compatibility

I All too often I read letters stating that certain programs are not NVDI compatible. It occurs to me however, that if a program operates correctly under Atari VDI and follows Atari guidelines, the problem lies not with the program but with NVDI. Instead of modifying all such programs in order to release an "NVDI compatible" version, surely it makes more sense to modify NVDI to become Atari VDI compatible.

NVDI is undoubtedly a superb piece of software but it is not perfect and does contain some bugs. When I received my copy of version 2.50, the first thing I did was try out the demo programs on the disk. I was quite impressed until I tried NDC_DEMO.PRG which promptly crashed with two bombs. I tracked the problem down to a bug in NVDI which only appears if a program opens a virtual screen workstation with normalised device coordinates as opposed to raster coordinates. Fortunately for NVDI, very few programs do (one notable exception is Easydraw). To repair the bug, I wrote the following patch program:

* NVDI_FIX.5 (Devpac512 format)

*

* You should only modify:- NVDI, V2.50, 21/06/93, 40792 bytes.

* This code makes no checks and reports no errors

* make a backup copy first.

```

lea    stack(pc),a7
move.w #2,-(sp)
pea    filename(pc)
move.w #$3d,-(sp)
trap   #1                open file
addq.l #8,sp
move.l d0,d3
bmi.s  quit              error
moveq  #2,d4             three patches to perform
lea    seek_data(pc),a3
seek   clr.w  -(sp)
       move.w d3,-(sp)
       move.l (a3)+,-(sp)
       move.w #$42,-(sp)
       trap   #1                fseek
       lea    10(sp),sp
       move.l (a3)+,-(sp)
       move.l (a3)+,-(sp)
       move.w d3,-(sp)
       move.w #$40,-(sp)
       trap   #1                patch it up
       lea    12(sp),sp
       dbf   d4,seek
       move.w d3,-(sp)
       move.w #$3e,-(sp)
       trap   #1                close file
       addq.l #4,sp
quit   clr.w  -(sp)
       move.w #$4c,-(sp)
       trap   #1                and goodbye..
       illegal
       data
offset equ  $9668         offset to patch code in file.
seek_data
dc.l   $32A0,bra_fix,2
    
```

```

dc.l   offset,patchcode,16
dc.l   $9625,version,20
bra_fix
dc.w   offset-$329E
patchcode
dc.l   $48E7,$C0006100,$8F1C4CDF,$34E75
version
dc.b   "NVDI V2.50 (Patched)"
filename
dc.b   "NVDI.PRG",0
bss
ds.l   20
stack  ds.l   1
end
    
```

NVDI_FIX is available as an executable program from Floppypshop.

The real problems started when I moved up to the Falcon, when it seemed like virtually every PD program was having trouble with NVDI, including some I had written myself which I knew were 100% legal Atari code. The problems occur when a program calls the XBIOS SetScreen() function which NVDI patches with it's own code.

The Falcon is different from the ST and TT since the screen memory is not a fixed size and must be altered depending on the screen mode. The reallocating of memory is handled by the SetScreen() function and it would appear that NVDI does not handle this correctly. If you wish to change resolution on a Falcon with NVDI installed, it is necessary to use SetScreen() only to set the screen address, and then use Vsetmode() to set the resolution.

/* Replacement VSetScreen() function for Lattice C */
void NVSetScreen(void* log,void* phys,short rez,short mode)

```

{
    if (rez == 3){
        SetScreen(log,phys,-1);
        Vsetmode(mode);
    }
    else
        VSetScreen(log,phys,rez,mode);
}
    
```

I hope a future revision of NVDI will correct this problem. In the meantime, PD programmers should use the above method if changing screen resolution with Falcon software.

You can detect if NVDI is installed by looking for the cookie 'NVDI', the cookie value is a pointer to a structure. The first word is the version number in hex, followed by a long containing the date in hex, followed by a configuration word. The rest of the structure seems to be an array of pointers to something.

```

e.g.
void get_nvdi_info()
short *info;
if (getcookie("NVDI",info)) {
    nvdi_installed = TRUE;
    if (info[0] > 0x250)
        new_version(); /* great! a new version is out */
}
    
```

Gair Shields

Programmers' Forum

In this month's edition of ST Applications' regular programming column, we focus on the detection of multiple mouse clicks.

Mouse clicks

Back in the Programmers' Forum of STA 37, Matthew Hardy raised the issue of detecting the operation of either mouse button, rather than an individual button. He solved the problem with a loop calling `graf_mkstate()`, but observed a rather strange effect: the mouse responsiveness in this loop was much slower in desk accessories than in normal programs. In that issue, I speculated that it might be related to the spurious double-click bug that appeared in TOS 1.04.

John Phillips of EasyPill Software, London, has been doing some research and has come up with the following discussion of the issue:

Believe me, this is no trivial matter, and I speak as one who has done a lot of digging in this ground over the years. I'm not convinced by your suggestion that the problem lies with a bug in TOS 1.04 and later, since the slow response is just as apparent in TOS 1.0. Neither is it a problem that is confined exclusively to Desk Accessories. A full discussion of this problem would take up at least a whole issue of Programmers' Forum, and so an outline will have to suffice.

This is really two problems in one. Firstly the problem associated with detecting either the left or right button, which is very simple to solve in programming terms, and secondly the slow down of `graf_mkstate()` which is not. The solution to this second problem, if in fact there is a solution, lies at a very low level and is closely connected with the Screen Manager and the ST's multi-tasking abilities.

The real trouble is that the two problems interact, so whatever solution you decide on will always have some drawback. Here is an analysis of all three mouse routines and what problems you can expect in detecting left XOR right. Remember that I program entirely in GFA, so check this is the case in other languages.

`vq_mouse()` is easy to implement and is certainly responsive enough under any circumstances. Unfortunately it is a VDI routine and not compatible with the AES. In the real world it will often need very careful handling to avoid any after effects. These include 'mouse holes', 'mouse droppings', 'sleeping' (mouse needs a click to wake it up), 'looping' (mouse button seems to be stuck down) 'drop through', blocked events and general confusion in the multi-tasking system.

`Graf_mkstate()` is again easy to implement. It is almost compatible with the AES but the big problem is that it is very unresponsive under certain conditions. The GRAF library has always had a bit of an 'odds and ends' look about it, and `graf_mkstate()` seems to have been an attempt to provide an AES enquiry function that was not altogether successful. It is not completely compatible and it will give trouble other than responsiveness under some circumstances. I never use this function any more, but if you do need it, I would suggest using `evnt_button(0,0,0,...)` instead, where 0,0,0 can be any values that will return regardless of button state. This is operationally equivalent and suffers the same unresponsiveness but it gives better compatibility.

`Evnt_button()` can only test one mouse

condition at a time, so two `evnt_multi()` tests have to be performed instead - see Listing 1. This is inherently erratic from a structural point of view, but in terms of processing speed it shouldn't matter in the slightest. Unfortunately this also suffers the same sort of slow down effect - it is less severe, but enough to show up the erratic structure. The point here seems to be that the first test is fast enough, there is never any problem in just testing one button, but it looks as if the Screen Manager gets involved before changing to test the other button condition and the delay gets introduced again. On the other hand it is compatible with the AES and should never cause any trouble.

The answer to why this slowing down occurs is to be found in the work of the Screen Manager (SM). This is an application resident in the OS (`ap_id = 1`) that is at the heart of GEM's menu and window capabilities. Provided it has never triggered any event messages you will find that there is no perceivable difference in the speed of any of the mouse routines. To be a bit more precise, it looks as if the SM has to have been involved with your application's ID (just the ID, not the application itself). If it is, then it seems that a much longer routine is used whenever one of the AES mouse calls is involved. Possibly this is necessary to co-ordinate the timing of other responsibilities.

You can see how this fits in with Matthew's question. The very first thing you do when you start a Desktop Accessory is to click a menu item and send it a message (`AC_OPEN`). He will also find that doing something as simple as moving a file window on the Desktop before running his original .PRG version will cause this same effect too. (The Desktop has `ap_id = 0`, the same as his program will when it runs.)

There is far more to this whole subject than you would ever think. Other effects that need to be accounted for are fast and slow clicks, moving or not moving the mouse as the button is pressed, etc. Information on the SM and the event dispatcher is conspicuously absent from any of the literature I have. Has anyone any details? In particular, once the SM has got involved with your ID, is there any way of putting it into the background again?

Further comments have also been emailed in by two other readers, Robert Mellish and Mark Baker. Their contributions relate to recent discussion on the Internet about a previously undocumented wrinkle in GEM that provides a solution to Matthew's problem. First up, Robert:

In the latest ST Applications, you mention problems someone is having with the uneven, 'sticky', response of the `graf_mkstate()` call. I too have had this problem, and it can be overcome by using `vq_mouse()` as you say. However, there is another way to fix this, and that is to use an `evnt_button()` call (or `evnt_multi` with `MU_BUTTON`). This doesn't seem to have the problems that `graf_mkstate()` has, and in fact may be better than using `vq_mouse` as a fix, since it gives the AES control (thus allowing multitasking for DA's etc.) until you actually

press a button.

There is a well known problem with `evnt_button`, though, in that normally it is only possible to wait for the left (with `mask=1`), the right (`mask=2`) or both buttons (`mask=3`) to be pressed, not either the right or the left as I believe was needed in the case you mention in your column. This problem is probably the reason that so few applications use the right button in a useful way, since there is no documented fix for this. There are various ways around this involving patches in the mouse button vector, but these are rather dodgy and not MultiTOS friendly. There is, though, a very simple fix that I don't remember seeing in any Programmers' Forum, so you may not be aware of it.

All you have to do is add 256 to the value of the 'clicks' parameter of `evnt_button`, and pass 3 as the 'button_mask' parameter (i.e. both buttons) and 0 as the 'button_state' parameter.

So the call would look something like this:

```
evnt_button(256+1,3,0,...)
```

Adding 256 to 'clicks' seems to act as a kind of NOT on the usual behaviour of the call, so the call will return if NOT ((NOT left) AND (NOT right)) is pressed, i.e. if left OR right button is pressed. Note that this technique also works for the corresponding arguments to `evnt_multi()` as well.

I have to thank David Forrai for passing this information on to me. This discussion also arose on the `comp.sys.atari.st.tech USENET` newsgroup, and various people have confirmed that this technique works under all versions of TOS (including MultiTOS) and in fact may be officially documented and supported by Atari in the future.

Mark has forwarded some discussion from the TURBONet on the same subject, including a text fragment attributed to Mike Fulton of Atari US:

```
event = evnt_multi(MU_BUTTON|MU_KEYBD,
0x101, 3, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
msgbuf, 0, 0,
&mouse_x, &mouse_y, &mouse_b,
shiftkey, &keycode, &numclicks);
```

If either of the mouse buttons is pressed, then the `evnt_multi()` function will exit with a flag of `MU_BUTTON` in the 'event' return value. The 'mouse_x', 'mouse_y', and 'mouse_b' parameters will contain the position of the mouse button event and the mouse button value. The 'shiftkey' value will contain the `SHIFT/CONTROL/ALT` status. The 'numclicks' parameter will contain the number of mouse clicks.

This also uses a method of detecting clicks on either mouse button that has always worked but which has only recently been officially documented. By using a value of 0x101 in the 'ev_mbclicks' parameter, and a value of 3 in the 'ev_mmask' parameter, and a value of 0 in the 'ev_mbstate' parameter, you'll get back button events for mouse clicks on either button. It only works for detecting mouse-down events, however.

Many thanks to all who have contributed to this discussion.

Another approach

As an alternative solution, referred to obliquely by Robert above, the Lattice C manuals provide a code example that shows how to use the VDI mouse vector exchange function, `vex_butv()`, to obtain the required effect. The strategy is to install a new handler that is called every time the mouse buttons change state. The handler copies this data to a variable that can be accessed by the rest of the program. The button state is doctored in such a way that any button press is also accompanied by a left button press, and this data is then passed to the normal VDI button handler. The main program makes AES calls to `evnt_multi()` looking only for events on the left button. When one is detected, the program simply consults its own private variable to determine the true button state before proceeding. Very neat, and all apparently legal too. If you use this approach, do remember to replace the old vector handler before program termination...

Font programming

After all that discussion, here is some source code to keep the programming junkies happy. Listing 2 is a short program written in C that prints a sample line of text in each of the GDOS fonts that it finds. It was written in the course of a correspondence with Barrie Stott of Bolton, and may help those taking their first steps in GDOS programming. It works under normal GDOS, FontGDOS and SpeedoGDOS, as well as a couple of third-party replacements. Under SpeedoGDOS, you may need to disable the 'Printer offsets' option on the printer driver dialogue to get correctly-positioned printout.

Artificial intelligence

And finally, a plea for help. Robert Coare writes from Dagenham in Essex:

I'm planning on writing some games quite soon, but I don't know too much about how to do realistic intelligence for computer characters. I already know how to do things like look-up tables, but these aren't flexible enough for the sort of things I'm thinking of. Also, I understand some of the principles behind expert systems and neural networks, but I don't know how to put it into code (preferably C). Can you give me some tips or programs to help?

To answer the bottom line first: I don't have any relevant bits of source code around that fit the bill, but some of the following general observations might be useful. The first is to be sceptical: many of the games that claim to utilise artificial intelligence do little more than select between a small number of preprogrammed paths, depending on the previous action of the player. This approach requires no special techniques; just a lot of if-else constructs.

Secondly, a good place to find source code or discussion on programming topics is on-line: either in a bulletin board or more widely on the Internet. C source code obtained in this way is often written for

machines other than the ST, but can usually be ported with a little effort.

For more background details, those interested in computer models of human information processing could do worse than browse through one of the fundamental texts in this area: "Parallel Distributed Processing" by Rumelhart and McClelland. On a more ST-specific note, the old Cambridge LISP compiler marketed by Metacomco included a sample expert system: perhaps there are still some copies of this lurking at the back of a cupboard somewhere.

Finally, be aware that some of the more complex programming technology is processor-intensive, and may not operate at blinding speed on a 8 MHz 512K ST. This may affect the playability of any game seeking to use such an approach.

If anyone has further information on this topic, or even better, some demonstration software, I am sure Robert would be very grateful for any help. Contributions to the column, or offers of help to Robert can be made via the usual address.

Next Month

Next month, *Programmers' Forum* will feature some more questions and tips from readers' letters. Keep the letters coming in - the more we receive, the better the column gets! Hints on any subjects, or questions about programming problems should be sent to the address below. All contributions, no matter how simple or advanced, are most welcome. Please include your address on the letter, so I can get back to you if anything in your contribution is unclear. Email addresses are useful too.

One last point, about email. Whilst I am very happy to receive contributions by email, please include your real name in the message, as cryptic alphanumeric user identifiers are not terribly useful. Please send a disk or email if there are large chunks of text or ASCII source code: I have no time to retype lots of material. Naturally, disks will be returned if an SAE is included.

Jon Ellis
 Programmers' Forum
 29 Ashridge Drive
 Bricket Wood
 St Albans
 Hertfordshire
 AL2 3SR

Email:
 jonellis@cix.compulink.co.uk

Listing 1

```

-----
' Use a reduced parameter set for evt_multi and pick
' up the x and y values from the AES output array
mk=0
REPEAT
  IF EVNT_MULTI(34,1,1,1, .... 1) AND 2
    mk=1
  ELSE
    IF EVNT_MULTI(34,1,2,2, .... 1) AND 2
      mk=2
    ENDIF
  ENDIF
UNTIL mk>0
mx=GINTOUT(1)
my=GINTOUT(2)

/*
** Listing 2.
** Programmers' Forum STR 44 (August 1994)
**
** Quick program demonstrating how to use GDOS
** to talk to either screen or printer.
**
** Compiler system: Lattice C v5.52
** Compile options: -cargfku
** Meaning: Enable ANSI mode, disable trigraphs, enable
** non-ANSI keywords, assume unsigned chars
** Link with C.O, LC.LIB and LCG.LIB
** Written on 23rd January 1993
*/

#include <aes.h>
#include <math.h>
#include <osbind.h>
#include <portab.h>
#include <stdio.h>
#include <stdlib.h>
#include <vdi.h>

/*
** Symbol definitions...
*/

#define SCREEN_ID (Getrez() + 2)
#define PRINTER_ID 21

#define PHYSICAL 0
#define VIRTUAL 1

/*
** Structure and type declarations...
*/

typedef struct {
  short handle; /* Device VDI handle */
  short reality; /* PHYSICAL or VIRTUAL ws */
  short device_code; /* Device number */
  double width; /* Width of workspace in cm */
  double height; /* Height of workspace in cm */
  double x_pix_per_cm; /* Number of x pixels/cm */
  double y_pix_per_cm; /* Number of y pixels/cm */
  short xmin, ymin; /* Minimum x and y values */
  short xmax, ymax; /* Maximum x and y values */
} DEVICE;

/*
** Function declarations...
*/

int init_gem(void);
int init_device(short, short, DEVICE *);
int main(int, char **, char **);
void demonstrate(DEVICE *,int);
void engage_clipping(DEVICE *);
void exit_gem(void);

/*
** Global variables...
*/

short ap_id; /* AES application identifier */
DEVICE screen; /* Specification block for screen */
DEVICE printer; /* Specification block for printer */

/*
** The program starts here...
*/

int main(argc,argv,envp)

int argc;
char **argv, **envp;

{
  int c, new_fonts;
  DEVICE *dev;
  char buffer[128];

```

```

  if (init_gem() == FALSE)
    return(0);
  if (init_device(SCREEN_ID,VIRTUAL,&screen) == FALSE)
    {
      form_alert(1,"[3][[Program has failed to open|the screen
workstation.]]|Abort]);
      exit_gem();
    }
  if (init_device(PRINTER_ID,PHYSICAL,&printer) == FALSE)
    {
      form_alert(1,"[3][[Program has failed to open|the printer
workstation.]]|Abort]);
      exit_gem();
    }

  graf_mouse(ARROW,NULL);
  c = form_alert(1,"[1][[GDOS Explorer|Demo of screen or printer|device
?]|Screen|Printer]);
  if (c == 2)
    dev = &printer;
  else dev = &screen;

  engage_clipping(dev);
  new_fonts = vst_load_fonts(dev->handle,0);
  sprintf(buffer,"[1][[d fonts loaded for %s.]]|Demonstrate]",
    new_fonts, (dev == &screen ? "screen" : "printer"));
  form_alert(1,buffer);

  graf_mouse(M_OFF,NULL);
  if (dev->reality == VIRTUAL)
    v_clrwk(dev->handle);
  demonstrate(dev, new_fonts);
  graf_mouse(M_ON,NULL);
  form_alert(1,"[1][[All fonts displayed.]]|Continue]);
  v_updwk(dev->handle);
  v_clrwk(dev->handle);
  vst_unload_fonts(dev->handle,0);

  exit_gem();
  return (0);
}

/*
** Function to initialise GEM and GDOS ready for
** immediate use. The function returns TRUE if all
** went OK, or FALSE if not, in which case an error
** box will have been displayed. Error returns should
** cause the program to terminate.
**
** Usage: success = init_gem();
**
** int success, init_gem(void);
*/

int init_gem(void)
{
  ap_id = appl_init();
  if (!vq_gdos())
    {
      form_alert(1,"[3][[Program requires GDOS to|be installed.]]|Abort]);
      exit_gem();
    }
  return(TRUE);
}

/*
** Function to close down GEM and GDOS
** prior to exiting the program. There
** are no arguments and no return values.
**
** Usage: void exit_gem(void);
*/

void exit_gem(void)
{
  if (printer.handle)
    v_clswk(printer.handle);
  if (screen.handle)
    v_clswk(screen.handle);
  appl_exit();
  exit(0);
}

/*
** Function to open a workstation and to fill
** in the package's internal variables. The arguments
** are the device number, an indication of whether
** the workstation is to be physical or virtual and
** a pointer to a DEVICE structure to be used for
** this workstation. The return value is TRUE if all
** went OK, or FALSE on any error.
**
** Usage: success = init_device(dev_number,mode,info);
**
** int success, init_device(short, short, DEVICE *);
*/

int init_device(dev_number,reality,info)

short dev_number, reality;
DEVICE *info;

```

```

short handle, junk;
static short work_in[11] = {1,1,1,1,1,1,1,1,1,1,2};
short work_out[57];

if (info == NULL)
    return(FALSE);
handle = 0;
work_in[0] = dev_number;
info->device_code = dev_number;
if (reality == VIRTUAL)
    {
    handle = graf_handle(&junk,&junk,&junk,&junk);
    v_opnwk(work_in,&handle,work_out);
    }
else v_opnwk(work_in,&handle,work_out);
if (handle == 0)
    return(FALSE);
info->handle = handle;
info->reality = reality;
info->x_pix_per_cm = 10000.0 / work_out[3];
info->y_pix_per_cm = 10000.0 / work_out[4];
info->xmin = 0;
info->ymin = 0;
info->xmax = work_out[0];
info->ymin = work_out[1];
info->width = (info->xmax + 1) / info->x_pix_per_cm;
info->height = (info->ymin + 1) / info->y_pix_per_cm;
return(TRUE);
}

/*
** Function to clip all output to a device to the
** rectangle defined by the extremities of the
** workspace. The argument is a pointer to the
** device specifier. There are no return values.
**
** Usage:  engage_clipping(dev);
**
**         void engage_clipping(DEVICE *);
**
*/

void engage_clipping(dev)

DEVICE *dev;

{
    short rectangle[4];

    rectangle[0] = dev->xmin;
    rectangle[1] = dev->ymin;
    rectangle[2] = dev->xmax;
    rectangle[3] = dev->ymin;
    vs_clip(dev->handle,1,rectangle);
}

```

```

/*
** Function to produce a demonstration display on
** the selected device. A test phrase is printed
** in each font that is available. A 12pt size is
** used as this is commonly available. The arguments
** are a pointer to a device descriptor and the
** number of new fonts loaded for that device.
** There are no returns.
**
** Usage:  demonstrate(dev, fonts);
**
**         void demonstrate(DEVICE *,int);
**
*/

void demonstrate(dev, fonts)

DEVICE *dev;
int fonts;

{
    int f, font_ID, y, size obtained;
    short charw, charh, cellw, cellh, dummy;
    char font_name[33], buffer[128];

    font_name[32] = '\0';
    y = 0;
    vst_alignment(dev->handle, 0, 5, &dummy, &dummy);
    for (f=1; f<=fonts+1; f++)
    {
        font_ID = vqt_name(dev->handle, f, font_name);
        if (font_ID < 0)
            continue;
        vst_font(dev->handle, font_ID);
        size obtained = vst_point(dev->handle, 12, &charw, &charh, &cellw, &cellh);
        if (size obtained < 6)
            continue;
        sprintf(buffer, "Font %s (ID = %d) in %d
pt", font_name, font_ID, size obtained);
        v_gtext(dev->handle, 0, y, buffer);
        y += (cellh + 16);
        if (y >= dev->ymin)
        {
            graf_mouse(M_ON, NULL);
            form_alert(1, " [Ready for next page. ] [Continue] ");
            graf_mouse(M_OFF, NULL);
            v_updk(dev->handle);
            v_clrwk(dev->handle);
            y = 0;
        }
    }
}

```

X-Debug

Advanced Debugger for Atari ST/TT computers

X-Debug is an advanced debugger for the Atari range of computers. It is both a low-level debugger, showing memory dumps and register contents, and also a medium-level debugger, understanding about certain high-level languages and allowing source display single-step, and local variable access, for example.

The best support is for Lattice C, as that is the only compiled language that outputs full debug information, but it also supports line-number debug (as created by HiSoft Basic and Devpac 3), and symbol-only debug (usable with virtually all ST compilers).

Crucial to the whole debugger is the X-Debug language. This is a simple yet powerful script type language that allows complex operations to be built up from a sequence of standard operations. It supports a full expression evaluator, aliases, and procedures with parameters. It is also an important factor in customising the user interface, allowing specific commands to be attached to particular keypresses.

X-Debug runs on STs and TTs with any monitor type. One megabyte of RAM is recommended, and TOS 1.4 or later avoids problems with larger programs. Written by Andy Pennell, the creator of MonST.

£24.95

FaST Club
7 Musters Road
Nottingham
NG2 7PP

```

1: 68030 Registers
D0:00000000 A0:00000000
D1:00000000 A1:00000000
D2:00000000 A2:00000000
D3:00000000 A3:00000000
D4:00000000 A4:00000000
D5:00000000 A5:00000000
D6:00000000 A6:00000000
D7:00000000 A7:00000000
SR:18000  SI0 xnzvc
PC:00E00030 A7:00000000
move.w #52700, sr
#2700

3: Memory
00000000 602E 0301  \,oo
00000004 00E0 0030  x 0
00000008 010F 0206  \aW
0000000C 010F 0206  \aW
00000010 010F 0206  \aW
00000014 010F 0206  \aW

2: Disassembly PC=
move.w #52700, sr
reset
cmpi.l #5fa52235f, $fa0000
bne.s $e0004c
lea $e0004c(pc), a6
jmp $fa0004
move.l #5000, d0
movec dg, cacr
movec dg, d0
movec dg, vbr
movec.l $e0024, tc
move.l $e0024, t00
move.l $e0024, t01
btsb dg, $ffff8e09.w
beq.s $e0004b
lea $e0004c(pc), a6
bra $e0004e
bne.s $e0004b
move.b $424.w, $ffff8001.w

MonST-emulation script installed OK

```

```

1: 68030 Registers
D0:0100193A : A0:00000000
D1:010F0978 x A1:0000093A
D2:000000FF  A2:010E0210
D3:FFFFFF04  A3:0110F650
D4:00000000 A4:01117654
D5:00000000 A5:0111306E
D6:00000000 A6:01119750
D7:00000001  A7:01119690
SR:12304  SI3 xnzvc
PC:010E009E A7:01117044
jsr _init_diss
$10f17ee 41FA FFD2

3: Memory
00000000 602E 0301  \,oo
00000004 00E0 0030  x 0
00000008 010F 0206  \aW
0000000C 010F 0206  \aW
00000010 010F 0206  \aW
00000014 010F 0206  \aW

2: non.c
1282: /* zoom (or unzoom) a window */
1284: word zoom.Window(word num)
1285: {
1286: word rx,ry,rh,rh;
1287: struct ms *mptr;
1288: word err;
1289: word w;
1290:
1291: mptr=list(mw);
1292: if (wptr->type==HTYPE_DEAD)
1293: return 0;
1294: if (wptr->zoomed==FALSE)
1295: {
1296: mptr->ox=wptr->x; mptr->oy=wptr->y;
1297: mptr->om=wptr->w; mptr->oh=wptr->h;
1298:
1299: w=mxaw;
1300: if (wptr->type==HTYPE_MENU)

```

```

1: 68030 Registers
D0:0100193A : A0:00000000
D1:010F0978 x A1:0000093A
D2:000000FF  A2:010E0210
D3:FFFFFF04  A3:0110F650
D4:00000000 A4:01117654
D5:00000000 A5:0111306E
D6:00000000 A6:01119750
D7:00000001  A7:01119690
SR:12304  SI3 xnzvc
PC:010E009E A7:01117044
jsr _init_diss
$10f17ee 41FA FFD2

3: Memory
00000000 602E 0301  \,oo
00000004 00E0 0030  x 0
00000008 010F 0206  \aW
0000000C 010F 0206  \aW
00000010 010F 0206  \aW
00000014 010F 0206  \aW

2: non.c
10ed80 bsr _init_windows
1792: _init_proc();
10ed8c jsr _init_proc
1794: _init_symbols();
10ed92 jsr _init_symbols
1795: _init_exceptions();
10ed98 jsr _init_exceptions
1796: _init_diss();
10ed9e jsr _init_diss
1797: _init_mach2(ndefault_diss, &default_dl);
10eda4 pea $c(a6)
10edab pea -$0(a6)
10edac jsr _init_mach2
1798: _init_source();
10edb2 jsr _init_source
10edbc lea $10(a7), a7
1799:
1800: res=open_window(1,0,0,14,NULL,NTY
10edbc moveq #1,d0

0001.plt
window mode 2 mixed

```

For Sale

HiSoft C Interpreter £15, War in the Gulf £15, Reach for the Skies £15, Digma Home Accounts £6, Bart Simpson Space Mutants £3. All absolutely mint, boxed, with manuals. Tel: Dave, Notts (0602) 397354. (48)

Atari STFM 2.5MB, TOS 2.06, 1.44MB HD disk drive, external disk drive, ICD link, blitter, Keyclicks, SC1224 colour monitor, That's Write 2, NeoDesk 3, Warp 9; loads more software, magazines and disks. £350 the lot. PageStream 2.2 brand new, unregistered £75. Tel: 0202 765544. (45)

4MB STE (TOS 1.62) and Phillips CM8833 MkII monitor, both as new, £260. Canon BJ300 Bubblejet printer (mono), 80 characters wide, takes A4 and continuous, also envelopes; includes A4 cut sheet feeder, spare cartridges and 12 ink refills, vgc: £210. Forget-Me-Clock II £10. Diamond Back £10. Fontkit Plus 4 £15. HP Chrome/BJ Chrome £5. ICD Clean Up ST £10. Imagecopy Colour £8. Imagecopy 2 £10. Timeworks Publisher 2 £20 (Users' Guide to... book £5). True Paint £10. Textstyle £9. Tel: 0533 881249 before 6.30pm. (45)

HP LaserJet 4L: 4ppm, Resolution and Memory Enhancement technologies, PCL5, microfine toner, low usage (still using original toner - 3,000pp cartridge), under warranty (Nov '94) £450. Calamus S £190. MC68882 co-processor £50. Multiprint, Imprint Col. £6 each. All prices inclusive. Tel: 0524 381581. (45)

MFM controller card, interfaces between a SCSI host adaptor ("Link", etc.) and up to two MFM hard drives: £65. Marpet unpopulated XtraRAM+8 board

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Classified adverts are free to subscribers.
Please use the form on page 58.

to fit the STE (requires TOS 2.06) £55. Quickshot Supervision handheld with four games £35. Phone 0282 615730. (45)

SharpScore, the only fully professional music publishing software for the ST. Latest version, fully registered with excellent manual, well supported and regularly upgraded. The retail price (from Take Control) is £460 - I will sell for £250. First Word Plus (v.3.20) with manual, mailmerge, dictionary and spellcheck £20. Pro-24 sequencer, mint condition, with manual and dongle £20. 061 962 3269. (45)

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Vampire's Empire £3, Star Wars £3, Barbarian £2. Flairpaint art package £5. Michtron print utilities £2. Lots of ST Formats and ST Reviews with disks. 0323 500910. (45)

Six month old Falcon 030 for sale. The computer is fitted into a Falcon tower. It has 4MB of RAM, 65MB hard disk and a maths coprocessor fitted. If you are interested then make me an offer. Send offers to Stuart Mawle, Castle Farm Cottage, Overthorpe, Banbury OX17 2AD. (44)

STFM 1MB memory, d/s disk drive £110 ono. Supra 20MB hard disk £90 ono. 0602 253281. (44)

Hard drive components: 40w PSU (12vol/5volt) - £15; 50w PSU (12vol/5volt) - £20; 60mm brushless fan

(12volt) - £5. All work perfectly and are designed to power hard drives (except the fan); price includes P&P. Phone David Haider on 061 764 2442 after 5pm and before 11. (44)

PageStream 2.2 - latest version - brand new and unused (purchased in haste before deciding to go PC); cost new £159. Sensible offers considered. 0704 894513. (45)

Atari ST games £7 each or nearest offer: Graham Taylor's Management, Speedball 2, Lemmings, Mercenary 3, Storm Master. £8 or nearest offer for Football Crazy (Kick Off 2, Player Manager and Final Whistle); £5 each or nearest offer: Blood Money or Puzznil; £3 ono: First Division Manager, North and South, Flip It and Magnose, Onslaught and Asterix. Phone 021 351 4909 eves only. (48)

Poquet PC hand-held PC with 512K PCMCIA card drive. Complete with MSDOS 3.2 and built-in WP, Comms, Address Book, Calendar, Calculator. Worth £290, will sell for £140. Also: GFA 3.5 compiler, advanced programming, GEM utility kit and disks: £45 the lot. Phone 0225 464637 Mon-Thurs after 7pm. (45)

4MB STE in lighthouse tower, TOS 1.62/2.06 switchable, 245MB internal Quantum SCSI drive, ICD host adaptor, external SCSI port: £575. SM144 hi-res monitor £70. Daatascan Pro scanner £60. High density drive kit (inc. drive) £50. External drive £40. HiSoft Basic 2 £30, GFA Draft 3.14 £20, 300 disks of PD software £50. Or £800 the lot! Ring 0225 464637 Mon-Thurs after 7pm. (45)

Original software, boxed etc. F09 Retaliator, Hard Drivin' II, Lost Patrol, only

Authorware

If you would like to see your software featured in the ST Applications Authorware column please send us a review copy of the software and a rough outline of the advertising copy you would like to be printed.

Morse Master

The complete morse trainer and simulator, with realistic 'on-air' emulator and integral editor, with complete control of your listening equipment. In addition to sending, your Atari can also receive and decode Morse from your own key using the supplied interface cable. Send Cheque/PO for £29.99 payable to Bosecad Ltd at: 16 Aytoun Grove, Balbridgeburn, Dunfermline, Fife KY12 9TA. Phone (0383) 729584 evenings for technical information.

SynTax

The ST adventure magazine on disk! Reviews, solutions, hints, special features and much, much more. Runs in colour only. Produced bi-monthly. SynTax costs £3.50 an issue, £20 for a year's subscription. Cheques made payable to S. Medley should be sent to: 9 Warwick Road, Sidcup, DA14 6LJ.

Clip Art

Clip Art specifically for Christian and Community Magazines. Seven disks of IMG images for DTP programs supplied with a printed pic-

ture catalogue of every image. Cost: £3 per disk plus P&P: total of £23 for the set. Cheques payable to Peter Kempley, KemCom Designs, 21 Chart House Road, Ash Vale, Aldershot GU12 5LS.

Calamus Manual

This self-tutorial guide incorporating sections on frame drawing, entering text, changing fonts and styles, importing text and images, drawing boxes and lines, loading, saving, printing, text rulers, headers and footers and page numbers. Available for £5 (including postage) from: David Waller, The Sandon School, Molram's lane, Great Bad-dow, Chelmsford, Essex CM2 7AQ. Cheques should be made out to 'Sandon School'.

STTrack

Use up to four light beams with your ST. Measure speed and acceleration. Write data to disk for spreadsheet. Invaluable for Science National Curriculum AT4. High resolution only. Software and manual with full details £20. Cheques payable to: F.J. Wallace, 9 High Elms Road, Hull-

bridge, Essex SS5 6HB.

Genealogy

Newgen, my genealogy program, runs on any ST(E) or TT and is easy to use; it will print family trees, etc. Send large SAE for details or £17 for program. E G Richards, 2 Peckar-mans Wood, London SE26 6RX.

Educational Adventures

For ages 5-13. 88% in ST Format. £12 each. 50p per disk for demo's. CVS, 18 Nelson Close, Teignmouth TQ13 9NH. Tel: (0626) 779695.

Sonix Sound Sampling

We will sample your sounds from tape to disk. Ideal for demos, games and your own programs. 3-day turnaround guaranteed. Write for free details to: The Lodge, Dolly End, Hailey, Witney, Oxon OX8 5XD.

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Scanner Manager

A specialised database system for all scanner owners, this software has been designed to be very easy and quick to use. For further details con-

tact: Stuart Coates, 9 Links Road, Kibworth Beauchamp, Leicester LE8 0LD.

Graph, Euclid and Stack

GRAPH can draw simple functions, implicit functions, parametric and polar functions and display the gradient functions of any of these. It will also display the solutions to first order differential equations and do a simple plot of complex functions. EUCLID enables you to draw any geometrical configuration including conics, circles, perpendiculars, bisectors, etc. STACK is an arithmetic calculator (HP type) for use with very large whole numbers. It will factorise smallish numbers quite quickly. Cost: £10 for a disk containing the programs, documentation and some examples. Michael Girling, Camel Quarry House, Wadebridge, Cornwall PL27 7HZ.

DEGASART

Demo disk of the above compart tutorial is now available. Please send a cheque/P.O. for £1 or a blank DS disk and an SAE to Keith Markland, 15 Stourton Road, Ickley, W. Yorkshire LS29 9BG.

Morse/RTTY Transceiver

Atari STE - Morse and RTTY transceiver. Morse automatically locks to signal including hand sent code and will send at 10, 20 and 40 wpm. Noise filter option. Adjustable mark-space ratio. RTTY automatically locks to

£5 each. NeoDesk 2.01, UVK 3.6, Return to Europe (for K.O. II) only £3 each. Trimbase relational database £8. Phone John on 0742366819. (45)

2.5MB STFM £120, SM124 monitor £50, Case 440/12 modem £30, Forget-Me-Clock II £10, Calligrapher Junior £40, Superbase Personal £50, Microsoft Write £20, Personal Finance Manager+ £15, Fontkit 3.4 £15, Mini Office Spreadsheet £10, UIS 3.3 £10, Mortimer £10, MultiDesk £15, G+Plus £15, Scrabble £10, Using ST Basic on the Atari ST £6, A Users' Guide to Timeworks £6. A. McInally 0292 311119. (44)

Easy Text Professional with 17 fonts £25; Calligrapher Lite £10; Atari Sound and Music £10; Atari Basic Programming £10; all plus postage. Ring Trevor 0842 761125. (44)

Third Coast Hard Drive 65MB SCSI, space in case for second drive: £160. 1MB STE £150. SM125 monitor £50. Golden Image Scanner, Touchup and A4 Stich software £55; plus tons of software. Steve 0502518625. (44)

Falconwing £42 new, 68882 FPU £46 new, 65Mx 2.5in IDE drive incl. Falcon installation kit £100, 4x1 MSIMMS 70ns £110, TOS 2.06 £20, Powerup 2 (32MHz for Falcon) £50, low cost installation available on all items. Software: STalker 3 £20, Datalite 2 £20, XBoot 2 £10; books: Compute Programming in C £8, Compute Tech. Ref. Guide to TOS £8, ST Machine Language £5. 0224 869558 after six or weekends. (45)

Steinberg Pro 24 III brand new, unopened £35 inc. postage. ST Basic Metacomco unused, inc. source book and tutorial £5 inc. postage. Tel 0983 562313. (45)

Vortex 16MHz 386 PC emulator for the Mega STE. Unregistered. Boxed with manuals, as new. Adam on 081 989 9672. (44)

Redacteur, current full version including all progs, manual and original packaging. All mint. Prefer exchange for AtariWorks or PageStream (must be fully documented), but otherwise best

incoming signal up to 100 bands and will send at 50 and 25 bands. Both programmes have split screen type ahead buffers and are extremely easy to use: just fire up and you live. These programmes are £5 each. Write: Mr. V. McClure, 43 Roman Way, Seaton, Devon EX12 2NT.

Music Tutor Part 1

Teaches you to read music. This interactive course runs on any ST or Falcon in mono or colour, but a MIDI keyboard is required. Costs only £10 including printed manual, postage and packing. From: A. Graves, 81A Cambridge Road, Girton, Cambridge CB3 0PN.

MultiCAD

Vector-driven CAD/DTP program for the ST/STE. Design any kind of engineering drawing/posters/flyers/handbills/business cards/pattern design. Create your own library using the block save facility. Printout on Epson compatible printer 9- or 24-pin. Hi-res mono only. Large and enhanced screens support-

offer over £40. Ring Keith on 0298 814887. (44)

Unison Eprom programmer: programs 2764(8k), 27128(16k), 27256(32k) and 27512(64k) Eproms. Two ZIF sockets for blowing consecutive, Hi, Low, or HI and Lo bytes - essential for ST cartridges. Plugs into cartridge port. Complete with driver software and manual - £100. Eprom eraser: erases up to 4 Eproms at once, built in timer - £25. Atari ROM cartridges (as sold by CARE), takes two 27256 or two 27512 Eproms. 20 of @ £5.00 each; 27512 Eproms 36 of @ £4.00 each. Will sell separately as above but prefer to sell complete for only £250. Lattice C v5 £30. Phone Worksp 0909 773564 for Martyn. (45)

Prospero C £20, Lattice C v5.5 £35, Fast Basic cartridge £5, all with manuals. Postage extra. Tel: 0363 772599 (Devon)

Atari ST Mega 4 with 12MB Ram (Marpet "XtraRam" - cost £400) and "Auto-switch Overscan" screen expander (cost £40) and "ICD ADSpeed ST" 16MHz accelerator (cost £170) and TOS 2.06 update with 1.04/2.06 switcher (cost £55): I think it's all worth at least £1200 but I need the cash so the best offer over £560 gets it. Also lots more hard/software for sale. Tel Graham on 0222 611463. (44)

Atari ST Mega 4 with Reflex Graphics card and Viking 19" hi-res monitor, absolutely perfect. Ideal for CAD/DTP work, brilliant for Cubase/Logic. Best offer over £499. Atari SLM804 laser printer, just serviced, new drum (£164) plus spare toner (£40): fantastic quality printing for only £399 ono. Tel Graham on 0222 611463. (44)

Floptical drive - 21 megabytes on a 3.5" floppy disk! And it reads and writes ordinary floppies! Only four months old. Cost me £400 - yours for £239 ono. Also £400 worth of Floptical

ted. Excellent user support. Features include block cut/copy/paste/rotate/flip/scale, powerful auto repeat primitives and block paste, vector and bit-image text, units in mm/cm/mtr/Km/ins/ft/yds/pixels and user defined, snap-to-grid and snap-to-line, sixteen levels of drawing, landscape and portrait. Send cheque/P.O. for £24.95 payable to J.H. Taylor at: 12 West Drive, Cleadon, Sunderland, Tyne & Wear SR6 7SJ.

SciSet

SciSet is now available for Calamus. SciSet has been completely redrawn and now consists of 20 typefaces: serif, sans serif, italic, oblique, Greek, greek italic and science symbols, all in three weights - light, medium and bold. The letterforms have been designed to be resistant to variations in the printing technology. From: Dr. Graham McMaster, Retsum Computing Solutions, 12 High Street, Turriff, Aberdeenshire AB53 7DS; 0888 62328.

disks (that's 420 megs) for only £150. Graham on 0222 611463. (44)

85MB Gasteiner hard drive. DMA in and through. ID switch on rear. No fan required so it's nice and quiet - £160 or nearest offer. Graham on 0222 611463. (44)

Mega STE 16MHz, 4MB Ram, 48 MB hard disk and 68881 maths coprocessor fitted. ViewTek greyscale monitor. Golden Image hand scanner with Touch Up, MiGraph OCR and Deluxe Paint. Software includes: Redacteur, Lattice C, GFA Basic Interpreter and Compiler, Fontkit Plus 3, Stereo Master, Warp 9, Imagecopy 2, Cyber Sculpt, 3D Calc Spreadsheet and 21 games (inc. Proflight, Knights of the Sky, Midwinter, Lemmings, Lemmings 2 and Space Crusade the Voyage Beyond). Over 50 disks of PD (inc. TeX, Ghostscript, Opus, GemView, Gnuplot and POV), dozens of ST magazines: ST Format, ST User and ST Applications no's 16-41 with disk mags 35-40 and books on C and 68000 assembler. All in immaculate condition. Offers around £900. Phone Mark on Newcastle 091 252 8768. (44)

Atari STE 4MB with TOS 2.06, high quality mouse, lots of software. Offers. ADSCSI + host adaptor with onboard clock, DMA throughput: offers. Atari developer docs, complete set of six manuals packed with info. Compute's AES/VDI/TOS programmer series, in my opinion the best available programming references: offers. Adam on 081 989 9672. (44)

Calamus 1.09n £50. 071 435 7664. (44)

Wanted

Copy of Diamond Back II. Phone with price: 0602 253281. (44)

A copy of Calligrapher Professional, given away on cover disk of ST Review issue 24 (March '94). I am unable to obtain this. Also, is there a Hewlett Packard printer driver available for the 7470A pen plotter? 0707 335978. (44)

Korg Wavestation SR Editor for Atari ST computer, preferably Steinberg Synthworks. Tel Brian on 0909 486971.

Reflex graphics card for Mega ST. Phone after 6.30pm 0922 616358. (45)

Hotwire for the STE. 0983 562313. (45)

Cubase, reasonably priced, second hand version needed for small special needs school to allow students to produce, and gain National Certificate modules in, popular music composition. Tel 0383 418223. (44)

BBS

DNA BBS. Ireland's first, only and best Atari BBS. On line specialist technical and MIDI help. High speed callers especially welcome. Instant access on first call. A Ratsoft/ST BBS. Call (24hrs) +353-1-549029 (V32BIS). (50)

Protocol BBS. Three free to enter competitions currently running. With 'free' commercial software for your ST, PC or Amiga. 15 ST file areas online with plus PC and Amiga areas. Got any Game Save files? We have a Game Save file and message area. Upload some Game Save files and win a competition or download someone else's and help them out, or just see if you can do better. Give it a try! Full details online, friendly Sysop. Call 0642 596597 - 24 hours - 300 to 14400 bps. (R)

The Confederation BBS - Support bbs for all "HITCHHIKER" software releases and GFA programmers. All the latest PD/Shareware from Europe and USA as well as Netmail message areas. On line each evening 10.00pm to 7.00a.m., at all speeds up to 2400. Give us a call today and you will not be disappointed as we are the most friendly BBS in the country - dedicated ST BBS only. 0533 413443.

Call the Fractal BBS on 0305 266304. 14400+bps. Now running RATSOFT ST 2.26 from the States. Any time after 9pm. (R)

The Bird Brain BBS - 0305 860245 10pm to 10am every night; all welcome. (R)

I'll Try That Once! ST-based BBS. Loads of file areas, 60-70 message echos, 10 on-line games. All speeds V326 V426. Give it a go! on 0453 765378 8pm to 8am. (R)

Crystal Tower BBS 081-447-8244 24hrs 300-2400 Baud (Towernet System) Atari ST, PC, Languages, Comms etc + much more. All welcome. (R)



FALCON FACT FILE

The Falcon Fact File is a free-to-join Membership Club set up to encourage users to help users. Application forms can be obtained by sending a stamped self-addressed envelope to:

FFF, 11 Pound Meadow, Whitchurch, Hants. RG28 7LG.

The completed form should be returned with a High Density disk and stamped return envelope. The member's details will be added to the FFF and the disk returned along with a selection of the best Falcon PD and Shareware to fill the disk.

May the FFForce be with you!

General

Portlink or serial interface for Atari Portfolio computer and/or any other items for swap or cash. Phone Paul on 081 542 8350 evenings or weekend. (45)

Calamus 1.09N/S/SL (please include fonts used) and That's Write/Write On files printed on HP Laserjet 4P @ 600dpi. Send A5 SAE to: K. Hornby, 33 Ingleton Drive, Lancaster LA1 4RA for further details. (51)

Calamus S and 1.09 output on HP Laserjet 4 at 600dpi - 20pence per sheet. Please include fonts with disk and SAE. Stephen Russell, 67 The Avenue, Camberley, Surrey GU15 3NF (0276) 21469. (54)

Cheap Litho printing and scanning service. Send SAE to Stephen Russell, 67 The Avenue, Camberley, Surrey GU15 3NF (0276) 21469. (54)

PDP magazine: a non-profit making venture for the Atari and Amiga owner. A serious publication covering reviews, general computer talk, programming, graphics and lots more. A new international look for 1994. Only 70p for a trial issue: 22, The Birches, South Wootton, King's Lynn, Norfolk PE30 0JG. Make cheque payable to J. Briggs. (53)

Exchange/sell Honda C70 for any software or hardware. Phone Paul on 081 542 8350 weekend/evenings. (45)

Membership of the Cheshunt Computer Club is the essential accessory for your Atari. If you live within reach of Herts then give me, Derryck Croker, a ring on 0923 673719 with your name and address and I will send you details. (R)

Guide Dogs for the Blind Appeal - Please send used postage stamps to help this worthy cause to: 19 Dunloy Gardens, Newton Abbey, Co. Antrim, BT37 9HZ. (R)

Professional typeset from 1st Word disks. Over 100 Faces. Output to high quality PMT. Much better than laser. Also cheap printing A5/A4 single colour. Contact: AZTRAL Games, PO Box 8, Lowestoft, Suffolk, NR32 2AS. (R)

'Alternatives' fanzine - Quarterly. £1 per issue. Issue 9 out now (Autumn), Issue 10 out soon. Send £1 (which includes p+p) and address to Alternatives, 39 Balfour Court, Station Road, Harpenden, Herts. AL5 4XT. Writers, visionaries, artists needed. Details to the above address.

Contacts

Atari contacts wanted in Surrey/South London. Ring Paul on 081 542 8350 evenings or weekend.

Anyone interested in forming a user group for the ST and STE in the area of Prestatyn please ring 0745 825036. Ask for Paul.

The Psychedelic Graphics Generator

Slideshow alternates A & B drives or uses HD. Better bit-plane merge effects than before. New menu with many new functions. Stereo sound with STE's with more than 1 Mbyte RAM.

Minimum requirement: 1 floppy drive, 1 Mbyte RAM, colour monitor.

£10 for two packed disks including help, numerous example screens plus ZONK from:

Dave Henniker, 199 Bruntsfield Place, Edinburgh EH10 4DQ. (State type of ST.)

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Invoice Master 1 is very easy to use. Simple invoice generation with a customer database and quick, straightforward summaries.

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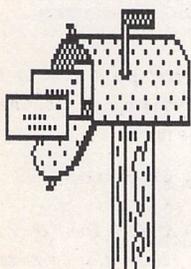
Mick Austin, 77 Dargate Road, Yorkletts, Whitstable, Kent CT5 3AG; telephone: 0227 772334 between 10.00 and 20.30.

Please insert the following advert for Issues under the following classification: / ST Contacts / For Sale / Wanted / General / User Groups. Adverts are free to ST Applications subscribers and boxed classified adverts cost £3.50 per issue.

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	AP.391	Calendars and Body
	AP.400	Demo's
	AP.900	Uniterm and Vanterm
	AP.901	Comms Terminals
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AC.287	Hotbabes #6
AC.288	Hotbabes #7
AC.289	Hotbabes #8
AC.290	SPX #3
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AC.292	SPX #5
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AM.482	World #2
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AM.602	Clipit #2
AM.603	Clipit #3
AM.604	Clipit #4
AM.605	Clipit #5
AM.606	Clipit #6
AM.607	Clipit #7
AM.608	Cooper Clip Art
AM.609	Cooper Clip Art
AM.610	Cooper Clip Art
AM.611	Cooper Wacky Cartoons
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AM.652	Misc #2
AM.653	Misc #3
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AM.655	Misc #5

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AM.658	Misc #8
AM.659	Misc #9
AM.660	Misc #10
AM.661	Misc #11
AM.662	Misc #12
AM.663	Misc #13
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AM.614	Lise Bis Jensen Portfolio
AM.615	Panthersoft Smart Art
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AM.703	TNY #3
AM.704	TNY #4
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New image formats. In addition to the large number of previously available formats, Imagecopy 3 can read and write the following file types:

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* New write formats: Deluxe Paint, GIF, IFF, JFIF (JPEG), PCX, Prism Paint, Targa monochrome/palette-colour, TIFF LZW-compressed, Windows Bitmap, XIMG true-colour.

JPEG compression offers a dramatic reduction in the file size of true-colour images.

Improved user interface, with hierarchical menus and extensive menu/dialog shortcuts. Configurable single-key menu shortcuts.

Improved conversion option, with the ability to convert image colour depth as well as image format.

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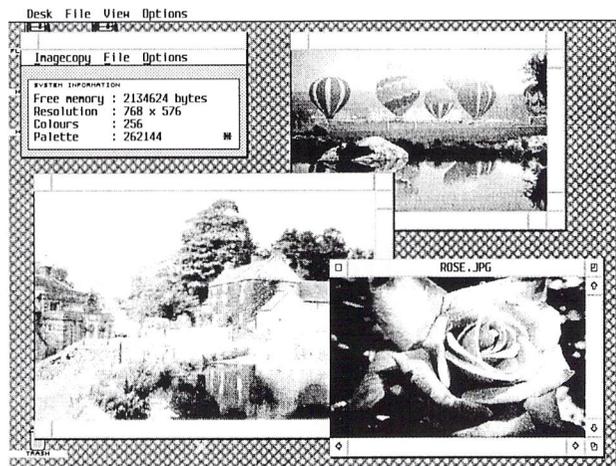
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Imagecopy 2

Image utility for Atari ST/TT/Falcon computers

Copy images from screen in any ST/TT/Falcon video mode. Images can be copied by pressing Alt-Help, and a

flexible rubber-banding system allows images to be selected with a fine degree of accuracy.

Display images in any ST/TT/Falcon video mode. Colour-mapping and dithering is used to display images in video modes which contain fewer colours. Several images may be displayed simultaneously in GEM-window or full-screen display modes.

Print images and screen dumps in black and white or colour on a wide range of printers, including 9-pin and 24-pin dot-matrix printers, Bubblejet printers, Deskjet, and Laserjet printers. Imagecopy 2 offers print-scaling, variable-sized halftones for realistic colour depth, and comprehensive colour controls, and is able to print images containing up to 16.7 million different colours (24-bit true-colour). Print-colour options include: monochrome, CMY colour, CMYK colour, CMY separation, and CMYK separation. Colour separation modes can be used to print full-colour images on a monochrome printer.

Convert images between different formats (see below).

Extensive range of image formats: Imagecopy reads the following formats: TIFF, Targa, IMG, extended IMG, DEGAS, Neochrome, Art Director, Tiny, GIF, Spectrum, IFF/Deluxe Paint, Windows bitmap, OS/2 bitmap, PC Paintbrush (PCX), and Macpaint. Images can be saved in the following formats: TIFF, Targa, extended IMG, DEGAS, and RSC. TIFF support includes baseline TIFF apart from Huffman compression (uncommon), common extensions such as LZW compression, and the ability to read non-standard TIFF images produced by ST programs such as Retouche.

Can be used as a print program with paint programs like Degas, HyperPaint, True Paint and PixArt.

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