Price: £1.50

ST APPLICATIONS

The Magazine for Users of Atari ST, STE and TT Computers — *Issue No. 6 May 1991*

THIS MONTH

REVIEWS

ARTICLES

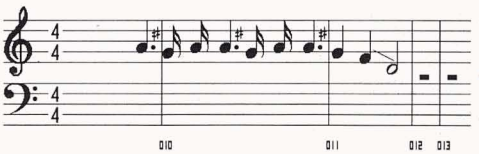
REGULARS

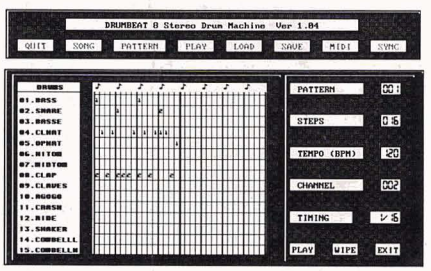
Plus PD Update

4-page Supplement on the latest PD and Licenceware disks starts on Page 29

The screen display on monitors attached to an ST leaves quite a large blank margin around the actual picture. AutoSwitch Overscan, reviewed in this issue by Derryck Croker, is a hardware add-on that makes use of the margin area to enable a bigger 'window' on the work area.

Making Music with QUARTET





Two music packages are reviewed in this month's issue: version 1.5 of Quartet gives you the power of a digital music synthesiser, whilst the Playback cartridge generates stereo output from your ST.

and PLAYBACK

OPUS 2.2 SPREADSHEET

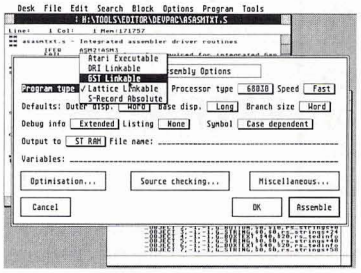
Opus is a public domain spreadsheet programme that outshines some of its commercial cousins. In addition to offering all the usual spreadsheet functions similar to those of Lotus 1-2-3, Opus also has excellent charting facilities. Review by Keith Jackson.

HiSoft News

All the latest news and product information.

DevpacTT, now!

HiSoft Devpac TT, the complete assembly language development system for your Atari TT computer, is now available.



Comprising a multi-window editor, a 680x0 macro assembler, a fast linker and a powerful symbolic debugger, Devpac TT provides you with all you need to program efficiently and quickly on the TT. Features include:

Editor

- Full multi-window support with cut and paste between windows and pop-up menus
- Up to 9 tools give a complete visual shell
- Environment variable support
- Powerful non-ASCII character pop-up to allow unusual characters to be entered using the mouse from the editor and within dialog boxes
- High speed search algorithm capable of searching more than 1Mb per second
- Nine bookmarks to remember arbitrary points in the source text of any window
- Support for mouse block marking complete with shift-clicking, word and line orientated marking as well as 'click and drag'.

Assembler/Debugger

- Many directives and optimisations to exploit the 68030/68882
- Extended command line support with optimisations, options and variables all accessible from the command line
- Support for DRI, GST, Lattice format linkable code, Atari executable format and Motorola S-Records
- Assembly of 68030/68882 code at 200,000 lines per minute
- Fully TT compatible debugger with support for 68030/68882 and the TT screen modes
- The debugger contains all the features you would expect: multi-windows, conditional breakpoints, full expression evaluator etc.
- Utilities include a Ramdisk, S-record splitter and debug information splitter.

Devpac TT comes complete with a 300-page, ring-bound manual. Also included is the official Motorola 680x0 family Programmer's Reference Guide which gives complete instruction details for the 68030/68882 etc.

Wordflair News

We are pleased to announce the immediate availability of the UK version of Wordflair, the integrated document processor.

With its powerful combination of text, graphics and calculation regions together with its integrated database, Wordflair is ideal for newsletters, product brochures, form letters, mail shots etc.

Wordflair provides all of the features you need for efficient word processing ... and much more. Wordflair lets you combine text, graphics, and images, with its easy-to-use page layout tools. in addition, you can dynamically link calculations and data throughout your document, giving tremendous flexibility and power.

Many of you will of heard of a new version of Wordflair - Wordflair 2. The US version of this package has just been released in the States and we will have the UK version available in May 1991. Some of the important features of this new release are the inclusion of a spelling checker, a thesaurus and FSM GDOS, which is based on outline fonts, giving much improved display and printing of fonts.

The RRP of Wordflair 2 will be £99.95, initially, and the upgrade price from Wordflair 1 will be £39.95. If you use the coupon below and order before 1 May 1991, you can obtain Wordflair 1 for the special price of £59.95. So why not experience Wordflair now and then upgrade without it costing you a penny more?

HighSpeed Pascal

We have recently discovered a brand-new, and rather exciting, version of Pascal for the Atari ST and TT computers.

HighSpeed Pascal comes from Denmark, is extremely fast and friendly to use and is very closely compatible to the immensely popular Turbo Pascal on the PC, even including the graphics unit from the PC.

Compilation speed is roughly 20,000 lines per minute with excellent code generation for the ST and the new TT.

HiSoft has been appointed the exclusive distributor of HighSpeed Pascal in the UK, USA, France, Australia and New Zealand. RRP £89.95. Exisitng Personal Pascal users can upgrade to HighSpeed Pascal at a reduced price - please call for details.

ProFlight 1.2

We are pleased to announce the release of version 1.2 of ProFlight, our immensely popular Tornado flight simulator, loved by reviewers and users alike.

This new version of our Tornado flight simulator includes improved colour graphics, the ability to save your cockpit set-up, a pause key, more control over the view angle and more ... it even works on the TT!

Registered users can upgrade by sending their master disk back, together with £2.50.

Use this order form to obtain your HiSoft Software directly from HiSoft and we will send you a Starter Pack consisting of a quality mouse mat (printed with the ST ASCII set), an attractive disk wallet and 4 double-sided disks, totally free of charge!

❑	**HiSoft Devpac TT**	**£129.00**
❑	**Wordflair - *special price***	**£59.95**
❑	**HighSpeed Pascal**	**£89.95**
❑	**Lattice C Version 5**	**£149.00**
❑	**HiSoft DevpacST 2**	**£59.95**
❑	**HiSoft C Interpreter**	**£49.95**
❑	**FTL Modula-2 Developer**	**£99.95**
❑	**Power BASIC 1.3**	**£49.95**
❑	**Harlekin**	**£49.95**
❑	**TurboST 1.83**	**£34.95**
❑	**HiSoft KnifeST**	**£29.95**
❑	**ProFlight**	**£39.95**
❑	**Tempus 2**	**£39.95**
❑	**Your 2nd Manual**	**£14.95**

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HiSoft software is available from good computer shops. In case of difficulty, you can order directly from HiSoft. For export terms or further details on any of our products, please call or write to us. All prices include VAT and P&P within the UK.

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High Quality Software

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There is a limited amount of space for commercial advertising in each issue of ST Applications. Contact Nicky Wilson on 0602-410241 for further details and to request a media-pack. Subscribers can place free classified advertisements - see page 57 for details.

Subscription Rates

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12-issues plus 6 Disk Mags : £26.50

Air Mail Worldwide:
12-issues : £28.00
12-issues plus 6 Disk Mags : £34.50

Subscription and Order form will be found on page 57.

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. Disk Mag subscribers will be sent their copy of Disk Mag DMG.22 a few days after this magazine is despatched.

Your Guarantee

If at any time you wish to cancel your subscription to ST Applications you may do so simply by informing us in writing. The full unused balance of your subscription will be refunded by return of post.

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.

News in Brief

GST Upgrades

The first upgrade to the ST version of Timeworks Publisher for a very long time offers Atari TT compatibility, Ultrascript compatibility for Atari Laser users, improved PostScript handling, correct printing of multiple copies, use of the Esc key to force a screen re-draw, plus some internal changes to 'improve reliability'. First Word Plus has also been fixed for TT compatibility with the release of version 3.20. Both upgrades are £8.95 each, or £4.95 to Softline members.

GST Softline are also supplying the Migraph GDOS driver for Hewlett Packard DeskJet printers. Although not as flexible as the - no longer available - Neocept Turbo-Jet driver, the Migraph driver is compatible with all GDOS applications, including Easy Draw and Timeworks Publisher. Cost: £19.95 from GST at Meadow Lane, St Ives, PE17 4LG; (0480) 496600.

Infra-red ST

ST-IC, the latest gizzmo from Romulus Data Systems, claims to be capable of controlling any domestic appliance that has an infra-red remote control unit. ST-IC is connected to the ST's printer port, with a pass-through for your printer. Once ST-IC has been taught the codes used by your remote control units, you can set up sequences of commands that may be saved to disk. Romulus Data Systems, 2 Downs Grove, Southview Park, Basildon, SS16 4QL.

Portfolio Connections

Artisan Software in the USA have released a software system to transfer data between an ST and the Atari Portfolio pocket PC computers. TransporT offers easy ASCII file transfers between both machines, plus extended systems which support additional features such as X Modem, non-ASCII character stripping, on-line help, and file viewing. The software, which requires a Portfolio serial interface and a null modem, is available at $24.95 from Artisan Software, PO Box 849, Manteca, CA 95336, USA

Stumpf to go West?

Reports in the German press have suggested that Atari Germany's General Manager, Alwin Stumpf, will take up a one year posting in Canada in an attempt to get Atari back into the mainstream North American computer market. The implication seems to be that Stumpf will take over where Elie Kenan left off after his return from the USA to France at the tail end of last year.

Micro Care Moves On

Despite a disappointing response to the first Micro Care disk, organiser Paul Bocij has put together two new disks for Licenseware-style distribution. For every disk sold by a PD library a royalty payment is made to Micro Care, who then pass on the donations to the nominated charities. The second Micro Care compilation disk contains a lot of original material, rather than re-runs of ST Format cover disk programs. The second disk launched this month is a suite of educational programs, complete with an on-disk manual. For fuller details on the content of these new Micro Care disks see the box at the end of the PD Update section on page 31 of this magazine.

PageStream 2

Still imminent; mid-May is now the expected launch date for PageStream 2 on the ST. New features should include: optional use of bit-mapped fonts for small point sizes; outline fonts on screen for large text; Import modules for TIFF, MacPaint, GIF, ProDraw, and IBM Encapsulated PostScript; Export to IMG format bit-image graphic files. Typeface handling has been considerably overhauled with support for industry-standard typeface collections including Adobe Type 1 and Compugraphic Intellifonts.

Medium Hype

A colour medium resolution version of the ST Hypertext package, Hype!, has been launched by WooleySoft. Hype is a GEM-based 'hypermedia' set-up that allows text, graphics and sound to be linked into a single information package. The new version is available at £19.95 from WoolleySoft, Humblesknowe Cottage, Ramoyle, Dunblane, Perthshire, FK15 0BA.

Mice Come Down

After around three years of intensive use, the standard Atari mouse can be counted on to start dropping clicks and generally misbehaving. Not surprisingly, there is an increasingly bewildering choice of replacement rodents on offer. A few of the more recent replacement rodents include: Contriver's "5-in-1" multi-computer mouse (£29.99) and their MultiDpi (100 to 800 dpi) multi-speed mouse (0280-822803); with the appearance of so many 'very similar' mice (clone mice?), Naksha have slashed the price of their "Upgrade" mouse from £39.99 to £28.99 (0925-574439); Pandaal are offering a 360dpi ergonomic mouse with microswitches for £29.99 (0234-855666); Compo are offering That's Mouse, a self cleaning 290-dpi mouse for £19.95 (0480-891819).

Network News Services

Owing to a serious illness in the family, Frank Sheen regrets that he is currently unable to provide the usual level of round-the-clock service to his customers. The NNS nationwide contacts and outlets are, of course, still up and running and prepared to offer all of the full range of NNS services; staff at the NNS print works in Tilbury are handling all sales queries and orders as usual.

Animated Condor

Phase 4, a suite of high quality animation packages, is due for launch by Condor Computers. The mouse or tablet driven system is made up of four integrated packages: Prism 24 Paint, Prism Render, Rosetta 3D, and the Chronos 3D Viewer. The package will retail at £460 and is aimed primarily at the Amiga-dominated video production and graphic house market.

In the very near future Condor will also be releasing the 16MHz upgrade to the Supercharger PC Emulator. With a pure 386 chipset it promises to be the fastest PC-compatibility option for the ST.

AT Speed AT Once

PC emulators AT Once (Silica Systems: 081-308-0888) and AT Speed (Compo: 0480-891819) are now available with 16MHz 286 processors. With AT Speed this has the effect of increasing its Norton rating from 6.7 to 8.2; the 16MHz version of AT Once is a shade slower with a Norton rating of 8.1. AT Speed also features a socket for a 80287 maths co-processor, and an upgrade to the 16MHz board will be available for users of current AT Speed boards.

Video that Hard Drive

Surface UK are offering a £169 system that must be the cheapest non-disk hard disk backup utility; it allows a domestic video recorder to be used to backup a hard disk. Surface have also taken on the full range of ST products from long-time Atari supporters, Supra Corporation. These include the SupraDrive 40MByte and 105MByte hard drives (£399 and £699), plus a range of modems which includes the highly impressive SupraModem 2400 with MNP 2-5 at just £179. More details from Surface UK Ltd on: 081-566-6677.

Colour Rombo

Rombo's VIDI-ST video digitising package is now available in a full colour version, VidiChrome ST. This £179 package allows colour images to be captured using a video recorder, or even mono video camera with three coloured filters. More details from Rombo on 0506-414631.

Fontkit Upgrade

Fontkit Plus 3.2 has been updated to version 3.25. This contains improved facilities for editing Signum fonts, and also fixes some bugs which existed in version 3.2. Fontkit users who have version 3.2 can upgrade for £1 by returning disk 1 of their master disks.

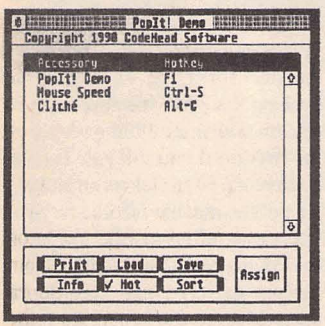
System Solutions

After a year of sterling service to the ST market, Atari Workshops have re-vamped their image, taken on more staff, increased their product range and re-christened their operation System Solutions.

Complementing the wide range of German hardware add-ons and enhancements that Atari Workshop have been offering for over a year, the range of new products is bewilderingly vast.

CodeHead

This Los Angeles based software house has appointed System Solutions their new UK distributor. MaxiFile 3.1, Hotwire 2.4, MultiDesk, Lokit, Poppit, CodeKeys, and the CodeHead Utilities will all be available at £29.95 each from System Solutions.



Poppit allows accessories to be 'hotwired' and called up from within applications with a keypress.

BioNet

For setting up networks linking ST's, Mac's and PC's, System Solutions are supplying the BioNet 100 Ethernet network. Facilities include backup file-servers, multiple file-servers, remote logon, spooler printing, electronic mail, and password protection.

Calamus Support

Calamus users are catered for with the launch of the full range of Calamus fonts from the Canadian type shop Cherry Fonts. A wide range of 90 fonts is available at £19.95 (+VAT) each. Special offers include any six fonts plus a free Dingbats font and a free A4 bromide for £99.50 (+VAT).

System Solutions have been granted the European distribution rights to Gregg Rodgers' font editor, Genus. The package comes with a comprehensive manual, complete with useful tutorials, and costs £79.95. Or it is available with the 90 Cherry fonts for £995 plus VAT.

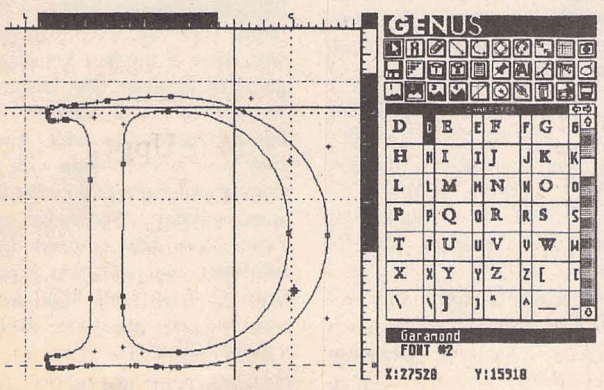
GENUS™

Genus will edit all types of Calamus fonts, including copy-protected and encrypted fonts. The editor features a full screen display, alignment rulers, four levels of zoom, two clipboard buffers with cut and paste facilities complemented by the ability to have two fonts loaded at the same time, calculator functions for rotation, italics, mirroring, expansion and condensing that may be applied globally, manual tracing of bit-images, import of Calamus CVG vector files, import (but not export) of PageStream fonts for conversion to Calamus fonts.

Repro Studio

Frankfurt based software house, Trade It, have appointed System Solutions to distribute their new range of scanning software in the UK. The software includes Repro Studio and Repro Studio Plus for manipulation of scanned images, Avant Vector for converting bit-image data into vector data, and Avant Vector Plot for HPGL and CPGL plotter support. Images may be saved in IMG, STAD, TIF, PI3, CVG, GEM, and Encapsulated PostScript formats.

The Repro Studio software will be available bundled with scanners from Logitech. A wide range of scanners are supported, from 32 grey scale hand held units right up to full colour flatbed scanners offering 256 true greyscales. The Logitech ScanMan Plus 256 handheld scanner plus Repro Studio will retail at £399 plus VAT.



X-Boot

Working in a similar manner to the shareware utility Superboot, X-Boot is a set-up-at-boot-up utility. Auto folder programs, accessories, set-up and configuration files may all be selected at boot-up; and the system allows frequently used set-ups to be assigned to function keys. X-Boot will retail at £29.95.

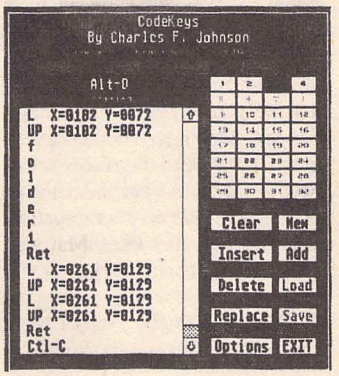
FAX Modem

The TKR Fax allows combined ascii and IMG data to be transmitted direct from your ST. Received faxes can be automatically received by the TKR software and stored on disk. The TKR Fax will operate as a 9600 baud group 4 fax and can also be used as a 2400 baud data modem; it will cost £299.

And More!

As well as their own products, System Solutions will be distributing the applications software and hardware products published by Compo, Kuma, Titan Designs (Reflex card and A4 monitors), CRP-Koruk (A4 and A3 digitizing tablets), and Atari UK. Their association with Atari is being launched with a special offer on LDW Power, at an offer price of £99 instead of the normal price of £129.

System Solutions are at Unit 19, Sumner Workshops, Sumner Road, London, SE15 6LA; Telephone: 071-252-7775.



Codekeys records keystrokes, mouse movements, etc., and plays them back. Macros may be edited, nested and re-played at set times or set intervals.

Lederhosen

Some of the latest products to appear on the German ST market

A range of VME bus devices, including an Ethernet Network, is available for the TT and Mega STE from PAM Software, Tel. +49 6131 476312.

The Bodoni collection is a set of very high quality fonts for use with Script and Signum. Faces are available in point sizes from 7-point to 22-point with individually designed bold, demibold, light and italic versions of each face. Prices start at DM 198. Semiotic Soft, Tel. +49 89 174587.

The Danish Mermaid Group have finished the latest version of their multi-function accessory Harlekin II. Maxon are retailing the new version at DM 159; upgrades from the first version cost DM 60. The UK version will be available from HiSoft.

Convector is a package for converting bit-image graphic files in IMG, PI3, ABM (Arabesque) and PAC (STAD) format into GEM metafiles. The package will work both as a program and as an accessory, and features 'flying dialogue boxes'! Convector costs DM248 and is published by Shift GmbH, Tel. +49 461 22828.

The range of software from Tommy Software now includes: MegaPaint Professional v3.01 (DM299) and MegaPaint Professional Plus (DM799). Add-ons for MegaPaint now include: TT Module (DM199), GEM Metafile Module (DM149), MegaPaint Fonts (DM79), MegaPaint Developer Documentation (DM50), ACC Module (DM99), and their auto-tracing 'Super-Vectorizer' ObjectMaker (DM299). Further details from UK MegaPaint distributors Silica Systems, or direct from Tommy Software on Tel. +49 30 621 4063.

Press Here

Piper offers an in-depth report of the Atari Press Conference held on the 12th of March.

After a year in which the word "tarnished" would give too gleaming an impression of their public image, Atari UK called a press conference, nominally to announce their new product range - most of which was old news since the Mega STE and TT had already been out for a while in different parts of the world - but perhaps more importantly to convince the assembled mob of jaded hacks that this time they were serious. This time they were going to provide machines, support and most of all SERVICE that would take them out of their sad decline to the number one spot for affordable computers in this country.

The presentation started with Bob Gleadow giving a quickie overview of the year, with turnover down but profits up, mainly because of "extraordinary" sales of its discontinued operations - translated to dropping its remaining holdings of Federated, the chain Atari purchased in the States, which brought it close to collapse in a "confusing disaster" which Mr. Gleadow promised would not be repeated. Atari will now be concentrating on what it does best, bringing affordable computing power to the masses.

He then gave us tasters of what's to come, starting with the TT with Unix which is to be (has been by the time you read this) previewed at CeBit. The maximum configuration of the TT that is currently being catered for is an 8 MB RAM 600 MB hard disc monster, capable of having internal memory of up to 24 MB, with the Atari-developed X windows-based GUI Wish to make the Unix operating system a little more approachable. It will be aimed at people looking to get into the graphics workstation market, and there's to be a major push to try to get it into universities.

Then things started to get interesting. The STE version of Stacy, the Atari portable which never was, will not be available until next year, but will fix the major faults of the Stacy, including the fact that you can't find the damn thing. Called the ST Book, it'll be more portable, have better battery life and sport all the STE advantages.

Nice enough, but better was to come. Also in the R&D stage is the ST Pad. This is another portable, but won't have a keyboard. Instead it will rely on a stylus and smart screen and some rather nifty software to translate handwritten notes into professionally typed letters. The advantages of such a system are pretty obvious, since everyone knows how to use a pen, and the feel of such an implement is far more "natural" than using a mouse, especially when thinking of graphics applications. All this was meant to show that Atari is now back on course as far as its future developments go. What about the present?

Paul Welch disclosed that Atari had seen a 30% growth in 1990 for the ST, and that one of the few growth areas in the High Street last year had been in the computing arena. Because of this, many of the big chains that ran away in the mid eighties when the market collapsed are now sniffing hungrily around again, and Atari are trying to make sure they have the most attractive scent. Already they're in with the mail order catalogues, talking to the House of Frazer chain and coming to an agreement with some of the major computer specialist distributors. The reason for all this palliness is simple: Atari are aiming for a target of 200,000 machines sold this year alone.

The way they're expecting to do this is by pumping £4,000,000 into advertising on TV, in the cinema and in the specialist and national press. An impressive figure, the details of which they were happy to break down to show that they're the only computer company bothering to advertise on TV in any but the more traditionally affluent areas.

So the money's there, but how is the product going to be pushed? Again, a departure from the normal: Atari are now going to be pushing a new pack, the Family Curriculum, as the main gateway into computing. It will consist of a 1040 STE running the new and very much improved TOS 1.6, and five "modules", each aimed at a different member of the family. Peter Staddon said Atari wanted to get away from the idea that computers are for 13-15 year old Caucasian males.

Three modules are educational packs, the first for pre-school children, the second for those in junior school and the third to assist with the traumas of GCSE's. The fourth is described as the creative module, consisting of Hyperpaint, a graphics package, MusicMaker 2, the purpose of which I will leave to your imaginations, and ST First Basic for those who want to get down to a bit of programming. The final module is aimed at "business" applications, containing ST Word, ST Base and ST Calc, covering the three major areas of business use, the word processor, the database and the spreadsheet.

All this in one rather tastefully done package is only going to set you back £399.99, the same price as the old STE Turbo pack, which is dropping to £349.99 to make room for it. This is going to be the first package that doesn't contain any games, and is really a major gamble for Atari, finally realizing that the games market is very finite and fickle and any long-term growth has to be based on people considering the ST as a serious computer and Atari as a committed supplier.

At every point, Atari were trying to push home the point that they were going to be taking the market very seriously from now on. As an example, it was interesting to hear Mr. Gleadow actually admitting that there had been a mistake with the DMA chip in a batch of STE's.

He quickly went on to qualify this by saying that the actual number of machines returned to them was fewer than 100, whilst he'd imported over 1,000 debugged DMA chips to cope with any possible problems. He also re-iterated that he couldn't possibly guarantee the performance of third-party equipment with Atari machines, but that any manufacturers who needed technical information from Atari had only to ask, and Atari would happily test and approve equipment sent to them prior to release to the public.

They were in some way the same words that came out before, but with a far more conciliatory tone to them. How true they are remains to be seen, but it seems that Atari have already taken the first steps by preparing an ad due out later in the year which will actually feature recommended third-party add-ons, including hard disks.

The news on the Mega STE's was rather more low-key. Atari are to bring the machine out as the natural progression for a second time buyer, allowing people to choose a bare-bones machine with 1 MB memory and a high res monitor for £599 ex VAT, but pushing the 2 MB machine with 50 MB hard disk at £899 ex VAT as the favoured entry level. This inclusion of a hard disk as an integral part of the machine should have an interesting effect on the market if the Mega becomes as much of a success as it should, considering the power of the beast. As Atari will be presenting it as an ideal machine for the student, it's interesting to hear that Atari are again making pushes into the education market, doing mailings and presentations around the country.

Like any other computer, the success of the Mega will in large part be dependent on the software that's brought out for it. Atari are now working with hardware and software producers to try to ensure that there will be products available and that the incompatibility problems are kept to a minimum. There are even discussions with some of the best-known suppliers of programming languages to try to persuade them to bring out applications as well. And if they have any problems with getting the programs to do what they want without using illegal calls, Atari have also re-opened the hardware and software support lines to help find legal ways around, to ensure future compatibility.

The arrival of the Family

Curriculum pack pushes the Mega's somewhat away from centre stage, which is unfortunate since they are so much more powerful and versatile. Indeed, Atari UK don't seem quite prepared for them as yet, announcing no package deals, and no direct Mega-specific advertising. Presumably this will be the next stage of the campaign, after the full range adverts are seen to be having an effect. The Family Curriculum push is definitely seen as the first step in regaining the confidence of the market in Atari as suppliers of computers rather than just games machines.

Not that Atari are against games machines, of course. The Lynx was given great prominence as a portable video arcade, and the decision to package the basic Lynx in the same way as in the States, with no power cable or other extras, means that they can now have an entry-level Lynx pack at £79.99, putting it roughly on par with the Stateside price of $99.99 excluding local taxes. At present, there really doesn't seem to be any competition for it, the Gameboy being a very pale shadow of the Lynx without offering much in the way of a price advantage. If the Lynx doesn't become a raging success, it would only be because of the limited number of software titles available for it.

Atari have thought of that. At the moment there's a selection of only sixteen titles. By the end of the year, they say there will be a further fifty. That's mass market appeal through the hardware and the software, and again it'll be backed by mass advertising. It seems as if Atari are really on to a winner this time.

Other news on the Atari games front was scarce, with no-one really wanting to say anything about the Panther games console other than that it was ready and waiting for the software support for it to become available, developers even now beavering away with their development models.

Overall, the briefing had the desired effect, persuading the journos that Atari had finally come down off of their self-constructed pedestal and were back in the real world. Power without the price?

Undoubtably, but now maybe it'll be power to the people as well.

Retouche Affordable

The £150 baby version of 3K Computer-Bild's Retouche Professional will be available soon from Copycare. Unlike the current generation of 'bit-by-bit' touch-up software for the ST, Retouche offers up to 256 grey scales and a myriad of special effects and drawing tools. Retouche will require a minimum of 1 megabyte of RAM and an Atari SM124/125 high resolution monitor.

For full magazine quality results, Copycare offer Retouche Professional (£450) and a range of Epson colour scanners (from £1,700). In the pipeline is a colour version of Retouche.

The latest offering from 3K Computer-Bild is Didot LineArt: a stunning vector-orientated graphics package with full font editing facilities. Didot ensures compatibility with all DTP applications; it offers loading and saving of GEM metafiles and Calamus vector graphic (CVG) files, but it will only write PostScript files. As a font editor, Didot will edit both Calamus and PostScript Type 1 fonts.

One major plus that Didot has over alternative ST software of this type is that it offers an auto-tracing facility: the package will approximate the vector-equivalent of imported IMG bit-image file. The results are rarely perfect, but the auto-tracing takes some of the pain out of converting bit-image data into vector data.

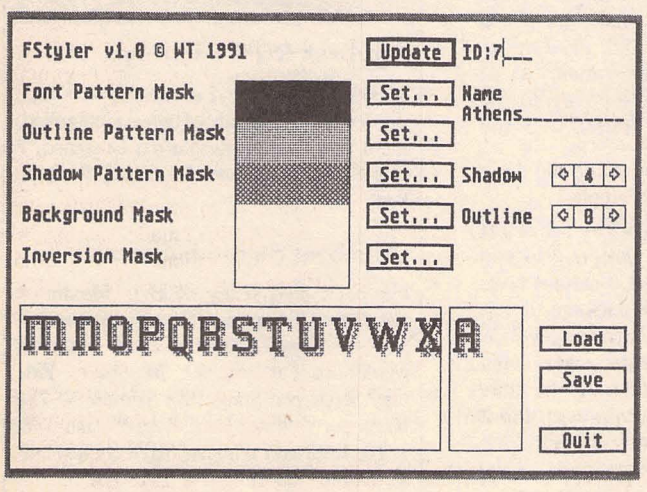
More details on all of these products from Copycare on: 081 679 7307.

Calligrapher Add-ons

Working Title have launched two new utilities for use in conjunction with their Calligrapher word processing package.

FlexTex wraps Calligrapher vector text around paths such as ellipses, bezier curves and angular lines. The package generates .GEM files that may be imported into Calligrapher, or any other package that supports GEM graphic files. FStyler re-styles both bit-mapped and vector Calligrapher fonts to produce fonts with patterns, shadows and outlines.

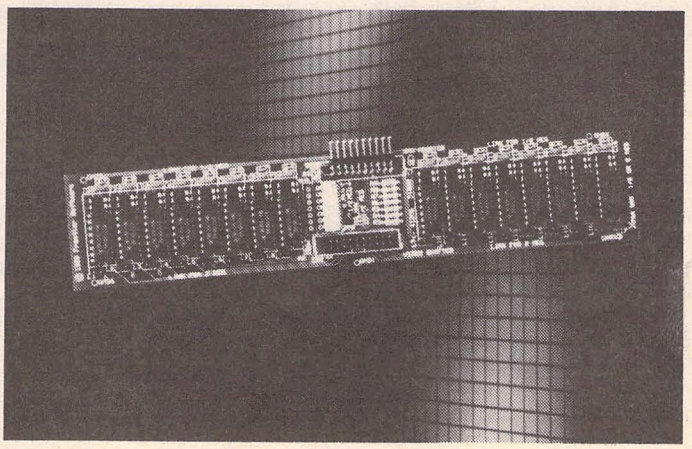
FlexTex and FStyler are available at £25 each from Working Title, PO Box 4, Eynesham, Oxford, OX8 1UD. Tel. (0865) 883592.



Xtra Cheaper

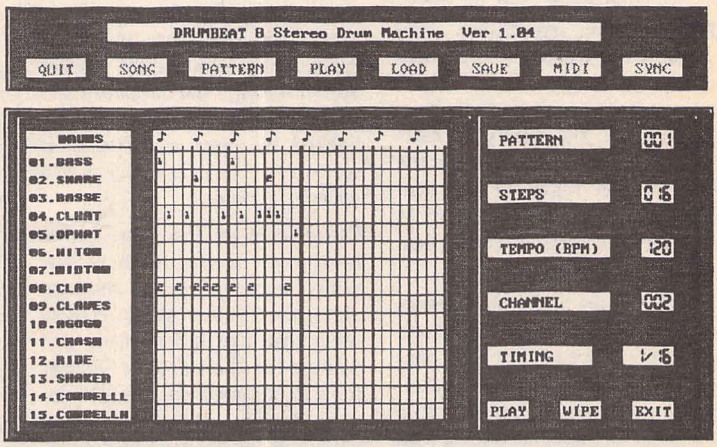
Thanks to economies of scale and dramatically lower DRAM prices, Frontier Software have further reduced the prices on their Xtra RAM memory upgrades. The cost of a board to take a 520STFM up to 1 Megabyte has come down to £69.99, with the 2Mbyte board (giving a 2.5Mbyte ST) costing £159.99. The half megabyte upgrade may be converted into a two megabyte upgrade simply by swapping the RAM chips on the board, and users who would prefer to source their own RAM chips can buy a bare Xtra RAM board for £54.99.

As well as a 12-month warranty and a 10-day money back guarantee, Frontier now also offer a new dispatch policy: if they fail to dispatch any product within two working days then Frontier will give the buyer a 25% discount. Frontier Software, PO Box 113, Harrogate, HG2 0BE; (0423) 567140.



Playback

Drumbeat Stereo's pattern editing screen - simplicity itself to use.



When the STE was first released in 1989, one of the first questions existing ST owners were asking was "can I upgrade my machine to STE specification?". This was quickly ruled out on the basis of cost - simply too much had been added to the basic ST system to make it a viable proposition. Slowly but surely, however, third party companies have been producing peripherals which allow ST owners to access at least some of the facilities that their STE-owning counterparts probably take for granted. John Russell Innovations has already produced a 4096 colour card, and now Microdeal are weighing in with their Playback stereo output cartridge, reviewed on this page by Michael Baxter.

The Playback hardware simply consists of a standard-sized Atari ROM cartridge with two RCA phono output sockets situated on its outer edge. Connect this to a suitable external amplifier, and hey presto, you now have an ST with two-channel sound capabilities. The demo program on the accompanying disk confirms this, playing back a funky Quartet music file in glorious stereo. It sounds good and indeed it is good, but Playback has an unfortunate limitation. Unlike an STE which automatically sends all its sound output to the phono sockets regardless, Playback has to be specifically programmed by the currently running software to produce any output. At the moment, such programs number around, er, four - Quartet v1.5 being one of them, Drumbeat Stereo, which is supplied with the package, and Microdeal's Mastersound II and Replay series of samplers being the others. So you can forget any ideas of loading up your favourite game and playing away to thumping hifi output - it simply won't happen, and unless Microdeal sell many thousands of these cartridges, it is never likely to either.

Several source code routines are supplied with the package which allow you to drive the Playback cartridge from within your own programs. The manual is also quite helpful in this respect, giving technical programming details and AVR sample data format listings. Source code in Atari, Power, and GFA Basic is supplied, as well as an assembly listing in Devpac format.

In way of a bonus, and as a demonstration of Playback's potential, Microdeal have included a special stereo version of their powerful Drumbeat software, normally only supplied with their £129 Replay Professional sound sampling package. Drumbeat is a deceptively powerful drum machine - it operates like many commercial drum machines using a Pattern and Song format to create sequences. Up to fifteen drum samples can be loaded into memory simultaneously to make up a kit. These can then be sequenced into a pattern and played back in stereo. Drumbeat also provides full MIDI support allowing full control over external drum machines. Output quality, as you might expect, is excellent. Drumbeat is a curious but welcome addition to the overall package.

Summary

Points for: Provides ordinary ST's with a quality stereo output facility at a reasonable price.

Points Against: Output is not automatic, which makes it useless for the vast majority of current ST software.

Conclusion: Playback is a good value for money package which does everything it claims to do. It's a pity the designers could not have found a way to make its phono output automatic, which would allow me to recommend it without reservation. As it stands, though, it is of interest only to the relatively small group of Quartet v1.5 and Microdeal Sampler users.

Alternatives:

TCB Stereo Cartridge, £24.99. Tel MPH Computers (0603) 503382 Designed to run with TCB's Tracker software, a serious rival to Microdeal's Quartet v1.5 package. It has three modes of operation: double mono, TCB Tracker stereo and standard sound chip mono. As such, it must be considered more versatile than Playback, as its phono output does not have to be specifically software driven, à la STE. Its only real drawback is the fact that it ties up the parallel printer port.

Product:	Playback Stereo Cartridge and Drumbeat Stereo
Version:	1.0 / 1.04
RRP:	£29.95
Manifest:	ROM Cartridge, 2 single-sided disks, 33-page manual
System:	Atari ST/STF/STFM 512k upwards. Quartet demo player runs only in low resolution.
Supplier:	Microdeal PO Box 68 St. Austell Cornwall PL25 4YB
Telephone:	(0726) 68020
Fax:	(0726) 69692

Specifications

Playback ROM Cartridge:

Maximum Output Frequency >100khz; Frequency Selection Software Controlled; Input and Output Resolution Unsigned; 8 Bits Output; Voltage 2.4 Volts; Peak to Peak.

Drumbeat Stereo Software:

Playback Frequency 22khz; Maximum Kit Size 15 Samples; Maximum Sample Size 10 Kbytes (half second samples); Maximum Patterns 50; Maximum Pattern Steps per Song 100; Tempo 40-239 beats per minute; Beat Registration 1/8, 1/16, 1/32 and triplets; MIDI Synchronisation Internal Tempo or External.

Here at Golden Image we take little pride in our office accomodation. The wind whistles through the cracks, rain water drips through the roof, the window frames are rotten and the carpet is threadbare.

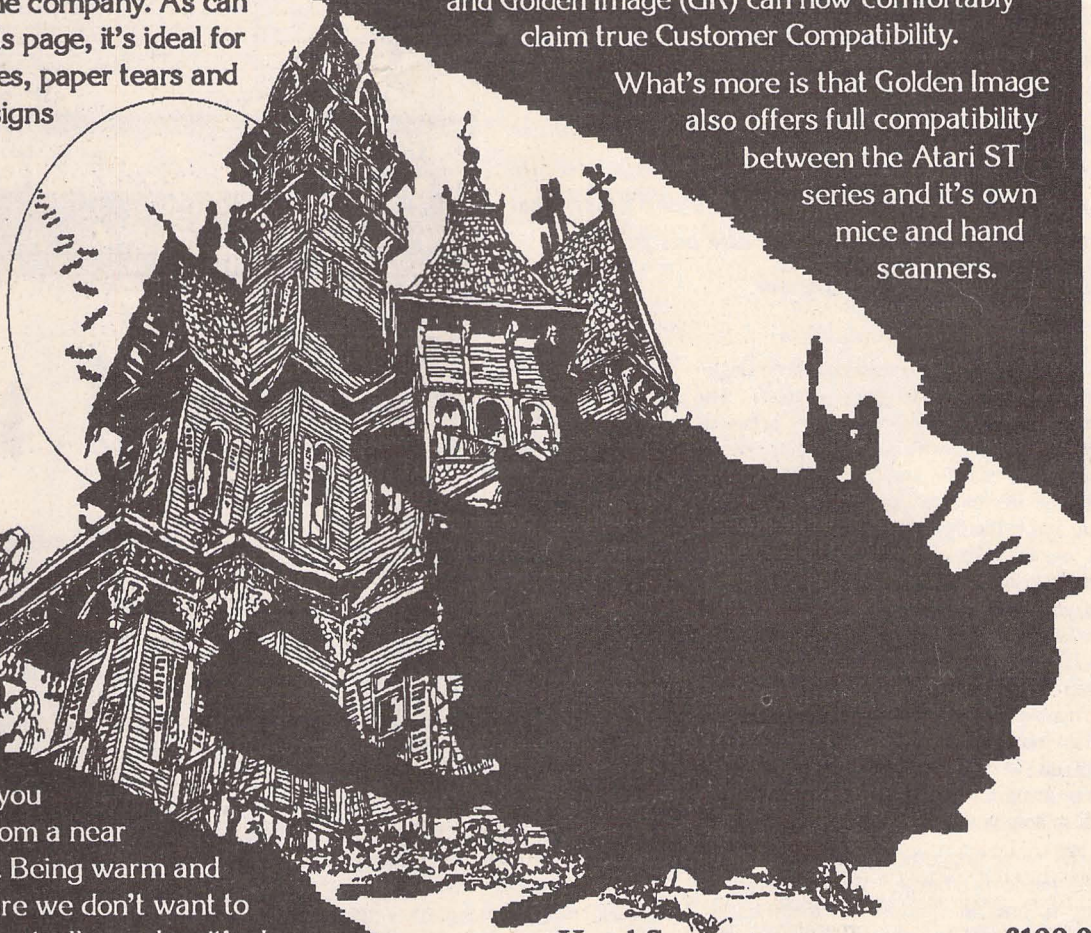
You'll be glad to know that we don't show the same neglect for our products or customers.

At Golden Image, instead of spending oodles of cash on our environment, we've spent pounds on studying the human race long and hard. Our research took many minutes and Golden Image (UK) can now comfortably claim true Customer Compatibility.

What's more is that Golden Image also offers full compatibility between the Atari ST series and it's own mice and hand scanners.

The Golden Image hand scanner is the cherry on top of the cake. Crowned in Gold by ST Format, it's reputation follows that of the company. As can be seen from this page, it's ideal for scanning splodges, paper tears and architectural designs (or disasters!).

It offers 400 dpi in four pattern modes and is supplied with the excellent Touch-Up software from MiGraph and it's utterly brilliant!



Golden Image mice run freely around our offices, (as you might expect from a near derelect shack). Being warm and caring like we are we don't want to employ a pest controller and so it's down to you to rid us of this tyrant.

Every mouse is hand picked from the floor. Recently we've discovered a new breed of mouse that moves at the speed of light. These mice have no balls, and are a lot more difficult to catch and so cost a bit more. But the better quality of these optical mice warrants the higher price.

Standard, opto-mechanical mice (mice with balls) also frequent our building. We've got so many mice, we feel sure they're breeding faster than rabbits. However, we assure you that you will get an adult mouse and not an immature adolescent.

Hand Scanner	**£199.95**
Opto-Mech Mouse ST	**£ 19.95**
Opto-Mech Mouse ST/Amiga	**£ 24.95**
Optical Mouse ST	**£ 35.95**
Optical Mouse ST/Amiga	**£ 39.95**

Prices include P&P and VAT · 17.5%

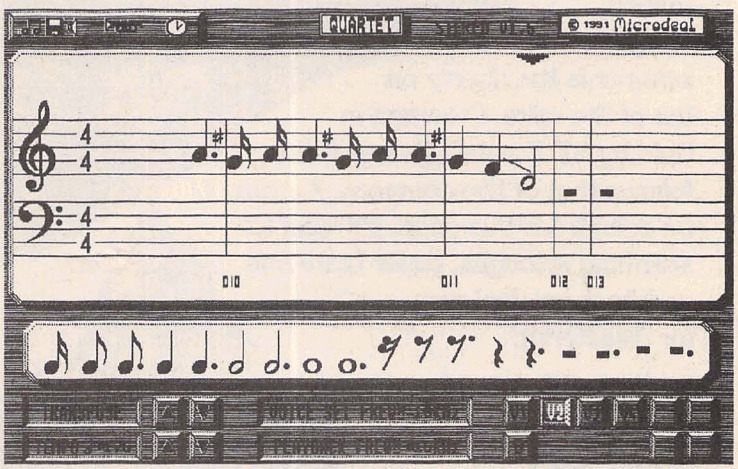
GOLDEN IMAGE

Golden Image House,
Fairways Business Park,
Lammas Road, London, E10 7QT
'Phone 081 518 7373 Fax 081 518 7585

It's a sad fact of life that the ST is not blessed with awe-inspiring sound creation facilities. Its ageing, cost-cutting sound chip struggles to outplay most eight-bit computers, and is put to shame by the ancient Commodore 64. Compared with other sixteen-bit computers, ST sound is dire, dismal and - not to put too fine a point on it - depressing. When a company comes along with a program that claims to give you the full power of a digital music synthesiser, without the need for additional hardware, you simply have to be a little sceptical.

Microdeal have done just that with their revamped Quartet package, claiming that their software is the best of its type available. Not only that, they've slapped a price tag on it that makes it even more intriguing. Nevertheless, claims like this are rife in competitive software markets, so can Microdeal deliver where almost everyone else has failed?

Michael Baxter has the answer.



Quartet v1.5

The Quartet package consists of three single-sided disks and a 67-page manual. The manual is an improvement on previous Microdeal efforts, which usually comprise of photocopied sheets stapled together. This time, the documentation comes in softback form, and is thoughtfully set out. Everything you need to know about the software is explained in detail, including guidelines to help you incorporate Quartet music in your own Basic, C and assembler programs. The text is complemented by a good index which makes it very easy to find your way around. The manual makes no attempt whatsoever to explain musical notation, so if you don't know your quavers from your crochets, then you're going to need a decent music tutorial book to help you along.

As the name suggests, Quartet is a four-voice music synthesiser, and on paper at least, it has an impressive specification: stereo sound, STE support, midi compatibility, a selection of 100 instruments or sounds and on-screen score editing.

Music is entered into Quartet either using conventional staves, or by connecting a midi keyboard and recording the song directly into the computer in real time. Either way, anyone with a musical background will feel immediately at home with the program. The score editor is controlled almost entirely using the mouse - click on the note you require and drag it to the desired position on the stave. As you'd expect, the editor supports the full range of notes and rests, handles time signatures automatically, and allows full control over tempo. As well as this, the program provides a surprising array of powerful features you wouldn't normally expect to find in a program of this price. The transpose feature automatically moves all the notes in a selected voice up or down one semitone. Ties and links are supported, as well as a flexible looping system, which is not limited by bar lines. These loops can even be nested within loops up to a depth of about one hundred, which makes for very compact scores, at the expense of readability. Up to twenty different instruments can be used in any one piece, and these can be used freely over the four voice range, changing from one instrument to another as often as is required. Conversley, there are also some glaring omissions which often makes accurate conversion of existing sheet music into Quartet format difficult, to say the least. Although note **sharpening** is supported, there is no way to **flatten** them! Also, Quartet has an annoyingly short octave range which made the bass lines of many pieces of music I tried to convert unusable.

Unfortunately, Quartet's score editor is not as easy to use as it could be. Block cut and paste facilities are available, but they are so fiddly to use, often resulting in the accidental corruption of a score, that most users will try to live without them. So many small but useful features have been overlooked: you can't directly copy one voice to another; playback is either one channel or all four - it would be nice to be able to select which channels to play; instruments cannot be freely loaded and removed from within the editor - you must quit the program and load a voice set creator to add new instruments. Also, although it seems strange to criticise an ST program for this, the staves scroll far too quickly. This is especially annoying when trying to change an instrument voice, as Quartet requires the voice marker to be the leftmost item on the stave before it can be altered. Accurate positioning requires adept mouse button control - lift your finger a split second too early or late and you can be as much as a whole bar away from where you want to be. A more flexible voice changing facility is desperately required. Another slap on the wrist is deserved for not including keyboard short cuts for any of the drop down menu entries.

Whilst there is plenty to criticise in Quartet's editing department, what I cannot fault is the quality of the sound output, which can be breathtaking. The package contains several demo songs which show what can be done if you have the patience and expertise to exploit Quartet to the full. Particularly impressive is the rendition of Adamski's Killer hit single, which when played through an external amplifier, is quite brilliant. So good in fact, it's hard to believe that the ST is producing the sound without any additional hardware assistance. Sound output from Quartet can be directed to a monitor or television in mono, output to an external hifi amplifier via the Microdeal Replay 4/8 and Replay Professional sound sampling cartridges in mono. Alternatively, if you own an STE, you can send your digital masterpieces straight to an external amplifier in glorious stereo via the built in phono sockets in the back of the computer. It would have been nice to have access to the STE's inbuilt volume, bass and treble controls - included in a future release perhaps? Other ST owners envious of this stereo facility can purchase Microdeal's Stereo "Playback" cartridge for

an extra £29.95 - see review in this issue of ST Applications.

The secret behind Quartet's superior sound output lies in programming techniques entirely unique to Microdeal. These enable up to four sound samples to be played back simultaneously at between 4 - 16k khz. As I said earlier, over one hundred instruments are supplied with the program, and these range from samples taken directly from high price synthesizers such as Yamaha's DX7 and Korg's M1, to simple speech samples and special effects. You should be able to find an instrument that suits your needs, but failing that you can create your own using one of Microdeal's Replay or Mastersound 2 sampling cartridges. The 16khz playback rate obviously falls far short of CD quality sound, which is around the 44khz mark, but perhaps that would be asking too much of a computer which is already being pushed to the limit.

A digital filter program is also supplied with the package which allows users of samplers which do not support AVR format to import sounds into Quartet. It provides rudimentary editing functions such as cut and zoom, as well as facilities to change the pitch of samples, set loop points and reduce background noise. It's a piece of cake to use and is a thoughtful edition to the overall Quartet package.

Summary

Points for:

✓ Good quality sound output, especially though an external amplifier. Clever programming techniques mean that compositions of several minutes require a remarkably small amount of memory.

✓ Well written manual.

Points against:

× Poor user interface - no keyboard shortcuts, confusing block operations and oversensitive scrolling. The need to run a separate program to add or remove instruments is clumsy and time-consuming. Octave range is often quite limiting.

Conclusion:

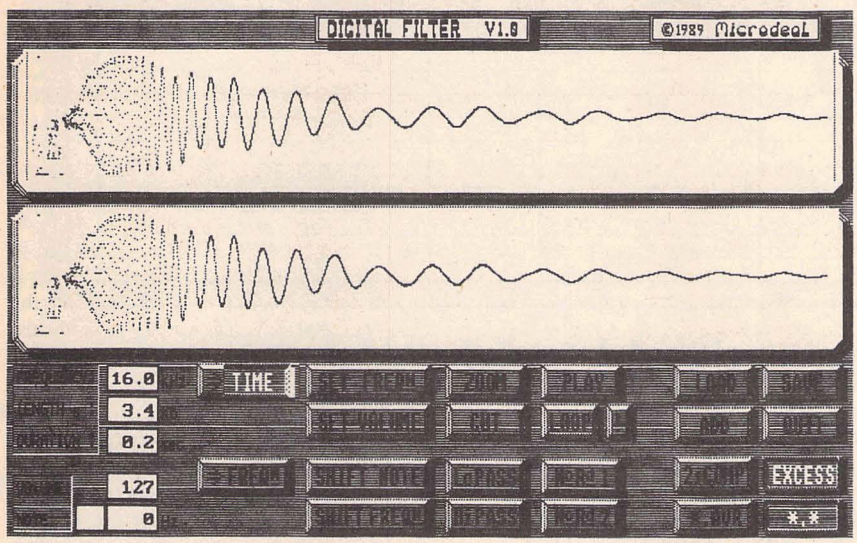
Quartet is an excellent program simply waiting to happen. It desperately needs a more usable front end and would benefit greatly from improved block operations. What can't be faulted however, are the end results which can be very rewarding for those prepared to grapple with the programs' shortcomings. Overall, Quartet is a good introduction to digital sample sequencing at a reasonable price.

Alternatives:

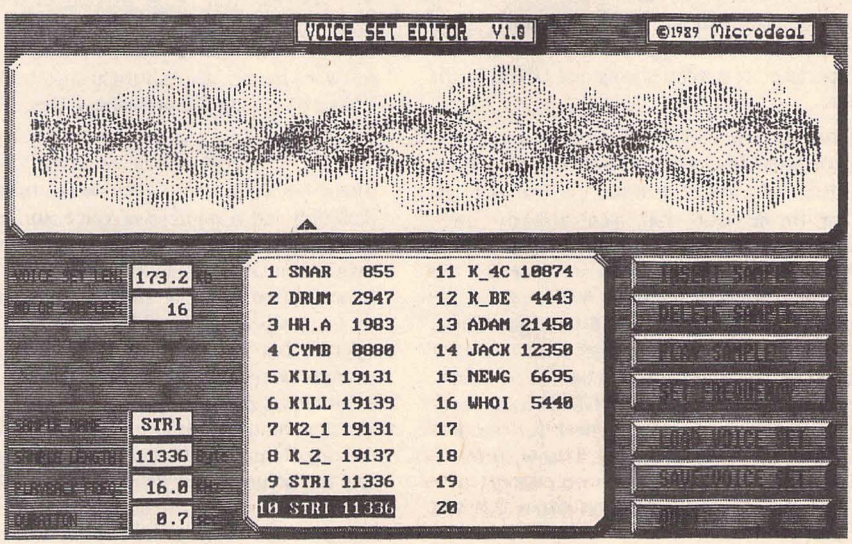
TCB Tracker, £39.95, Tel. MPH Computers (0603) 503382

At present, this is the only viable alternative to Quartet. It uses its own notational system in preference to conventional "tadpoles and staves". It also requires only 35% of the processor's time to recreate the music, making it ideal for demos and game intro screens. Stereo output is fully supported on STE machines - with adjustable treble and bass - and MPH have recently released a stereo sound output cartridge, similar to Microdeal's Playback, which retails for £24.95.

Product:.....Quartet
Version:..... 1.5
RRP:..... £39.95
Supplier:.....Microdeal,
PO Box 68,
St. Austell,
Cornwall
PL25 4YB
Telephone: .....(0726) 68020
Fax:..... (0726) 69692
Manifest:..... 67-page manual, three single-sided disks each containing SIDE_2 folders with extra samples and demos for double-sided drive owners.
System:..... Fully usable with 512k machines, but the digital editing software benefits from extra memory. Separate medium and high resolution versions of each program are supplied.



Above: The digital filter program, offering editing functions such as cut and zoom as well as the facility to change the pitch of samples, set loop points and reduce background noise.



Right: Quartet comes supplied with over a hundred different instruments, and the voice set editor allows the user to create sample sets of up to twenty different sounds. If you have any of the Replay 4/8/Professional samplers you may add your own sounds, as the file format used (AVR) is compatible.

Opus v2.2

We all have programmes, I'm sure, which are in PD libraries because they are unworthy of commercial exploitation or which, immaculately written, leave one puzzled as to what the object of all the effort was. Opus is a spreadsheet programme that could have been commercially marketed without any argument at all. It is a superb piece of work, once you crack the surface. Review by Keith Jackson.

Opus 2.2 comes on a double-sided disk with everything needed to use and print the sheet. However, if you haven't any GDOS fonts and drivers you will miss out on some of the features of this sheet which put it into a very different category from a great many programmes in PD libraries. Opus has some excellent charting facilities built in, which means that you can generate very impressive graphics. These can be imported into DTP programmes, such as Timeworks, and can be manipulated as much as you like since they are GEM metafiles.

Metafiles are specialised for technical graphics and give excellent results at any magnification, unlike the bit-mapped picture files from Degas, Neochrome and the like. This means that any reports you generate will look very much better. Best of all, they are extremely small files since they do not need to contain the screen pixel by pixel. My GEM files are under one tenth the size of the same screen saved as a dump. There is the added advantage that they are drawn much quicker, too, but alas they cannot be edited after saving as the other type can.

There is extensive documentation on the disk. One of the simplest goes into how to set up Opus on systems with single and twin floppies or hard drives. The other documents form a manual. It is all very detailed but suffers from one major problem - it assumes experience of spread-sheets and GDOS in the user.

The installation document is adequate, if you are reasonably familiar with GDOS and its twists and turns. There is a general assumption throughout that you already have another programme which uses it and that ASSIGN.SYS files hold little terror for the prospective user. I had all kinds of trouble getting into GDOS when I first got Timeworks as it hides this aspect from the user through the use of an installation programme. Even if you do have a GDOS-using programme you will have to check for the presence of the META.SYS file. Timeworks does not supply it and without it you cannot output the wonderful graphs and charts you will produce.

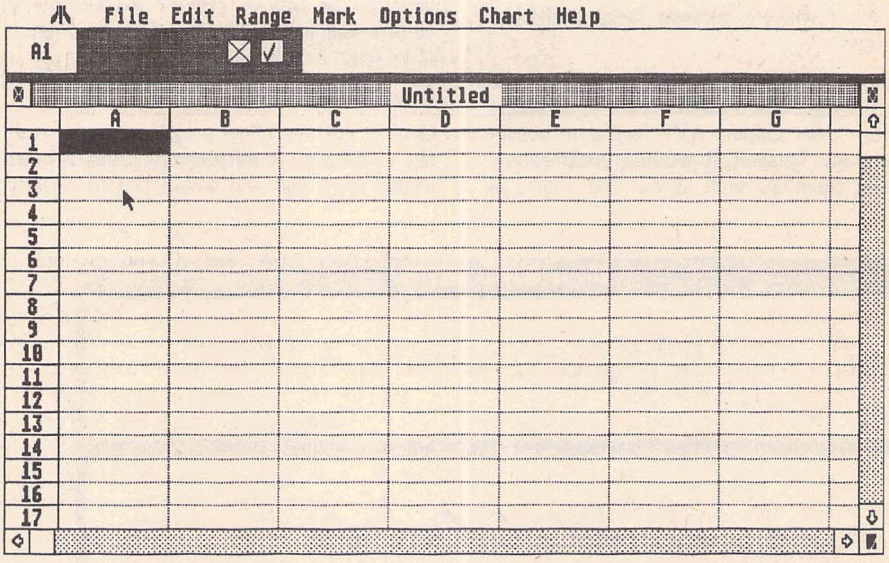


Figure 1: The empty sheet ready for input.

If you do not have GDOS at all or are just missing the META.SYS file then you will need to order the GDOS disk from the Club at the time of purchase. If you do get GDOS via the Club and are without a suitable driver you will still be in trouble as the only printer-driver supplied is for an Atari SMM804 dot-matrix printer. I believe some software houses will sell them separately but I have no personal experience of this.

Manual

The sheer volume of words in the manual is daunting and a number of the functions are either not fully explained (at least, not in layman's terms) or difficult to find - or both! I sympathise with the author in not wanting to endlessly re-write the manual for each upgrade but you get the manual for Opus 2.1 plus an extensive supplement of the changes in version 2.2. This makes finding your way about very tricky (there is no index) so you end up thumbing the pages in the hope of spotting a function which might help. This is not as easy as it might seem since many functions have only a two-letter keyword.

I suspect that many people who will buy this programme will be used to Lotus and they will find that many of the functions have similar designations (but without the @ sign) and work in similar ways. Discovering this similarity while looking through a Lotus manual at work helped me to crack Opus. I now know that I can compare a function I cannot understand to a Lotus equivalent and probably make something out between the two. The layman might do as well to obtain a Lotus guide through the library as this may well clarify some of the more esoteric commands.

I think I would rather have seen it marketed, like Fontkit Plus 3, through a Club like ours at a price which would allow better manuals to be produced but without the high profit margins needed for a full commercial launch.

Requirements

Opus requires at least 1MB and a double-sided drive, so 520 owners can give up here, probably with some relief. For those who are still with me, you will need the following files over those on the Opus disk:

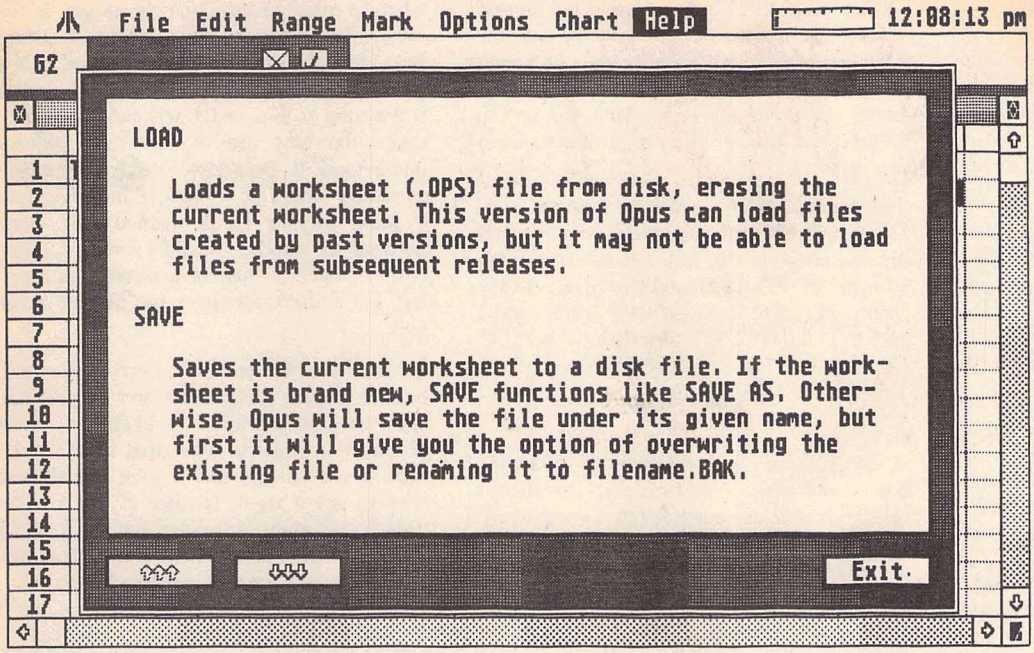


Figure 2: An indication of the effort which has been put into this programme. Help screens are available for most functions of the spread-sheet screen.

* GDOS.PRG in the AUTO folder of your boot disk;
* ASSIGN.SYS in the root directory of the boot disk;
* META.SYS in the font folder;
* a GDOS driver for your printer in the font folder;
* GDOS screen and printer fonts with the ID 2, usually Swiss, in the font folder;
* any other GDOS font you wish to use.

The reason that you need the Swiss font is that a version of this is available in virtually every GDOS programme. Doug Harrison has, quite reasonably, made this the default font.

The GEM operating system has the ability to manipulate text built in and Opus uses these functions to double up an existing font to substitute for a missing one. This produces an inferior print-out but saves the space of the font where disk or RAM are being pushed to the limit. Timeworks also performs this scaling but can use 'spare' screen fonts when you change the size of the working area, ie 20pt double size = 10pt actual size = 5pt half-page = 3pt full-page but you would only need a 10pt printer font. Opus does not use page scaling and requires matching screen and printer fonts. It also requires fonts to have a full set of ASCII characters so the use of graphic fonts (sometimes called Dingbats or Bullets) is not possible.

For a good introduction to the foibles of GDOS, get WPR.48 from the Club. This contains an excellent users' guide.

Running

Before you can use GDOS fonts with Opus you need to establish a fontwidth file, just like Timeworks. This is because the screen and printer fonts need to be matched to present a realistic screen image of the printed result. FONTWID.PRG creates this OPUS.WID file and if you change the ASSIGN.SYS file you must run FONTWID.PRG again. I do wish that programmers would take a leaf out of the GEM 3 book and update this wretched system. With this later PC version of GEM, width tables are created when a font is installed and not as a combined file for all fonts in the SYS file at the time. It saves a lot of messing about with ASSIGN.SYS files since any installed font is automatically available.

So, after all this, you have the programme ready to run. It will give an error message if it fails to install fonts for any reason, usually owing to a fault in the ASSIGN.SYS file. Using ASSASSIN (DMG.18) will help to prevent this, but if you still get error messages on loading, using the included ASSIGNER.PRG should ensure full compatibility. However, Assigner seems to recognise only the Timeworks font-name convention. Use of the Fontkit designations can lead to problems as the necessary balance will not be made. Remember, each time you have to run FONTWID.PRG again. The sheer tedium of this soon makes you either give up or get it right quickly depending on your stamina.

Having successfully double-clicked the Opus icon, you are confronted with a blank sheet (Figure 1). As you can see, it has been written with full GEM features. A help menu is provided and I used that fairly frequently to start with (Figure 2).

One major difference between Opus and Lotus 1-2-3 is the declaration of cell type. Opus requires you to set the cell to accept a number, formula or text string whereas Lotus assumes the type from the contents. Doug Harrison is obliquely derogatory about the Lotus system but I found that the Lotus is more flexible to use.

I am not a very experienced user of spreadsheets and I doubt if I shall ever use some of the statistical or financial functions, but to the extent of my delvings so far: if Lotus can do it so can Opus.

One area where Lotus leads is in the ability to define command macros. The back-slash character is used to enter the command mode so \P would take you to the print menu or \V would put the graph on the screen. In addition, any combination of such key-presses can be saved with the sheet and used to give one-touch, customised functions. Sheets can be made to act like a normal programme and auto-run and the macros mean that the screen instruction to press a certain key can ease data entry and result processing for end-users who would be put off by a sheet in its more normal form. I miss the easy movement around the commands with single key-presses and macros might make some sheets easier to build. At the end of the day, though, I wonder how often ST sheets are written for other people to use as opposed to for the use of the programmer.

There are a number of sample OPS files with the programme which illustrate various built-in functions. A single-sheet document suggests ways in which these can be used. Some illustrate the chart functions such as pie charts, bar charts, scatter diagrams and various line graphs. They are easily produced and four separate graphs can be saved with the sheet. Some fine-tuning is allowed and this is handy since different types of printer handle certain fill patterns better than others. As an example, single-clicking on any segment of a pie chart highlights it by moving it away from the pie. Double-clicking leads to a menu to change the fill patterns for each data range. Figures 3 and 4 show different types of plots available.

Summary

Opus is an amazing programme to be in the shareware arena and Doug Harrison richly deserves the plaudits he has received. ST Format voted it PD Programme of 1990 in their recent poll and I can't say I am surprised.

It has been modelled on Lotus 1-2-3 so that anyone with a passing knowledge will find that the functions have a familiar feel. A more deeply-involved user would find the loss of the macro facility a hindrance, I expect, since they can make life simpler with more complex operations.

Charting is better than with Lotus since charts can be arranged and output from within the main programme, although charts can be stored for later printing with OUTCHART.PRG. One niggle with that is its use of a modified metafile. If you want to do a test print and to import the chart into another programme, you may end up saving it as both types of file.

Against the programme is its documentation. I have cursed PD programes for their lack of documents, Sozobon C for example, but I think that Doug Harrison has done himself and his users a dis-service with the manual. There is not even a command summary which might speed your search. The explanations are from one experienced user to another and some are downright useless for a newcomer.

The assumption of a working knowledge of GDOS will also put people off. Manuals and articles are available but it is a tricky thing to come to terms with and this area is skimmed over. I had to make several tries and I reckon I can write SYS files with the best.

Conclusions

For:

✓ It is an excellent programme. If anyone has a use for a spreadsheet then this should satisfy their every need. It has a great many built-in functions and its charting facilities are excellent. Anyone with a working knowledge of Lotus 1-2-3 will quickly feel at home.

Against:

× Its documentation. It seems like heresy to criticise a programme which has so much when so many programmes leave you in the dark. My conscience tells me that I should not expect the same quality of manual as in a package costing £50 or more but I find it frustrating to use and I will not be able to make the best use of Opus if I cannot understand it properly. Even a command summary would be a massive improvement. I could buy a Lotus manual and work between the two but should I need to? There is the danger of making a manual patronising, but I think this goes too far the other way.

× The assumption that every user will have a GDOS programme and be familiar with its idiosyncracies is likely to cause dismay, too. I like to think that I can handle GDOS well enough but it took me several tries to get it right. Neither of my GDOS-using programmes provided the META.SYS driver which is assumed by the author. Yet another frustration you can do without.

Overall:

I would recommend Opus. It is worth the frustration to get it running and it is, potentially, very powerful. The documentation assumes too great a familiarity with various aspects and is not easy to use. What it needs is a Users' Guide for us lesser mortals.

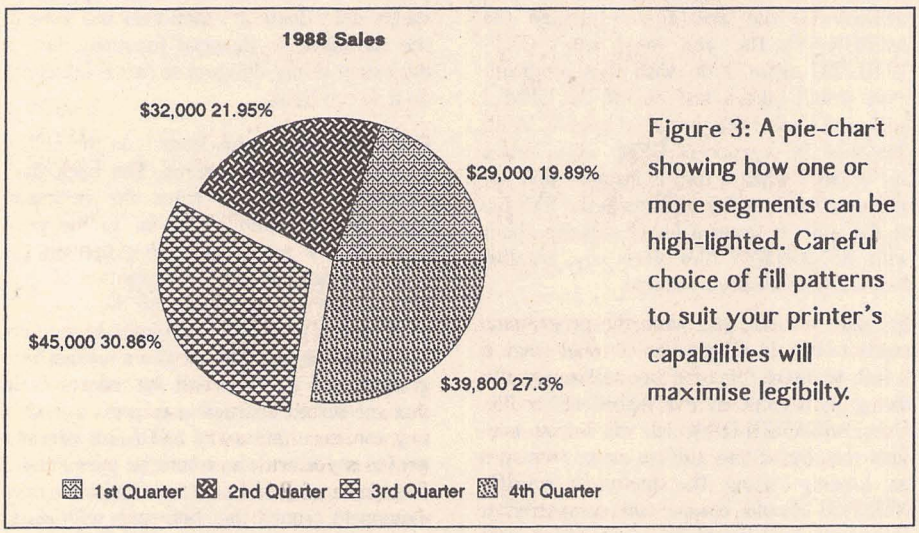


Figure 3: A pie-chart showing how one or more segments can be high-lighted. Careful choice of fill patterns to suit your printer's capabilities will maximise legibilty.

Product: ..... Opus Spreadsheet
Version: ..... 2.2 (2.3 available from author on registration)
Available: ..... ST Club, disk UTI.81
System: ..... Double-sided drive, 1 Mbyte minimum RAM. GDOS.PRG, META.SYS and suitable fonts and printer driver(s) for charting.

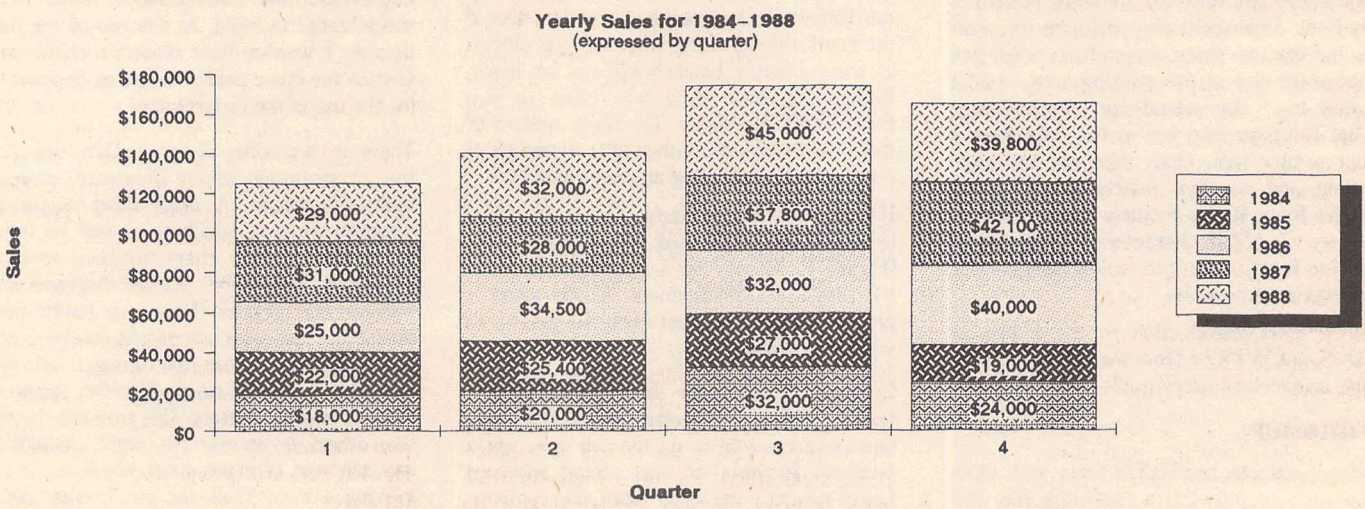


Figure 4: All charts can be produced easily and most can be converted between types at the pull-down menus. The quality of chart available is as good as some I have produced with Harvard Presentation Graphics for reports and presentations.

Will The Real Professionals Please Stand Up?

Ian Robinson's look at on-Line Conferencing was very interesting, not least for the sample extracts that were shown. The debate as to the suitability of the ST/TT for anything other than 'home use' still rages! The case against the ST for 'serious' applications is, however, massively overstated by one or two of the contributors (as well as being cogently answered by Günter Minnerup). I offer this account of the purchase of an office system as a contribution to the debate.

The Revd. Michael Kneen

Our Team of five parish churches in a West Midlands market town wished to computerise its office. We needed a system which would allow our two administrative staff, the members of the clergy team, and some enthusiastic volunteers, to get to grips with and use the computer as soon as possible. Something with a WIMP (windows, icons, mouse and pointer) way of operation was therefore a must.

What do we use our system for? The immediate answer is word-processing - letters, memos, rotas, accounts, parish magazine material, you name it! Time for typing and re-typing could be dramatically reduced by word processing capability - thus freeing our hard pressed (part time) administrators for other tasks.

If word processing is the first task, the second and third rapidly follow, and are respectively Data Base and Desktop Publishing operations. A simple database programme would allow us to maintain mailing/distribution lists, considerably simplifying the job of keeping all the various groups connected with our churches in touch. Desktop Publishing would allow our present band of volunteer printers to take their work into a new dimension, and to get away from that scissors and glue feeling. There are many possibilities for improving the appearance and readability of reports, leaflets, handbills and what have you.

Our problem was to find a computer system that was

a) affordable;
b) capable of driving a good printer/ producing good printed output;
c) easy to use, without being hopelessly limited in scope;
d) highly visual in operation - with (c) in mind;
e) graced with software that was not too expensive.

Our choice was simplified to the extent that members of the team were impressed by the output quality of my own DeskJet Plus, both in graphics and in character mode. For our budget, then, the replacement DeskJet 500 offered us near laser quality print at a very reasonable price. Whatever the computer, we would need to ensure the word processing programme would control the DeskJet to make best use of its features. We knew from my own ST that Protext 5 provides excellent control of DeskJet proportional fonts - and as it will work on PC or ST quite happily this was another machine-independent choice. We also knew that the size of files we were going to be handling and storing was not such as to make a hard disk absolutely essential. As far as hardware was concerned then, our priority for directing our limited cash was output print quality and available RAM.

Granted the printer and disk configuration had to an extent 'chosen themselves', what were the alternatives?

Broadly they could be summarised under the IBM PC Compatible family, the Apple Macintosh Family and the ST. I am aware that I have missed out the Amiga and the Archimedes. It may be that a balanced article would have taken them into account...

Since one of the criteria was an easy 'user interface', we were not keen on the idea of having to set to and learn MS Dos just to be able to say 'hello'. Clearly something like windows would be needed were we to buy a PC. Bearing in mind the size of most Windows applications, the need for reasonable speed to make them go, and our wish to do some DTP work, we would look for a budget 80286-based machine with, say, 2 Megabytes of RAM. We would also require some software. Let's look at a possible shopping list based on an Evesham Micros offer:

Olivetti PCS286 with double disk drive, Mono monitor, Olivetti 1992 Business package, etc.	£953.35
Hewlett Packard DeskJet 500	£459.00
Protext 5 (by negotiation, say)	£100.00
Windows 3 (say)	£60.00
2 Megabyte RAM upgrade	£119.00
TOTAL:	**£1691.35**

This package included the Microsoft Works integrated package as a 'freebie'.

On the Apple front, the notorious prices have come down a little with the offer of the Apple Macintosh 'Classic' package advertised in the national press at £1000. This basically provides you with a re-badged 'Mac plus', 1 Megabyte of RAM and a Macintosh Inkjet Printer ('Stylewriter'). Software still has to come - and is not cheap. Even with reduced price basic kit, everything we would require would not be cheap. It would be easy to use - it would make us coffee and offer us Scotch... A Macintosh would probably write our sermons and convert the West Midlands - but it would not be cheap. And we would still need some more RAM and a second drive. None the less, the reduced prices should give Atari something to think about...

And the ST? Again, for comparison, an Evesham Micro's offer:

1040 STe upgraded to 2 Megabytes including 'Starter Package' (Kuma database, spreadsheet, etc.)	£529.99
SM124 Atari high resolution mono monitor	£99.00
Hewlett Packard Deskjet 500 (as above)	£459.00
Second Disk drive (Evesham)	£59.95
Protext 5 (as above, by haggling..)	£100.00
TOTAL:	£1247.94

What now? The three setups I've described are very different in feel, in the range and price of software, and so on. Our Administrators - the two folk who were mainly going to use the new kit - were then left to consider what they would be happy working with. One of them had joined the local adult education course on PC-based word processing and spreadsheets, and therefore had some experience with PC's. They were able to look at a PC operating a database in the office of some friends. We also had my own ST which was available for experiment.

What conclusions did we reach?

The Church Computer Users' Group (PC's all the way....) issue a pamphlet which begins 'Beware of the enthusiast...'.

Trying hard to be objective, I would be dishonest if I suggested that the ST immediately suggested itself as the obvious solution. But that wasn't because there was anything wrong with it - simply that no one amongst business friends to whom we talked spoke of anything other than PC's. The Atari ST didn't look a bad bet, but it would need a 'business use' salesman who knew what it could do to sell it to a serious user.

Amongst the clergy and where parishes have an office, Amstrad PCW's and PC's (of all types) predominate. Knowing the ST, knowing what most of these folk are trying to do with their computers, it's annoying to see the PC stranglehold. But it made me jumpy about pushing for an ST. Since I am our team's computer buff, a large part of the decision making was delegated to me. If I followed my own inclinations and went down the Atari route, would we be going out on a limb - or even making a profound mistake?

In consultation with the two Administrators, we reached some conclusions. The ST was visual in operation from the moment you switched it on. Pointing, clicking, dragging and so on are fairly simple to get the hang of. No need for extra purchases of Windows as on the PC. Most of the software we looked at was reasonably visual in operation. Learning to drive a new package is easier if you know that the clues as to what to press next are all on the screen somewhere. Also - and this was felt to be important - the high resolution Atari screen was appreciated. We knew that we could add further packages for DTP work that were more than adequate for our needs.

As far as cost is concerned, the gap between Atari and PC options has closed a little - as the above prices show - if you go for Mail Order offers. The situation is a little different approaching a specialist office computer supplier. The bill for a Goldstar 82086-based system from such a supplier with their recommended software would have come to just under £2000. (I quote this for illustration only. Such dealers are not crooks: this is simply the price for their advice and support.) Either way, the Atari ST is still cost effective, and software doesn't cost an arm and a leg.

On the PC side, there was a wide range of software of proven worth. There was also the knowledge that (some) PC dealers know about computers... Many of the packages that were recommended by friends in commercial offices with larger budgets were, however, in the £200 - £400 range for a word processor, let alone anything in the DTP line. Quite a jump. Also the VGA screen display was felt to be inferior to the Atari one. Cosmetic? Not if you are going to sit at the screen for a considerable period.

I imagine that on the Continent, there would be reasonable dealer support for the ST in the small office/business community. A dealer who would advise anything other than a PC for business use is rare in this country - even in firms who sell both.

We chose the ST. Why? On the basis of cost effectiveness and ease of use/learning. We could not expect the dealer backup that would have come from some PC purchases. I stress some, because a budget PC Mail Order purchase is unlikely to come with that much support either. With the best will in the world, Mail Order Technical Departments are not the best folk to advise staff in small businesses, but that's another matter. (How about an ST Club/ST Applications business support network?)

Our choice was biased (by me). When the equipment arrived, I was worried as to whether I had merely indulged my own whim. Worried, that is, until two colleagues arrived for a meeting and talked about database difficulties on their PC286's.....

'Come and see a cheap 'freebie' database in operation,' I said. A quick demonstration of Kuma's ST-Base (K-Data) to design a data 'card', input data, set up reporting and class operations, brought pained expressions to their faces. 'Is it available on the PC?' they asked... I felt slightly justified! I am also encouraged by the very positive reactions of all those who have begun learning how to use our new system.

A few other points on the system, for example the choice of Protext as a word processor: I cannot speak highly enough of Protext 5. So far as I know it is currently the only really readily configurable wordprocessor to give true control of the DeskJet's proportional fonts. I hope to write more about this another time. But it also has tremendous potential in allocating buttons to do useful, customised tasks. Also in passing, I should note that ST-Base (the Kuma database which was part of the freebie package) is excellent for our present medium level database work. Again, this little package warrants fuller treatment.

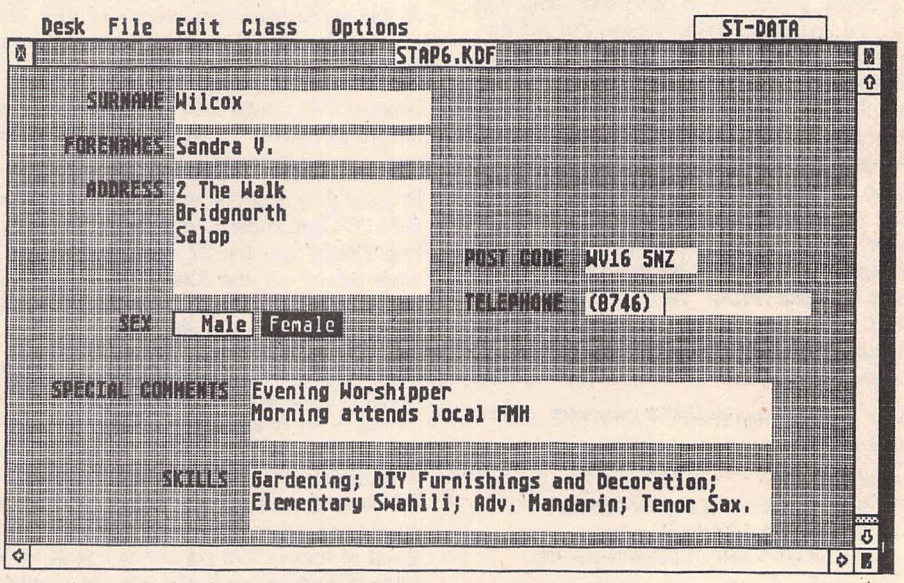
So Who Are These Professionals?

Contrary to popular belief, they're not just professional typesetters for whom very expensive kit and software are essential.

'Professional' users are surely any users who are working with, as opposed to simply amusing themselves with, computers. (Yes, of course the dividing line between the two is a fine one. Only when you 'play' with a package do you find out more about it and expand your capabilities...)

Professional users in this sense may also happen to be people like our hard-pressed Administrators who will not have time to get to grips with huge and sophisticated database programmes, for example. They have already shown that ST-Base is graspable in a few hours after lunch, and can be productive by tea time!

Our situation is mirrored by many other small offices and businesses, along with voluntary sector groups. The Atari ST gives a moderately priced system with very adequate potential for our mix of tasks. To some, the kit and programmes I have mentioned are 'toytown' (see the beginning of this article). But it does the job we require, does it well, without too much hassle, and within our budget. I would argue that this is professional use. In relation to the Macintosh/PC owning ST detractors I spoke about, let's have less sniffing!



A sample (and purely fictitious) record from Atari's 'ST-Base' database: simplicity itself to use with flexible record design and data entry.

```
#include <aes.h>
#include <vdi.h>

short handle;          /* VDI virtual workstation handle */
short screen_lines;    /* Number of lines                */

void open_work()

{
        int i;
        short work_in[11], work_out[57];
        short gl_hwchar,gl_hhchar,gl_hwbox,gl_hhbox;

        appl_init();
        handle =graf_handle(&gl_hwchar,&gl_hhchar,&gl_hwbox,
                                              &gl_hhbox);
        for(i=0; i<10; work_in[i++]=1);
        work_in[10] = 2;
        v_opnvwk(work_in, &handle, work_out);
        screen_lines = (work_out[1]+1)/gl_hhchar;
}
```

Listing Five

```
/*
** Listing 5.
** Programmers' Forum May 1991
**
** Code fragment,
** demonstrating an assumption-free
** method of determining
** the size of the screen area.
**
** Compiler system: Lattice C v5.06
** Compile options: Phase 1: -cafku Phase 2: -ms
** Link with C.O, LCG.LIB and LC.LIB
** Written on 16th March 1991
*/

#include <aes.h>
#include <vdi.h>
#include <osbind.h>

short handle;          /* VDI virtual workstation handle */
int screen_size;       /* Size of screen RAM in bytes */
void *screen_addr;     /* Address of screen RAM */

void open_work(void)

{
        short work_in[11], work_out[57];
        short f, dummy;

        appl_init();
        handle = graf_handle(&dummy,&dummy,&dummy,&dummy);
        for(f=0; f<10; work_in[f++]=1);
        work_in[10] = 2;
        v_opnvwk(work_in, &handle, work_out);
                        /* First calculate total number of pixels */
        screen_size = (work_out[0] + 1) * (work_out[1] + 1);

        vq_extnd(handle,1,work_out);
                        /* Multiply by number of screen planes */
        screen_size *= work_out[4];
                        /* Convert answer from bits to bytes */
        screen_size /= 8;
        screen_addr = Logbase();
}
```

Scanning New Horizons

In issue 4, Mike Kneen looked at the use of scanners at one particular level, and no doubt the one of most interest to the vast majority of ST owners: the grabbing of simple black-and-white illustrations for the odd DTP job or letterhead, using one of the ubiquitous and increasingly cheap monochrome hand scanners. To the extent, however, that the ST/TT series establishes itself as a serious player in the professional DTP market, image-scanning is going to take off into an altogether more complex, and also more expensive, dimension - that of full-page, true greyscale and even colour image processing. Until very recently, this domain was reserved for the Mac (and, to a lesser extent, the IBM compatibles) with its vast array of high-class peripherals and pioneering power software such as Digital Darkroom, ImageStudio and PhotoShop. This is no longer the case: as in so many other fields, the ST is now quickly closing the gap, as Günter Minnerup shows in this article.

Dithering dots

To illustrate the difference between the two levels of working with scanners, let us just recall that every scanner relies on an array of light-sensitive elements reading in brightness values for each pixel of the image and passing these values on to the software. This is pretty straightforward as long as you think in black-and-white terms only. Colour images and especially photographic "halftones", however, pose far more complicated problems. If you have ever photocopied a magazine page, you will know the symptoms: the textual matter may come out nice and crisp, but photos and colour items appear washed out and/or with excessive contrast. The reason is that photocopiers, like monochrome scanners, know only black and white and are quite ignorant of the subtle world of grey shades. The solution adopted by monochrome scanners is called "dithering", and it helps to think of the way your monochrome monitor displays greys using black and white dots only: these are arranged in varying patterns, giving different appearances of "blackness". If a manufacturer claims 16 different greyscales for his scanner, this usually means that a matrix of 4 dots width and 4 dots length is used to produce 16 different patterns. Since the number of light-sensitive CCDs in the hardware is fixed, it follows that 16 greys at 300dpi reduce the real resolution of the dithered image to 300/4=75dpi. 32 and 64 greys have an even more severe effect on the amount of fine detail displayed.

Actually, this sounds worse than it is, because it is well known that to the human eye subtle grey shades are more important than resolution for the perceived quality of an image, so that a complex halftone with lots of shades will almost always look better when scanned at 64 greys than at 16, despite the loss of resolution. But there is a trade-off, and it would obviously be better to have both the resolution and the greys. It is possible, but you then need what is known as a "true greyscale scanner" as opposed to the monochrome dither models that dominate the ST market today.

Whiter shade of pale?

True greys require that each light-sensitive element not only tests an image dot for the two states of black or white (off or on), but for a number of in-between states. Rather than 0 or 1, each pixel is 0000, or 0101, or 0111, or 1111, or 1000, or 1110, and so on, giving 16 possibilities. To describe 64 possible greys, a depth of 6 rather than 4 combinations of 0 and 1 is required, and 8 for 256. Such scanners are therefore known as 4-bit, 6-bit or 8-bit scanners, and are often capable of recognising colours as well as greys. But apart from being more expensive, these models have other drawbacks: they create even longer files (an A4 scan with 256 true greys at 300dpi resolution will gobble up more than 8 megabytes of disk space!), and they are of little use without a monitor capable of displaying the scanned image in its full glory.

Provided you can afford the requisite hardware (consisting ideally of a large hard disk, a large greyscale monitor and graphics card, and an accelerated ST or 68030-based TT with as much RAM as possible), there is no reason why you should not indulge in all those image-editing activities you have read about in the Macintosh magazines on your humble ST. The 8MHz 68000 may take a while to shift all those bits around, but it can be done as long as you are content with 8-bit data and their 256 grey shades, which is more than adequate for most applications. With the power of the TT available, 24-bit graphics cards and multi-million colour screens are just around the corner. But what about the software? Until recently, there was nothing to compare with the Mac's Digital Darkroom, ImageStudio or PhotoShop, but that is beginning to change with the arrival on these shores of Retouche, and rumours of other, similar software from Germany (ReproStudio ST, TmS Cranach). A detailed review of Retouche will follow in the next issue of ST Applications - for now, let us look at what such software enables you to do.

The principal advantage over programs such as TouchUp is to be found in the additional editing power which you can enjoy over a, say, 8-bit image compared to a monochrome one. If you have ever tried tidying up a dithered IMG scan with a pixel art package, you will know what a tedious business that can be because you can only ever work at pixel level. With true grey

scales, however, it is possible to isolate particular shades of grey and operate on them selectively: to enhance contrast and brightness in a murky, poor quality image, for example.

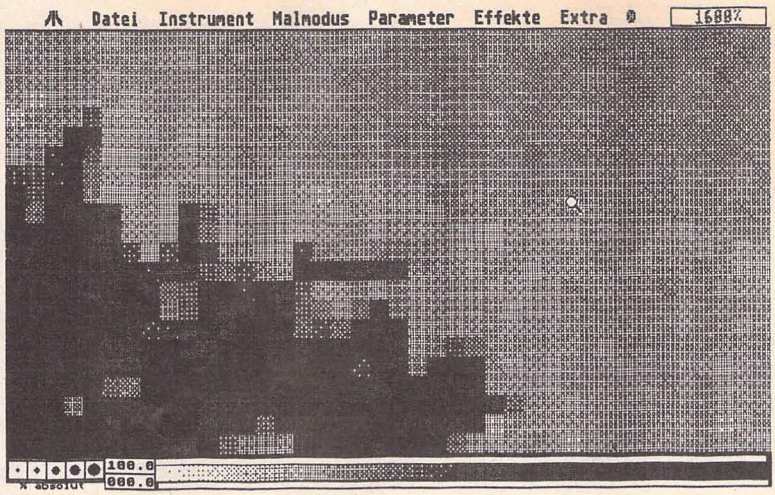
The painting tools provided by such software can be made to affect one or several grey levels only, the rest of the picture being "masked out", or you can assign a grey shade to a paint tool and thus touch up dodgy areas in your image. The possibilities are enormous and effectively simulate those available to the professional photographer in a well-equipped darkroom.

True greys and the humble laser

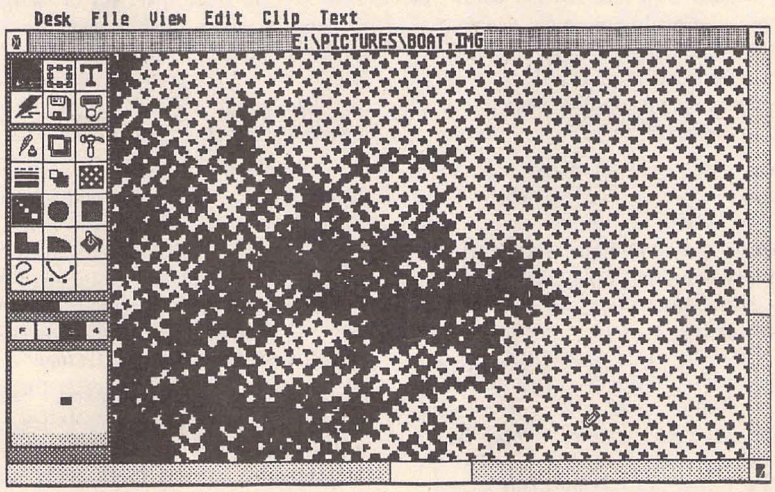
Of course, another bottleneck appears at the output end, because printers will again use arrangements of black dots. As these dots are of identical sizes, different grey levels will once more have to be represented by the equivalent of dithered patterns with all the consequences for the effective output resolution already mentioned.

Even the most sophisticated scanner and image editing software will not enable you to produce high-quality photographic halftones on a 300dpi laser printer - you'll need a typesetter operating at 1200dpi plus for that sort of work. You might think that this restriction rather invalidates the whole concept of true greyscale scanning and editing for laser resolution output - would it not be easier to stick with the dither patterns of monochrome scanners, especially as these are often quite effectively optimised for 300dpi output?

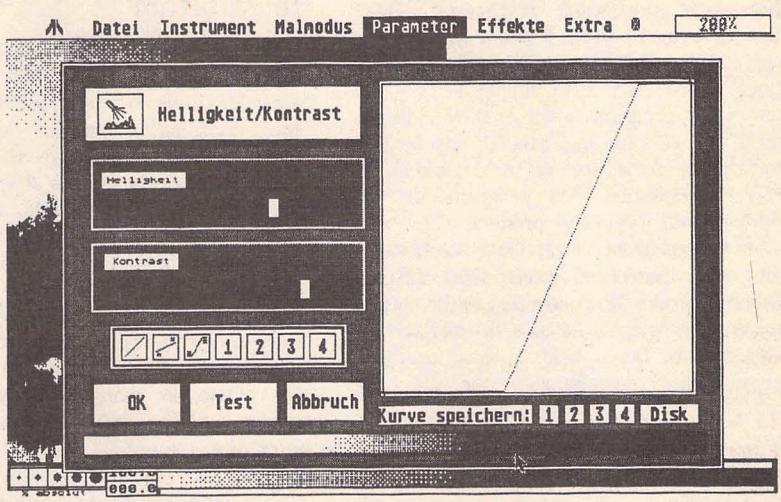
The powerful editing facilities already mentioned would in themselves justify the detour via true greys, because a well-balanced image with strong contrasts and subtle shades will always be superior, even at low-res output, to the raw, rather "flat", original scan. But there is also the added control that good true greyscale software will give you over the output on even the humblest Atari laser. There is little you can do to optimise a dithered monochrome image for the printer, beyond tidying up stray pixels by hand. With a program such as Retouche, the problem areas can be identified using proofs and then treated separately to obtain the best possible final results. You can even vary the raster patterns into which grey areas are translated before the output file is written, and the angles at which the printer dots will be arranged. But this is probably best left for the next issue, in which the abilities of Retouche will be examined in terms of practical applications.



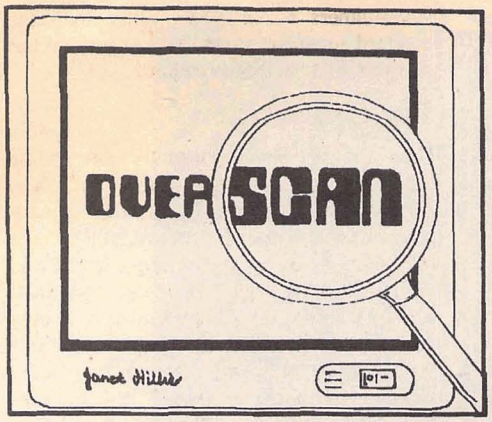
This is a small section of a 64-greys scan, converted from dithered monochrome to a true greys 6-bit TIFF file and displayed on an ordinary SM125 monitor within Retouche. Since the Atari monochrome monitor does its own dithering, you cannot see true greys, but at the right level of magnification the trade-off between fine detail (resolution) and tonal subtlety is quite visible.



For comparison here is the same section (a tree against the sky, actually) as a monochrome IMG file, enlarged and displayed by Touch-Up. There is more fine detail, but no greys: the illusion of grey shades is created in the actual size picture by the different shapes and sizes of the black dot clusters. Changing the appearance of the sky by masking out some clouds and darkening others - a trivial job with Retouche - would be a nightmare here.



A standard tool of true grey scale image editing software: the contrast and brightness controls. Simply moving the sliders to the left or right will alter the distribution of the different greys as represented by the curve on the right. It is possible to limit the effect to a range of tonal values, and save particularly useful settings to disk.



Derryck Croker takes a look at "AutoSwitch Overscan" from Atari Workshop, a hardware utility that enables a larger screen display on all monitors by using the border area normally left around the picture.

AUTOSWITCH OVERSCAN

Atari's computers have always been designed to leave a border around the screen display. This was to allow for the occasional TV or monitor that would have a slightly smaller display or scan than normal, and so in this worst case you could still get a usable display. The 8-bit computers have a register that will allow a wide playfield (in the graphics modes) which allows the display to scan right up to the screen edge.

Up to now though, the ST owner has had to be content with this border, which is an aggravating waste of display area. Some SM124/5 owners have adjusted internal controls to expand the display to reach the screen edges. This method has the obvious disadvantage that it is only the size of the display that is increased, and so any absolute measuring system such as rulers employed by an application lose whatever meaning they may have had. Indeed, it may be an idea to display such a ruler and adjust the monitor such that these calibrations are correct. This procedure is beyond the scope of this review, and in any case amateurish fiddling near sources of the very high voltages found inside both monitors and TV sets is to be discouraged.

Now enter AutoSwitch OverScan. Its function is to make these borders available to correctly written Gem applications as additional screen RAM. In simple terms, that means that programs which employ sliders to scroll the working area around may be able to fit more of that area on screen, and at the correct resolution. Art programs of this variety will typically produce files with .Gem (independent of device resolution) or .Img (independent of screen size) suffixes. Other programs which are tied to the normal screen area will not be able to take advantage of this, Degas being a good example. First, a short description of the unit is in order.

The hardware

Hailing from the home of some very fine ST hardware hacks, OverScan is a commercial development of the HyperScreen modification published in the German publication "ST Magazine" with, we are told, the drawbacks and bugs removed. Its purpose in life is to modify the DE (Display Enable) signal to fool the ST into producing more dots per line and more lines per image, and it is this that provides the larger screen size. Table 1 lists the new screen resolutions for a selection of popular monitors, and it will also produce broadly similar results to a colour monitor with a TV set fed from either the modulator or through a SCART socket. The 60Hz option will not of course function with a TV.

The OverScan unit arrives in a clear plastic wallet together with a disk and a 66 page A5 manual in a cheerful yellow cover, which despite the occasional lapse into German is comprehensive and easy to follow. I particularly liked one of the quotes on the rear cover - "What have you done with my Atari?", attributed to Sam Tramiel!

The unit itself consists of a small handful of components and ICs built on a PCB which has a 10-pin plug on one end. Beneath are two double-sided sticky foam pads, and the matching socket is wired ready for connecting to various points on the ST's main PCB. It can be installed in any ST, with the exception of the STE or with TOS versions 1.0 or below.

Installation

Helped by step by step instructions and drawings covering a wide range of ST PCB variations this is quite painless, although some dodging around in the manual is required since the drawings are in an appendix. It requires the cutting of some tracks on the PCB which are quite fine, and so the aid of both a jewellers' loupe and the wise motto "check twice and cut once" will be of great help. The leads from the socket are soldered to the points on the ST where the tracks are led through the board to the other side by plated holes. The manual describes these as eyelets but are more correctly called vias, and the wires are to be soldered into these. I found that they seemed slightly too thick to allow them to be inserted into the vias, and so I had to solder to their tops which proved not to be a problem.

Once the leads have been connected, OverScan's PCB can be fixed into place with the sticky foam pads. The manual is a little unclear in this area, since it assures us that the "missing" modulator is the place to fix it. My ST definitely had a modulator, and so I decided to fix it to the top of its screening box. Fortunately there was sufficient clearance to allow the main screening case to be replaced afterwards, and, whilst connecting the wires, I also encountered an unlabelled row of holes which turned out to be J13E.

Just a quick word about soldering. The ST's PCB's fine tracks mean that the use of a correctly sized iron (say 15W) and bit is required, together with quick, accurate work. Ham-handed work leads to the risk that these tracks might become overheated and lift away, leading to breakages. The Atari Workshop will install the board for you (at a price) if you feel that the work is beyond you.

Full testing and fault location guides follow the installation steps. With no problems found, it's straight on to:

The software

The disk contains the driver program and its configuration file OverScan.Inf together in an Auto folder. There are some program fixes, a demo program and some Alternate/Help dumps to 9 and 24-pin printers and a dump to disk producing both .Gem and .Img formats.

The replacement printer routines are provided since Atari's offering will print only a standard size screen, and so some of the OverScan screen will become truncated. Printer control codes can be altered, but only with the aid of a disk editor or a debugger like MonST. Alas I was not able to get more than a couple of lines to print on my 24-pin printer before it bombed out, requiring a reboot. This problem can be overcome with the dump to disk routine however, since the .Img file can be loaded into an appropriate art package and edited or printed out from there. The .Gem file produced is a small text file that, we are told, allows its matching .Img file to be loaded into a Metafile package like EasyDraw for editing. It, like the similar file produced by the DaataScan professional scanner software, would allow loading into OutPrint.Prg for a printout only.

The contents of the Auto folder can be copied into the Auto folder of a hard disk and run from there, however I found that OverScan.Prg was fussy with regards to its positioning or a reboot cycle resulted.

OverScan's setup menu is accessed with the Shift key during the bootup process, and it is here that the size of the large screen can be set up and then saved back to the program if required. It is also possible to switch synchronisation between 50 and 60 Hz for colour monitors. A press of the Q key will exit from the setup screen without saving the settings, and this makes for relatively painless switching between mono and colour monitors.

Installation of the driver program can be bypassed altogether with the Control key during the bootup process whereupon OverScan switches off and "disappears". Other key combinations are used, notably Alternate/Control when a program is started to switch the board on/off "on the fly". This can have an unfortunate effect, as we shall soon see.

The Good...

There is of course no way that I can test each and every program for compatibility with OverScan. Some will work but prove to have little use for a bigger screen. Others offer more pleasant working environments (ST Writer Elite 3.8). Others bomb out (Degas and Degas Elite). Definite advantages are shown by Calamus, FSP 1.1 and EasyDraw. They need less window scrolling than before, as expected by my opening remarks, and may indeed now show the entire area of interest on the screen at once, at least in terms of width. WordFlair, First Word and Script II (not yet released in the UK - what about it, Signa?) should all prove to be great successes, as should Calligrapher Professional (ST Club DEM 61). Even tasks with either the standard or NeoDesk desktops take on a whole new size!

...and the Bad

Alas, there are some flies in the ointment, which may or may not sting you! OverScan's mode-switching hot keys do not live well with either NeoDesk or G+Plus. Try though I might with altering the key combinations I could not obtain one that wouldn't invoke either showing an executable file to the NeoDesk desktop or G+Plus' installation file editor. And again a disk editor or debugger is required to alter these keys following the procedure in the manual and a very limited choice of possible keys.

The .Inf file already mentioned controls the switching of the OverScan board on a program name basis, and so as a list of programs that show undesirable side effects is built up, then they have to be added to this ASCII file. This may prove to be quite an arduous task especially if you have a full hard drive!

Alas, some accessories have undesirable side effects. For example G+Plus' installation file editor refuses to quit unless the Return key is resorted to. And curiously the Calamus font editor will not work (neither will OutLine Art). There is no way that OverScan can switch resolutions for accessory access.

I was disappointed that I could not find a painting or drawing program that would work with OverScan, with the exception of EasyDraw. MegaPaint II seems to be the only candidate but sadly needed the large screen driver module, which I do not have. My only WYSIWYG word processor, WordUp, also flatly refused to work.

To be absolutely fair to OverScan these problems are certainly due to the failure of programmers to anticipate other than the standard screen sizes, indeed the manual has plenty of hints in this direction.

The Competition

Titan Design's Reflex Graphics card is the only contender, as far as I know. I can't help but feel though that much the same compatibility problems may be encountered - but I am willing to be proved wrong - and it also suffers from a high price tag, especially when compared with OverScan's. It is only available to fit onto the Mega's expansion bus, although reportedly there is an adapter under development to allow fitting over the ST's CPU. Quite how this might interfere with emulators or caches that may already be fitted in this position isn't clear at the time of writing.

Conclusions

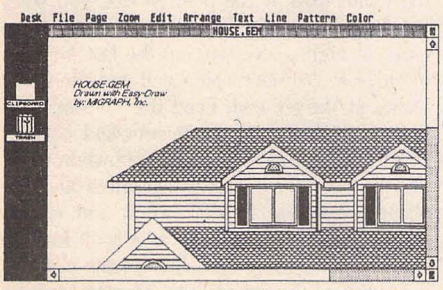
I've a sneaking liking for OverScan. Despite a good deal of reservations about compatibility with many programs, once a well-behaved one is found then the increased screen size is a revelation. Once you've experienced the larger screen, then returning to Atari's offering is like peering through a letter box!

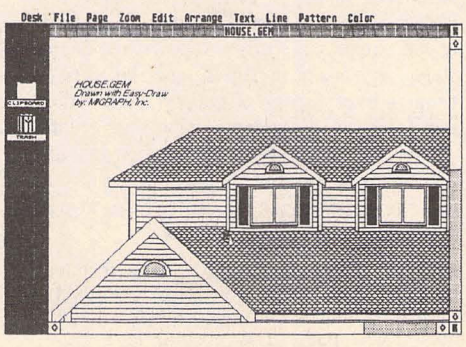
With a different choice of hot keys to avoid conflict with NeoDesk or G+Plus and/or an accessory to switch modes then I could recommend this product more highly. Had this unit been more than a gleam in someone's eye when the ST had been designed, then perhaps programmers would have been encouraged to follow the guidelines in the manual. Not only would this have enabled many more programs to work with OverScan, it would also have made Sam Tramiel's quote unnecessary.

TABLE 1

Monitor	low res 60Hz	low res 50Hz	med res 60Hz	med res 50Hz	70Hz
SM124/5	N/A	N/A	N/A	N/A	672*480 (min)
SC1224	384*280	384*240	752*280	752*240	N/A
1084	400*280	400*232	816*280	816*232	N/A

These figures are taken from the manual. I was easily able to match the resolution for my SM125, but a Philips Pro 8CM852 colour monitor was a little disappointing compared to the Commodore 1084 figures shown above, possibly owing to excessive tube curvature. I considered this to be of little consequence however, since most if not all of the programs which work with AutoSwitch are at their best using a mono monitor.





Above: Standard mono display.

Right: The same file shown using Overscan.

Product: ..... AutoSwitch OverScan
Version: 3.0u
Distributer: ..... Atari Workshop (Radio Service Co)
Units 2 and 19
Sumner Workshops
Sumner Rd
LONDON SE15 6LA
Telephone: 071-708 5755
Hardware: ..... Any ST (not STE)
System: ..... TOS above 1.0
Price: ..... £52.00 (inc VAT and P&P)

Product: ..... Reflex Graphics Card
Distributer: ..... Titan Designs Ltd.
Jonic House
Speedwell Rd
BIRMINGHAM
B25 8EU
Telephone: 021-706 6085
Hardware: ..... Mega, Mono monitor (SM124/5 or A4/A3 large screen)
Price: ..... £286.35 (inc VAT)

Switch-On Delay Unit

Jim Cruise was provided the stimulus for developing this little gadget by a letter from Paul Bates which appeared in December's Forum. In his letter Paul warned other ST users against the practice of simultaneously switching on all their computer equipment from a single mains switch via a multi-socket. This widely prevalent practice is condoned by no less an 'authority' than Andreas Ramos in "Your Second Manual to the Atari ST", but it is unwise. The transient voltage spikes generated when several appliances are simultaneously connected to a domestic ring-main can be much higher than the standard mains voltage that the ST's power supply is designed to cope with, and they build up and decay far too rapidly for fuses to provide any protection against them: in Paul's case the effect had been to burn-out a Mega ST. Atari stress in their instruction manuals that the computer should always be switched on last; but as one accumulates more peripheral equipment and the associated tangle of wires, plugs and adaptors becomes ever more impenetrable, this advice becomes quite irksome to follow unless one can guarantee remembering to set the computer's integral mains switch to off at the end of every session.

I originally developed this unit as simple black box which fitted in the ST's power lead between the mains plug and the computer; it introduced a three-second delay between the application of power at the plug end and the transmission of that power to the computer, and enabled me to safely switch-on all my equipment in one operation.

A little while later I got a hard disk, and with this came a special auto-run program which one was supposed to put on a disk in the A drive and which kept the ST doing continuous re-boots until the hard disk had time to initialise itself. There were two problems with this: the first was that every time I wanted to use the A: drive I had to remove the special boot-disk, after which I invariably forgot to replace it and on next using the computer was shocked to discover that my hard disk had apparently gone defunct. The second problem was that the special delaying program actually held-up operations for longer than was necessary - only by a matter of a few seconds but frustrating nevertheless when repeated ad infinitum. I therefore modified my delay unit to give a longer adjustable delay which could be fine-tuned to exactly the minimum required by the hard disk. This worked fine - no more special boot-disk, just one switch to flick and nothing else to think or worry about till the desktop came up on the screen.

Then I wanted to play a few games; these invariably require to auto-boot themselves from the A drive, so if one has a hard disk one leaves it switched it off. The finely adjusted delay imposed by my gadget now appeared as a nuisance so I added a switch whereby it could be set to short (which gives a 3-second delay for mains safety when booting from floppy) and long (which gives a longer delay adjustable up to about 40 seconds which should accommodate any hard disk). This is the final form of my switch-on delay unit as now presented for public consumption. Apart from its intended uses as described above it may also be of interest to owners of printers such as the HP Deskjet which require to be switched on before the computer to which they are attached. The unit costs about twelve pounds to make.

The Circuit

This is shown in fig 1. The circuit is designed around the monolithic timer chip IC1. The actual time interval is determined by the length of time it takes for C2 to charge up via R1 and optionally via VR1. VR1 provides the necessary adjustment to adapt to different hard disks whilst the switch SW1 short circuits VR1 when closed and provides for a short fixed delay time for safe booting from floppy. R2 and C3 provide a negative pulse at the instant of switch-on which starts the timing cycle, at the end of which the relay RLA1 is energised, connecting mains power to the computer. The circuit needs to be powered from a low voltage supply and this is provided by the transformer T1, the output from which is rectified and smoothed by D1, D2 and C1.

Construction

There is nothing particularly difficult about this. However, because the finished unit will be handling mains power, it should only be attempted by constructors who are confident in their abilities. It is probably not suitable as a very first D.I.Y. electronics project but anyone who has successfully completed any of the D.I.Y electronics projects from previous issues of ST Applications should have no trouble.

Begin by cutting a piece of verostrip 3.15 inches long: this should contain 31 pairs of copper strips. Carefully scrape off the copper strips as shown in fig 2, and be sure to remove every speck of copper in the indicated areas as the widened gaps thus created will provide the necessary isolation between the high and low voltage parts of the circuit. Enlarge and elongate the centre holes at each end to take the mounting screws.

Cut a length of terminal strip four terminals long and place this in the plastic box together with the other main components arranged as illustrated in fig 4. Use the components as templates to guide you in drilling the holes through the bottom of the box which will eventually take the mounting screws. Cut the holes for the cable grommets and the slot for SW1: the easiest way is to drill a few small holes round the circumference of the apertures and then join these together with a coping saw or a fine file - the soft plastic of the box is quite easy to work. Solder the electronic components into the circuit board noting the polarity of the diodes (cathode ends banded), the electrolytic capacitors (positive ends indented) and IC1 (circular indentation at the pin 1 end); all these features are illustrated in fig 3. In addition to the components themselves there are 7 terminal pins and 15 wire links. If you leave the latter till last you can make them from the off-cuts from the component leads. IC1 is not a static-sensitive device and needs no special care in its handling. Having finished the board examine it minutely for bad joints and bridged tracks. Fit the main components into the box but do not yet fully tighten the attachment screws.

If you're making the unit for use with a hard disk and don't already know the delay period your disk requires in order to boot reliably then establish this by trial and error before proceeding further.

Now unplug your ST's mains lead at both ends and carry it to the far end of the room: as you're about to cut it, we want to be quite sure that the lead you cut is the one you unplugged (for obvious reasons). Cut through the mains lead at the point where you want the delay unit to be inserted and remove the outer insulating sleeve from the last 4 inches of cable at the mains plug end and the last 2 inches at the ST end. Feed the severed ends into the box via the grommets and connect them to the terminal block as shown in fig 5; also connect the transformer wires and the wires connecting to the switch and circuit board. Work methodically as it is difficult to check the assembly once it has been completed owing to the multiplicity of wires and the confined space. Finally connect a short length of uninsulated copper wire (e.g. 15-amp

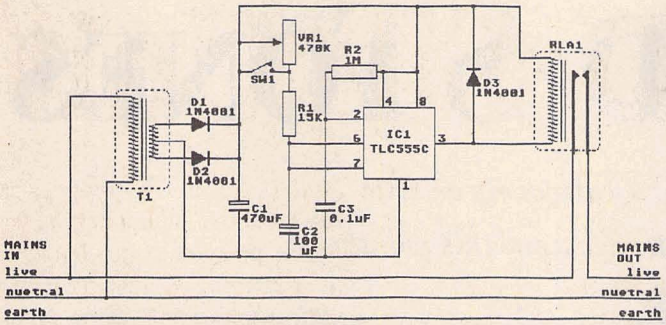


Fig 1: circuit diagram

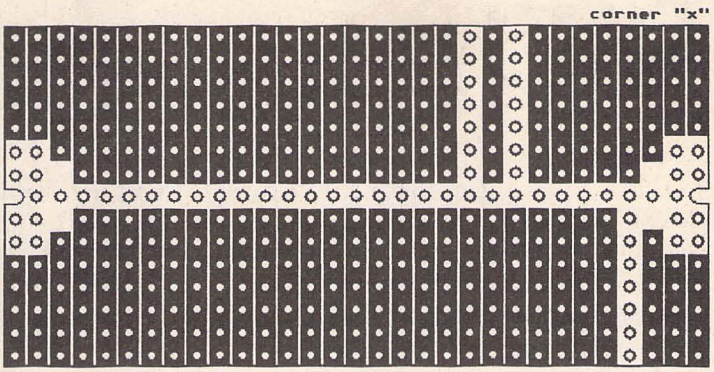


Fig 2: the underside of the circuit board showing where the copper strips have to be removed.

fusewire) to the earth terminal of the terminal block and run it round the inside of the box putting a turn round each of the attachment screws before finally tightening down their nuts. This is to earth all the touchable metal parts for safety.

You are now ready to test the completed unit, but before doing so look what size of fuse you have in your mains plug - if it is anything over 2 amps rating then replace it with a 2-amp one. (2-amp mains fuses are Maplin Cat No HQ31J: buy a few as this is also the best size for monitors, modems and most printers.)

Set SW1 to the short delay setting and set VR1 to about the middle of its adjustment range. Plug in and switch-on at the mains; about 3 seconds after throwing the mains switch you should hear a faint but distinct click as the relay energises. Switch-off and change SW1 to its long delay setting, now the click should follow about 20 seconds after turning on at the mains. If you wish to set the delay to a pre-determined value to suit your hard disk you can do this by adjusting VR1 clockwise to decrease the delay or anti-clockwise to increase it. Disconnect the unit from the mains whilst making these adjustments. When the delay is as you want it put the lid on the box and the switch-on delay unit is ready for use.

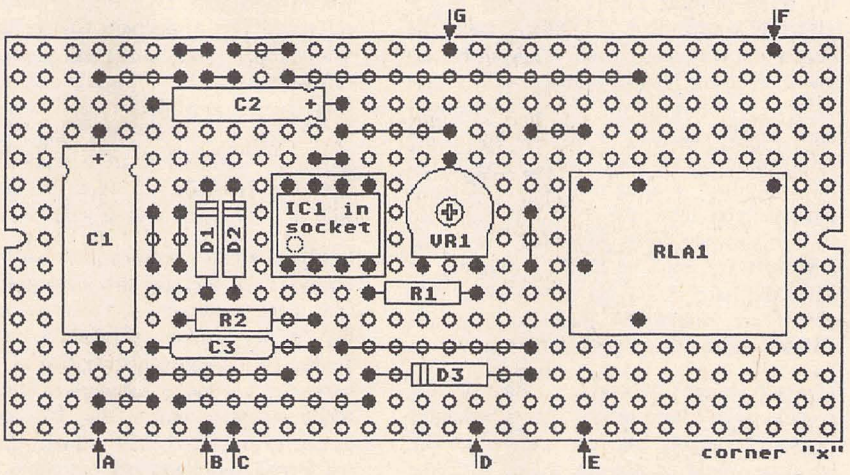


Fig 3: the arrangement of the components on the circuit board.

PARTS LIST

REF	DESCRIPTION	QTY	MAPLIN No
R1	15k minature metal film resistor	1	M15K
R2	1M minature metal film resistor	1	M1M
VR1	470k minature horizontal pre-set resistor	1	UH08J
C1	470uF 16 volt axial lead electrolytic capacitor	1	FB72P
C2	100uF 10 volt axial lead electrolytic capacitor	1	FB48C
C3	0.1uF metallised polyester film capacitor	1	BX76H
D1,2,3	1N4001 silicon diodes	3	QL73Q
IC1	TLC555C timer chip	1	RA76H
RLA1	ultra-minature high power mains relay	1	YX97F
T1	sub-minature 9-0-9 volt mains transformer	1	WB01B
SW1	standard slide switch	1	FH36P
-	8 pin dual in line IC socket	1	BL17T
-	Verostrip	1	FL17T
-	single-ended 1mm PCB pins	1 pkt	FL24B
-	cable grommets	2	LR49D
-	plastic box type MB2	1	LH21X
-	6BA screws	1 pkt	BF06G
-	6BA nuts	1 pkt	BF18U
-	2 amp mains terminal strip	1	FE78K

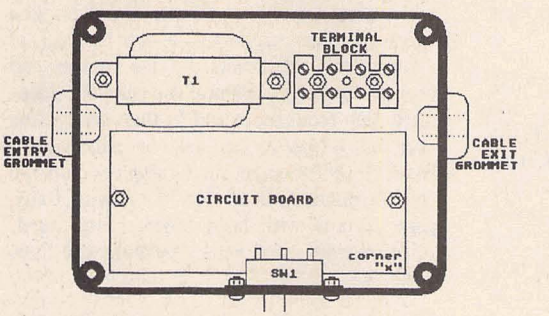


Fig 4 (above left): the physical arrangement of the main components within the box.

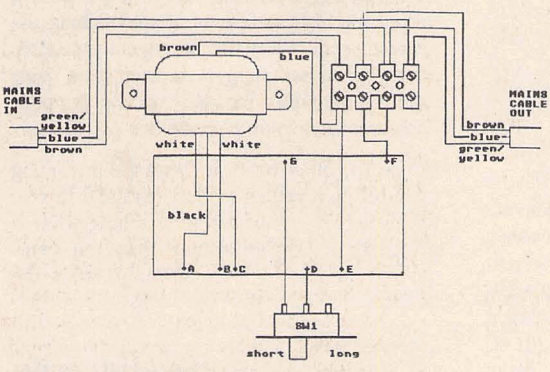


Fig 5 (bottom left): expanded view showing the connections between the main components.

STICKS AND STONES

Looking for support, Günter Minnerup discovers a battle between feudalism and capitalism in the ST scene this month.

To the flower power generation of the 1960s, "the dealer" was a shadowy figure keeping you in adequate supplies of certain hallucinogenic weeds. Not the sort of thing to dwell on for a law-abiding family magazine in the 1990s, of course, so I will quickly make the connection between the self-indulgent nostalgia of an ageing hippy columnist and the real subject of this month's column, an increasingly elusive character in his own right. I am referring to the mystical dealer encountered in computer magazines and software manuals: you know, the one you're supposed to turn to when things go wrong - when the new software won't let itself be installed, or when the hard disk is on strike. These nice people are supposedly there to help and advise you, but where do you find them?

Living in Britain's "second city", Birmingham, I would have a hard time finding a computer shop where anyone has ever heard of GDOS, let alone would be able or willing to fiddle about with my ASSIGN.SYS file to install fonts for the new wordprocessor I've just bought from them. Only the other day, while queuing in the salesrooms of one of the more prominent ST retailers in the region, the customer in front of me was about to buy a combined scanner and software package and asked the staff for a quick demonstration. He might as well have asked to examine their underwear. Needless to say, when it was my turn to buy a replacement toner cartridge for my Atari laser, I also drew a blank: "Afraid it's out of stock, Sir".

This was my third "dealer" on a round trip of some thirty miles - the second was also out of stock, and the first had suddenly gone shutters-up in bankruptcy - only to find myself unable to purchase such a basic item, needed quickly. Back to mail order, then, with credit cards, waiting for delivery, and of course the delivery charges.

The ST scene is very much a mail order scene. Even in London, I could not nominate more than two or three dealers where I would expect to be able to get a reasonably knowledgeable answer to a fairly basic question, and find essential spares and consumables readily available from stock. Birmingham, as we have just seen, is already marginal territory, and most provincial towns can count themselves lucky if the local Atari/Amiga/Sega/Spectrum games merchant knows the difference between the SLM804 and a laser gun.

Now we all know that customer support is expensive because it is time-consuming and that we, the punters, are ourselves to blame because we tend to go for the keenest prices when buying expensive items of hardware or software. The Tottenham Court Road box shifters, mail order outfits and stallholders at computer shows benefit at the expense of the hard-pressed local dealer, who needs to cut his margins to compete and cannot afford to pay well-qualified staff to hang about all day installing ASSIGN.SYS files for customers who probably bought their gear elsewhere.

In other words, contrary to what we have always been told by the ideologists of the free market economy, competition and quality do not always go hand in hand. This applies to the entire distribution network: a hardware vendor or software publisher who really wants to ensure that customers are properly supported may actually find himself forced to try and lock out competitors to survive.

The restrictive practices in the Apple Macintosh scene, where you pay through the nose at your AppleCenter for the privilege of meeting people who have actually used a Mac in earnest, and where magazines get threatened for accepting advertisements from "grey" importers, are perhaps the most extreme example of this.

Similar approaches have been tried in the ST market. Exclusive distribution rights and generous margins have underpinned the Signa Publishing approach to marketing Calamus and related products, for example, and those who can afford it are full of praise for the support obtained from Signa. But there is no competition: you just cannot buy Calamus at a discounted price anywhere, at least not a fully localised UK version.

The philosophy behind this approach has little to do with a free market and is more akin to feudalism: his Lordship will look after you as long as you meet your obligations (mainly financial) to Him. This cosy arrangement gives you some security, but also locks you into dependence on an effective monopoly.

Atari handle things differently, of course. Dealer margins are the same for everyone, so the box shifters can happily undercut everyone and we, the customers, benefit financially. The computers sell themselves, and in large volumes, but on the strength of their games-playing potential where little support is needed, while the quality-conscious serious applications market suffers. Or look at what happened to the excellent Spectre GCR Macintosh emulator. Initially pushed in this country by HiSoft, an extremely serious, helpful and supportive outfit indeed, they lost interest eventually when they could not persuade Gadgets by Small, Spectre's American manufacturers, to grant them exclusive distribution rights over the product, and thus had to face the possibility of their considerable investment in promoting and supporting the emulator benefiting other vendors who, on the basis of lower overheads, would be able to undercut them with discounted wares.

Like most people, I resent being locked into a dependence on one supplier, however reliable and supportive. Why should I not have the right to buy from the cheapest source? Yet I realise that there will come a time when I will curse that very same source for its unwillingness or inability to help me out quickly, efficiently and knowledgeably.

Perhaps the answer lies somewhere along the lines of separating the retail and support functions altogether: buy as cheap as you can, and then pay for help when you actually need it. Software houses would deal only with upgrades and bug fixes and otherwise leave customer support to a new network of independent consultants, advice centres and user groups who purchase the relevant documentation from them and in turn charge the user on a pay-as-you-ask or subscription basis. A DTP Centre, for example, could sell work-arounds and advice along with fonts, page layouts with laser toner, install hardware upgrades and repair printers and hard disks.

Perhaps the Atari market is too small for this to work, and in any case there are powerful vested interests in favour of maintaining the present product-specific arrangements: after all, the promised support is often little more than a euphemism for denying the competition access to a captive customer.

But on the other hand, it raises the intriguing prospect of a return of that mystical figure, the dealer, in the new role of selling what is primarily a service rather than the commodities available more cheaply from the box shifters and mail order firms.

Günter Minnerup

GASTEINER Technologies

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FAX: +44 081 885 1953
Millmead Business Centre, Mill Mead Rd, Tottenham N17 9QU

Gastiners' Great Give away Give away Give away Give away

COMPUTERS

ATARI

520 STFM	POA
520 STE (Turbo)	POA
520 STE IMB	POA
520 STE 2MB	£349
520 STE 4MB	£429
1040 STE 1MB	£349
1040 STE 2MB	£429
1040 STE 4MB	£509
MEGA STE	POA
TT	POA

MONITORS

Philips 8833 II	£229
Atari SM124	POA
Atari SC1224	POA

PRO MONITORS

NEC 3D	£499
Quadram 1480	£399

Free Gastiner Switch box with Audio Out

PRINTERS

PANASONIC

KXP-1081	£155
KXP-1180	£159
KXP-1123	£209
KXP-1124i	£269

STAR

LC-10	£169
LC24-200 (Col)	£299
LC24-200 (Mono)	£269
Canon BJ10	£249

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Panasonic KXP 4420	£849
Atari SLM 605	£879
HP Laserset IIIP	£949
NEC 560P (Postscript)	£1799

MEGA DRIVES

Gasteiner Mega Drives
ALL drives are autobooting and parking

30MB 28MS	£329
50MB 28MS	£385
60MB 24MS	£429
85MB 24MS	£449
52MB 11MS	£409
100MB 11MS	£499

MEGA KIT

Syquest 44MB Cartridge	£99
GE Soft Host Adaptor (includes SCSI Lead & DMA Lead)	£59
MEGA KIT, as above but also case and power supply	£129
Power Supply	£34.95
DMA Cable	£7.99

PERIPHERALS

Golden Image Mouse	19.95
Gasteiner Mouse	17.95
Alfa Data Mouse	£19.95
Golden Image Optical	34.95
Golden Image Scanner	£169
Beetle Mouse	£29.95
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Midi Cables	£6.95
10 x Sony discs	£9.95
ST Clock	23.95

MEMORY

Gasteiner 2MB for ST STFM + MEGA 2	£139
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X-TRA ½MB	£75
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STE ½MB	£25
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Desktop Publishing

Timeworks Publishing	£59

(Other languages also available)

Timeworks Publisher	
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1st Word Plus (English)	£55
1st Word Plus (USA)	POA
Word Writer	£44
1st Mall	£10

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Neo Desk 3	£29

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Data Manager Professional	£32
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Cyber Texture	£45
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Future Design Disk	£15
Human Design Disk	£15
Microbot Design Disk	£24
Video Titling Design Disk	£15
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3D Fonts 11	£24
CAD 3D 1.0	£20
Plotter & Printer Drives	£20
GIST	£15
Genesis	£34
Spectrum 512	£24

Languages

Mark Williams C Version 3.0	£109
CSD for the Atari ST	£49
GST Macro Assembler	£15
Fractal Generator	£15
GSTC	£15
Prospero C Comiler	£89
Prospero Fortran	£89
Prospero Pascal	£89

Stand-Alone Programs

COLR Object Editor	POA
Crystal	POA
Maps & Ledgends	POA
Datamap Collection 1	POA
Datamap Collection 2	POA
Expert Opinion	POA
Flash	POA
Kermit & Remote	POA
Navigator	POA
PIE	POA
Quicktran	POA
START	£6.95
Partner ST	£35

Valuetime Budget Range

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Let's Make Greeting Cards	£8
Let's Make Signs & Banners	£8

ATARI ST SOFTWARE

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Sage Cash Trader	£76
Small Business	£35
Sage Fin Controller	£379

DATA BASES

Superbase personal 2	£59
Superbase pro	£169
Prodata	£55

DTP

Fleet St Pub	£159
Calamus	POA
Calligrapher pro	POA
Page Stream	£129

MISCELLANEOUS

Delux Paint	£49	PC Speed	£79
Hyper Paint	£24	AT-Once	£149

MUSIC

C-LAB Notator	£429
C-LAB Creator	£269
Cubase	£449
Cubeat	£229

WORD PROCESSORS

That's Write	£79
Write On	£45
Protext	£109
Calligrapher	POA

SPREAD SHEETS

K-Spread	POA
Logistix	£79
LDW	£89

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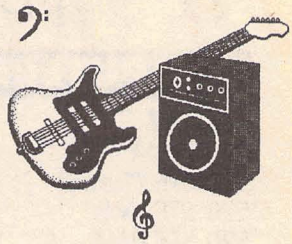
Trade + Educational Orders Welcome.

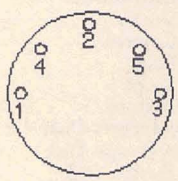
MIDI



Fundamentals

Vic Lennard continues his mini-series on the fundamentals of MIDI with a look at the hardware needed for setting up a system.

The hardware for a MIDI port is accurately defined in the MIDI Specification. Suffice to say that it involves a 5 milliamp current loop and uses opto-isolators to avoid earth loops. The idea here is that a light emitting diode interacts with a photo sensor to pass on the pulses. The rise and fall times for the opto-isolator are supposed to be less than 2 microseconds.



The pins of a MIDI socket are numbered as above: Pin 2 is screen (not connected on the MIDI In), pin 4 is +5 volts and pin 5 is the MIDI signal. There shouldn't be any connections on pins 1 and 3, but as most of you know, the Atari ST is non-standard and provides for a Thru from these pins. Great if you're into building little black boxes but pretty useless otherwise. Consequently, take care to ensure that MIDI cables do not have pins 1/4 and 3/5 shorted by a blob of solder.

MIDI cables are another area of debate. The MIDI specification states that MIDI cables "shall have a maximum length of fifty feet" and that "the cable shall be shielded twisted pair, with the screen connected to pin 2 at both ends". Now cables exceeding fifty feet are likely to be too capacitive and could cause serious degradation of the MIDI signal. This will lead to MIDI information being lost. Symptoms could be hung notes, owing to the loss of a MIDI note off, or even lack of note triggering. The idea behind the 'twisted pair' is to protect the signal lead from external fields. It is true to say that the screen has a similar function, but better safe than sorry.

There have been many misleading statements regarding delays attributable to MIDI Thru sockets. Data received at a MIDI In port follow one of two branches; to the processor via the UART, or to the MIDI Thru. Consequently the delays attached to such a Thru must be less than two microseconds. Hardware MIDI Thru sockets do not lead to delays, but aged opto-isolators will have slower rise times which will ultimately lead to data corruption. The confusion is with so-called 'soft' MIDI Thru ports where the incoming data is processed and this processed data then merged with the original information, hence the possibility of delays.

If you are using a MIDI keyboard or sequencer with more than one MIDI sound module, the chances are that you will need to use the Thrus to connect together the system. But using hardware Thrus has restrictions. A Thru port can only work when the MIDI device is turned on which means that a daisy chain of MIDI In-Thru-In-Thru-In necessitates the turning on of all devices in the chain. Also, as mentioned above, the reliability of Thru ports decreases with age. The solution is to use a MIDI Thru box. This usually has a single MIDI In and a star network of anything from 3 to 10 or more MIDI Outs. Relatively inexpensive - £35 or less.

Most of these cheat - they don't use opto-isolators but simply multiplex the MIDI signal. No real problem if all attached devices are up to MIDI spec which states that pin 4 of a MIDI Out or Thru should have +5 volts via a 220 ohm resistor. Also, pin 2 should be connected to the MIDI lead screen and down to earth. This gives a potential of 5 volts between these two pins with pin 5 being the switched MIDI signal. Unfortunately, there has been a fad of small MIDI devices being powered from the MIDI power line of +5 volts. A Thru box like the above usually connects pin 5 of each thru directly to pin 5 of the MIDI In and all of the pin 2's to the screen of the MIDI In. Consequently, the circuit floats on the incoming MIDI signal on pin 5 and is isolated via the power supply - no +5 volts on pin 4.

What if you have two or more MIDI controllers - how can they be wired into the system? For instance, a MIDI keyboard and MIDI drumpads. If all you want to do is to select one or the other, but not both at the same time, then you could simply connect MIDI cables as and when you need them. A bit of a bind, especially when the MIDI sockets are inaccessible. Use a MIDI Switch box which has multiple MIDI Ins, one MIDI Out and a switch to select the path. A 5 In, 1 Out unit is pretty cheap at around £25.

If you want to use both controllers at the same time, for example in a situation with two musicians jamming, then a MIDI Merger is needed. This is also true if you want to use a piece of software to visually edit a sound module and play it from a keyboard at the same time. Merging MIDI information is a difficult task and requires a processor because the order of bytes is critical. Any Data bytes have to be sent along with their Status byte which entails buffering each stream of data. Any timing information should be given priority which is fine for MIDI Clock which, being System Real-Time, can be placed anywhere in the stream but MIDI Time Code uses a Data byte. Similarly, merging System Exclusive with other MIDI information is awkward as no other data bytes can be placed within the F0.....F7 string. This is one reason why many manufacturers break down a sysex dump into packets of 128 or 256 bytes. A basic MIDI Merger starts from around £75.

Most sequencer manufacturers provide for independent, extra blocks of 16 MIDI channels, merging and synchronisation through a proprietary piece of hardware. C-Lab have Unitor and Export while Steinberg have Midex, Midex+ and the SMP-24. These are relatively expensive but are designed for a specific application and are likely to function better than a third party device. The only problem is if you use different sequencer packages.

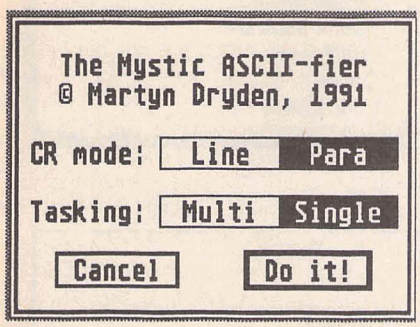
MIDI Patchbays? They're a different question which we'll look at another time.

In the Public Domain

In the first of a monthly feaure, Sandra Vogel casts an eye over the best of what is currently on offer on the public domain and shareware scene.

Ascii-fier

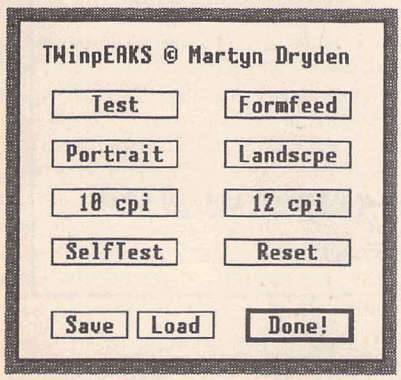
Ascii-fier is set to become a must for those of us who use First Word or First Word Plus and regularly transfer text into other word processors. It is a desk accessory which converts FWP text files into ASCII, so that they can be read by any other word processor or text editor. Why is this necessary? Well, the Non WP Mode save option in First Word leaves a hard carriage return at the end of each line. Other word processors expect to find continuous text when importing, (i.e. they do not expect to find CR's), and so, when you try to read in those Non WP Mode First Word text files, your new word processor thinks that every new line is in fact a new paragraph. This has two results - very messy looking text and a large pain in the rear as you have to reformat the text.



Not only does ASCII-FIER perform the essential task of removing those hated hard returns, it even gives you the option of doing the conversion as a background activity, while continuing to work on your text. A clear advantage if you are working on long documents.

TWinpEAKS

This desk accessory takes its name from the only TV programme that keeps its author away from his ST. The programme, however, bears no resemblance to the show. It has a clear purpose, is easy to follow, and is a pleasure to spend time on. It is a printer utility, and basically allows you to do the impossible - to send control codes directly to your printer at the click of a button. On calling up the accessory you are presented with



a dialog box containing a choice of eight codes. Click on a box (you assign names yourself), and the printer code is sent with a minimum of fuss. The sets of printer codes are easily loaded from and saved to disk so that you can have an infinite number of sets of codes for different uses.

The programme was tried and tested with my Panasonic KXP 1081. I found no bugs, and for the first time I am able to print in italics and change between pica and elite fonts with ease from the desktop. As always with such a useful accessory, I would like more. More than eight choices at a time, and more on screen space to label my control codes. But these are minor points against an extremely useful desk accessory.

Astrology

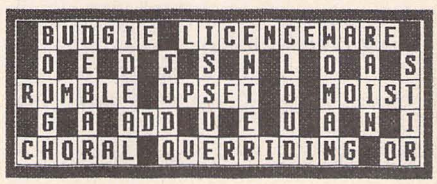
Astrology is the latest in a long line of very good Budgie Licenceware products. The aim of the programme is to provide you with the information you need to cast astrological charts. It will not do the interpretation for you, nor will it turn you into Russell Grant overnight (thank goodness for that!). It will provide you with all the information you need to begin casting charts.

You will need to gather quite a lot of information about your subject before casting his/her chart. Date, time and place of birth are the minimum you will need, and you can work with just these if no more detail is available. The details of a fair few celebs are given to get you started. Within the programme are a whole load of tutorials which will ensure that you become well versed in, for example, the planets and their symbols, the Zodiac, the aspects, the twelve Houses, and construction of the Birth Chart Wheel. If you are particularly happy with your work, then you can get a printout using a font specially designed to output the glyphs (symbols) astrologers know and love.

The whole programme is menu-driven, and seems to have been written with the complete novice in mind. There is a wealth of accompanying text to help you on your astrological way. There is even an on-disk bibliography, which outlines areas for further exploration, as well as books to read if Astrologer whets your appetite. All in all, Astrologer is a remarkably innovative and well-implemented piece of programming.

XWPuzzle

If you have ever tried to design a crossword puzzle, you will know that it is no pic-nic. In fact, designing crosswords is a helluva lot harder than solving them. For some people, however, designing crosswords is more of a hobby than solving them (takes all sorts!). XWPUZZLE is another piece of Budgie Licenceware. It is designed to help all those frustrated crossword designers out there. First off, it takes a hand in the tricky process of designing your grid. This is a difficult task in itself, as you must not prodcue a grid into



which it is impossible to fit words. Try it! XWPUZZLE lets you select grid sizes up to a maximum of 37 squares wide by 18 squares deep. Then you can either choose to fill in the black squares by hand, using a variety of built-in mirroring and symmetry styles to make the task easier, or you can load one of the many pre-designed grids.

Next comes the stage of filling in the words. The grid design you have settled on is checked by the programme to ensure that it meets some basic rules. If it fails the test, XWPUZZLE is intelligent enough to make modifications and then ask you if they are acceptable. Nice. After the grid is passed, you can get on with letting XWPUZZLE put the words into the spaces. As you can imagine, this takes a little time, but rather than getting a cuppa or taking a comfort break at this point, just watching the programme working is an object lesson in computer power. The only problem with XWPUZZLE is that there is no help with deriving the clues - well, that really would be spoon-feeding!

Neochro ne Master

Back in the good old days, there were only two art packages, and everybody had both of them. Why? Because one was the fabulous and commercial Degas, and the other was the equally fabulous and public domain Neochrome. Well, even in these heady days, when everyone and their dog seem to be producing art packages, the Neochrome picture format is still an accepted standard, and whatever other packages we may possess, most of us still have, and use, Neochrome, though it is increasingly thought of as a bit long in the tooth.

Well, the programme has now been upgraded, and a new version, Neochrome Master, is now available. For my money, the upgrade makes Neochrome again compare with many

of the full-priced (and over-priced) art packages currently available. The basic 'look and feel' and mode of operation remain as they always were, but the new features bring Neochrome out of the eighties and into the nineties. These include:

* support of up to ten work areas
* full STE support with all the extra colour facilities of the STE
* importing from and exporting to Degas, IFF and Doodle picture formats
* deleting files
* object rotation at any angle
* the ability to save blocks to a library
* a save/load option for palette
* the ability to use a different palette for every scanline
* you can even format MS-DOS disks!

There are also keyboard shortcuts for anyone who really believes using the keyboard offers a shortcut in an art package! Surely Neochrome must be the all-time great of the PD scene. Neochrome Master adds that little bit extra which will keep it that way.

Software reviewed in this month's column is available from The ST Club:

XW Puzzle:..... GBU.48 £2.95
(Budgie Licenseware)

Astrology:.....BPR.12 £3.95
(Budgie Licenseware)

Ascii-fier:..... WPR.81 (PD)

TWin pEAKS:.....WPR.812 (PD)

NeoChrome Master:... DMG.21 (PD)

ST Programmer:.....INF.30 (PD)

ST Programmer

ST Programmer is a disk magazine with a theme. The first issue appeared in December 1990. It is designed to help with programming in STOS and 68000 Assembler. The two issues I have seen contain a mixture of complete public domain games and utilities, and programmed routines, all intended to offer assistance to the would-be programmer. The disks also contain a veriety of other elements, including music (written with STOS Tracker of course), letters, the obligatory (if somewhat misplaced) cheats and hints for commercial games, advertisements, and the first disk even ran a competition.

Try as I might, I was unable to find a date on the second issue, so I have no idea how frequently this disk hits the streets (or catalogue). However, my powers of deduction tell me that it must be monthly or bi-monthly. It is well worth checking out if you are interested in programming, though make sure you have a Ram disk (or better still a hard disk) to run it from!

Software for this month's column was supplied by:

Budgie UK
5 Minster Close
Rayleigh
Essex, SS6 8SF

Riverdene PDL
63 Winteringham Way
Purley on Thames
Berks. RG8 8BH.

The South West Software Library
PO Box 562
Wimbourne
Dorset BH21 2YD

Sphinx Software
Erw Fynydd
Carmel
Llanelli SA14 7SG.

PD UPDATE

Version 11.5
May 1991

Communications Utilities

COM.27: VANTERM v3.8 - Updated disk - excellent comms package with lots of features, extensive on-line help and full documentation - this new version features improved .CFG file handling; FST 105 - Flying Start Viewdata package; DCOPY v3.2 - file handling utility - copies, moves, renames, recovers, archives files.

VanTerm™ 3.8
© 1987-1990 by Wm. B. Van Nest, Sr.
Vanguard Datasystems

COM.39: INSTANT GRAPHICS v2.12 - generates graphics and sound by modem using VDI commands for lines, circles, etc to create on line graphics - full documentation included - can be used by BBS systems; MODEMECH - Hayes compatible modem setup and tester - makes modem presets a doddle to change.

COM.40: RAC_DIAL - modem phone book and dialler desk accessory ($C); STAR TERM v1.0 - Viewdata and VT52 terminal emulator; XYZ 142 - file transfer program - uses Z, Y, and Z modem protocols; Z PRIZE - terminal emulator - X, Y and Z modem file transfer program plus auto-dialling.

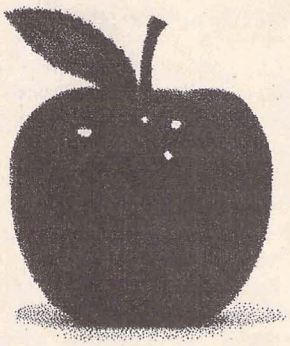
```
STarTERM
Version 1.18
© QuaLsoft 1989

In terminal mode: HELP returns
here, F1 or R button for help

UNDO to terminate the program

Select:
T. Teletype (VT52) terminal
V. Viewdata terminal
M. Mode                (Remote)
B. Baud-rate           (4800)
P. Parity              (None)
F. Flow control        (None)
S. Stop-bits           (1)
I. Invert video
```

Doubled Up

COD*17:.....COM.39 + COM.40

Commercial Software Demo's

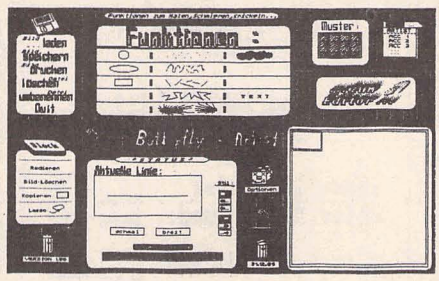
DEM.67: IMPRINT v1.01c - Demonstration version of this package for printing pictures on colour and mono 9-pin dot matrix printers. This demo is limited to printing just the pictures supplied on the demo' disk and has a 20-minute time limit on each work session. Features of Imprint include: converts pictures to any resolution, auto grey-scaling for colour pictures, drawing tools, text labelling, variable printout size, portrait and landscape



printing, and printing at 3 densities and 3 levels of darkness with up to 9 passes.

DRG.21: PRINTER DRIVERS - Updated disk - now includes Degas Elite drivers (for Alternate-Help screen dumps) for the following colour printers: CGP-220 inkjet, Epson JX80, Star LC10, NEC P3C, Canon PJ1080A, Okimate 20. For update return disk plus £1 copying fee.

DRG.42: BUTTERFLY and ST DESIGNER - two mono drawing packages from Germany - load/save STAD, Degas, IMG and CMP file formats, lots of drawing tools and facilities plus a font editor - both in German but use is very intuitive thanks to the use of icons for most options. (DS:M)



DRG.43: PAD - another German graphics package - handles Degas, DOO, PAC, and IMG files and features 10 screens in memory at once plus an animation facility. (M:DS:1Meg)

Educational

The disk code EDU.25 was inadvertently given to two disks in previous Updates. The contents of the EDU disks issued since PD Catalogue 11.0 are:

EDU.24: CHUNNEL
EDU.25: FRANGLAIS
EDU.26: GCSE Maths Tutor
EDU.27: KEYBOARD KAPERS
EDU.28: WIZ TEK

EDU.29: WORLD RISK - "Green" information program giving information about the threat to the world from CO2, CFC's and various other pollutants, and their effects upon global warming; FRANGLAIS2 - information on the use of and implementation of Franglais - a mixture of French and English - makes learning French fun.

EDU.30: KID MIXUP - from a selection of 4 pictures the user has to sort out their correct order - 11 sets of pictures are available; PUZZLES - French jigsaw puzzle creator - imports a picture, divides it up into as many pieces as you want and then you have to sort them out. (C)

EDU.31: SHIPWRECK - arithmetic game - you are shipwrecked, and have to get to safety by answering mathematical questions (C).

Doubled Up

EDD*12:.....EDU.27 + EDU.29
EDD*13:.....EDU.30 + EDU.31

Fonts

FON.50: ATHENS GEM font in 8, 10, 12, 14, 15, 16 and 18 point at 90-dpi and 360dpi (DS:M)

FON.51: ATHENS GEM font in 24 and 28 point at 90-dpi and 360-dpi (DS:M)

FON.52: ATHENS GEM font Shadowed in 30 point and Contoured in 20 and 30 point at 90-dpi and 360-dpi.

FON.53: ATHENS GEM font in 10, 12, 14, 16, 18, 20 and 22 point at 90-dpi and 300dpi. (DS:M)

FON.54: ATHENS GEM font in 28 and 34 point at 90-dpi and 300-dpi. (DS:M)

Athens 22 point
@ 300-dpi

36point @
300-dpi

FON.55: ATHENS GEM font Shadowed in 36 point and Contoured in 24 and 36 point at 90-dpi and 300-dpi.

FON.56: VENICE GEM font in 10, 15, 20 and 25 point at 90-dpi and 360-dpi.

FON.57: VENICE GEM font in 12, 18, 24 and 30 point at 90-dpi and 300-dpi.

FON.58: VENICE GEM font shadowed in 27 point at 90-dpi and 360-dpi; plus VENICE GEM font shadowed in 32 point at 90-dpi and 300dpi.

Venice Shadow

Fontpac Disks

These are a series of font disks which supplement the packages Fontswitch and Fontkit Plus. These disks have been recently updated and contain various amounts of new material: Fontpac 12 (224-character fonts for 9-pin printers) is entirely new, and the 24-pin printer disks contain a fair amount of new material. Disks may be upgraded by returning your original Fontpac disk(s) plus a copying fee of £1 per disk.

FPA.01: Fontpac 1: downloadable fonts for Star NL10.

FPA.02: Fontpac 2: downloadable fonts for Star LC10.

FPA.03: Fontpac 3: downloadable fonts for Taxan Kaga.

FPA.04: Fontpac 4: downloadable monospaced fonts for Brother M1409 9-pin.

FPA.05: Fontpac 5: downloadable proportional fonts for Brother M1409 9-pin.

FPA.06: Fontpac 6: downloadable fonts for Epson LQ and compatibles such as NEC and Star LC24-10.

FPA.07: Fontpac 7: downloadable fonts for Juki 5500 and 5510 printers.

FPA.08: Fontpac 8: screen and printer fonts for typing and printing a variety of foreign and scientific character sets. Fonts include: Akkadian, Cyrillic, Czech, Danish, Finnish, French, German, Greek, Hebrew, Hungarian, IBM, Italian, Norwegian, Polish, Portuguese, Spanish, Swedish, Syriac, Turkish, and a wide range of maths symbols.

FPA.09: Fontpac 9: Screen and 24-pin printer fonts for typing and printing Akkadian, Armenian, Cyrillic, Greek, Hebrew, Slavonic, Syriac, and most European languages. The printer fonts on this disk contain a full set of 224 characters and can be used with any Epson-compatible 24-pin printer in conjunction with the Fontprint utility which is supplied with Fontkit Plus and Fontswitch.

FPA.10: Fontpac 10: 8x16 and 8x8 screen fonts.

FPA.11: Fontpac 11: NL10/LC10 fonts from FPA.01 modified for use with Fontprint.

FPA.12: Fontpac 12: 9-pin 224-character fonts and matching screen fonts for typing and printing foreign or scientific character sets.

Doubled Up

FAD*01:.....FPA.01 + FPA.02
FAD*02:.....FPA.03 + FPA.04
FAD*03:.....FPA.05 + FPA.06
FAD*04:.....FPA.07 + FPA.08
FAD*05:.....FPA.06 + FPA.09
FAD*06:.....FPA.08 + FPA.10
FAD*07:.....FPA.04 + FPA.05
FAD*08:.....FPA.07 + FPA.11
FAD*09:.....FPA.08 + FPA.09
FAD*10:.....FPA.08 + FPA.12

Games

GAM.162: GILBERT'S CHALLENGE - fiendish variant of solitaire - levels start simply with balls of one colour, and go up to the brain racking big grids and multi coloured balls - a very professional game; MOUNTAIN - patience style game - build up a mountain of cards so that the cards match the cards either side of them by suit or value. (C)

GAM.163: EPD - Enemy Plane Defence - a vertical shoot 'em up - shoot the enemy planes to stop them getting past you; CRIBBAGE - version of the card game - options include X-Ray vision to view opponents cards (M:Not TOS1.4+); CRISSLE FRIDGE - game of nuclear waste disposal - guide your character around, pushing objects out of the way and disposing of the nuclear waste. (C)

GAM.164: MONKEYS AND BALLOONS - cross between Breakout, and Carousel - keep the clown bouncing on the trampoline so that he can pop the balloons; RACE CARDS - mathematical game - race your car and a correct answer moves it forward - try to beat the computers car; REFLEX - program to test your reflexes - when the red circle turns green, press a mouse button; SPECTRAL SORCERY - a battle between 2 wizards to convert a board full of random colours into their own colours. (C)

GAM.165: THE ACID GAME - vertically scrolling shoot 'em up, with colourful graphics and simple game play - created with SEUCK. (C)

GAM.166: THE BOMB OUT BROS COMPILATION DISK #1 - TRACKER DEMO - Sound tracker music; MAD MOLE - Boulderdash style game written in STOS (Not TOS 1.4+); ALIEN BLOCKADE v1.1 - fill in the picture and avoid the nasty; LASER RACE - Tron-style game: race your pixel around the screen to trap opponents. (C)

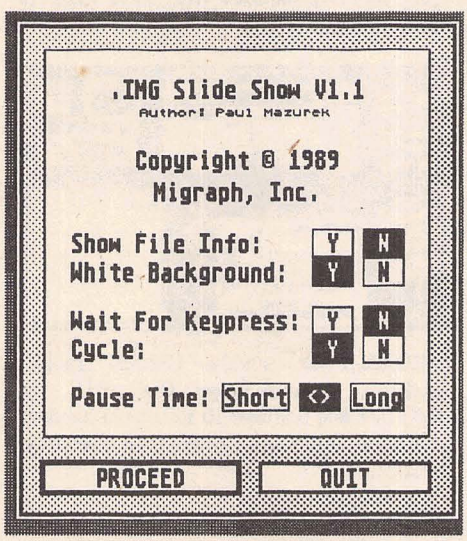
Doubled Up

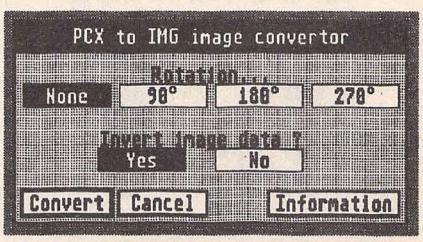
GAD*72:.....GAM.162 + GAM.163
GAD*73:.....GAM.164 + GAM.165

Graphics

GRA.133: GRABBER - grabs sprites from Neo and Degas pictures so that they can be manipulated to create sprites - the saved sprites can then be used within GFA basic programs (C); GYRO v7.1 - spirograph style program for creating swirly patterns (C:1Meg:Not TOS 1.4+); MONAJOKE - demo file created with Grabber (C); SSG - Silly Spirograph Generator - creates spiro patterns; TV TITLE - program written in STOS to create smoothly scrolling TV titles for home videos - Other effects avaliable (C:Not TOS 1.4+); NEO TWIST - rotates sections of Neochrome pictures in 90-degree increments; TINY DUMP - produces quarter-size screen dumps of Neochrome picture files. (C)

GRA.134: IMG UTILITIES - CONV2IMG v0.9 - converts Degas, Neo, Spectrum, Macpaint and TNY files into monochrome IMG files; IMGQVIEW - displays IMG files; IMGSHOW v1.1 - IMG picture file slideshow utility - allows use of script files; IMG CAT v1.0 - demo version of a utility that prints catalogue pages of up to 150 IMG files from any file path - needs GDOS, fonts and printer driver; CONVERT - converts .PCX (PC Paintbrush) files into IMG files ($C).





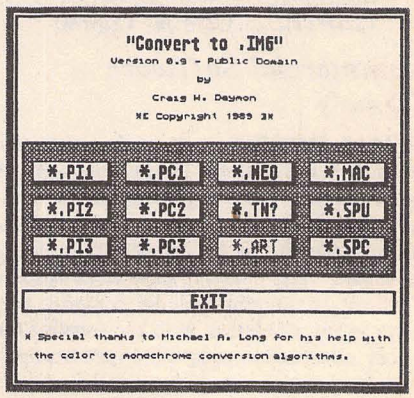


Image Utilities on disk GRA.134

Information and Text files

INF.31: TIFF (Tagged Image File Format) specification from Aldus and Microsoft.

INI.55: Inside Info issue 51 - Australian Disk magazine from ACE (NSW) - articles include an interview with Sam Tramiel, Mac Emulators, the Cookie Jar, Calamus SL review, and hints and tips. (DS)

Languages

LAN.100: STEVIE v3.71 C source code for STEVIE - a clone of the UNIX editor, "vi". Contains make files for porting to different machines, including the ST. ($C)

Clip Art

SSM.14, SSM.15 and SSM.16: Three disks of Christian Clip Art from "The New Zealand Anglican Board of Mission" and "The NZ Anglican Communications Office" - covers most church functions and events - ideal for posters, flyers and newsletters. Over 30 Tiny (TNY) format files on each disk.

Doubled Up

SSD*54:.....SSM.14 + SSM.15

Utilities

UTI.160: LEAGUE TABLE and DART LEAGUE - rudimentary programs to maintain League Tables for any sport which has a variable number of points awarded for each match, such as dart leagues. STOS source code is available direct from the author.

Wordprocessing Utilities

WPR.69: Check Up - an accessory spelling checker for use with Word Up. This updated disk now includes: PERS2TXT - creates a text file out of the Check Up personal dictionary, so that it can be edited; DY_TLS2 - incorporates the text file produced with Pers2txt into the main dictionary; REINST - updates Check Up after the dictionary has been modified. For update return disk plus £1 copying fee.

WPR.81: WORD SOLVER - find solutions to word-find style puzzles and anagrams - comes with a 25,800 word dictionary; COM WORDS - counts words in a file and then prints them in descending order of frequency.

WPR.82: TeX First Aid disk by David Harvey - This disk contains everything you need to install and run the German Shareware implementation of TeX on a diskette-based ST (Hard disk owners may also find much that is useful here). The tools on this disk include: TEXAID.DOC - an article on installing TeX; TEX_READ.ME - Translation of the German ReadMe; PCOMMAND - command shell plus associated documentation and support files; ARCSHELL and ARC, better than ARCX when installing TeX; FCOPY3 - a disk formatter/copier, a RAMdisk and a text editor. Also on this disk are: TeX configuration files, and batch command files for running TeX from PCOMMAND; TEX_MAN.DVI - A version of the German TeX manual which prints correctly on 11-inch paper; LETTER11.STY - a version of the LaTeX letter style, again set up correctly for 11 inch paper; PRTFONTS - Fonts missing from base TeX screen/NL10 drivers; RES240.NL - Star NL10/Epson 9-pin. (DS)

WPR.83: TEXFONT - simple batch file processor to make the process of generating TeX fonts easier - includes Metafont and GFTOPK; DVIDRV - dvi drivers for monochrome ST, Epson printers at 72-dpi, and NEC P6+ compatible printers. ($C)(DS)

Demo's

More self-inflicted confusion is resolved following the double allocation of disk code XXX.217:-XXX.217: Maggie 3 - Disk 2

XXX.229: World of Startrek (not 217 as detailed in PD Update 11.4).

XXX.230: SIMPSONS - sequence of digitised pictures, from the "Do the Bart Man" video featuring the Simpsons. (DS:C)

Micro Care Disks

£2.95 each (Not PD)

Micro Care is a novel idea in charity fund-raising, operating along the same lines as Budgie Licenseware disks. For each Micro Care disk sold a royalty is paid to the organisers, who pass on 100% of this money to selected charities.

MCC.01: MICRO CARE - DISK 2: 50/60Hz - Toggle Hz; B_DRIVE - Boot from drive B; PALETTE - Restore palette (any machine, including STE); REBOOT - Force total reset; ANALYSE - Analyse bombs etc.; CRYPTOGRAPHY - Code/decode text files; LOTTO - Game for youngsters; QUIZKIT - Complete quiz creation program; SPEEDWRITE - Increase disk access by 50%; OVERLANDER'S CODE - GFA Source for text scrolling etc; plus more...

The proceeds from Micro Care '90, Disk 2, will be donated to TOS, a charity concerned with helping children born with a deformed oesophagus.

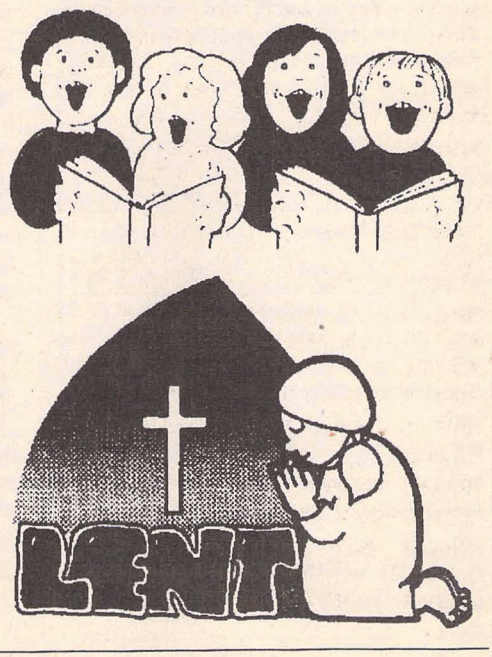
Micro Care Applications

£3.95 each

MCA.01: MicroCare Education Disk: Educational modules for use at home and in schools with children from 3 years of age - modules include: Mathematics With Numbers, Mathematics With Objects, Spelling, Lotto, Time Tutor, First Painting Set, and Counting.

From New Zealand:

Christian Clip Art examples from SSM.14, 15 and 16.



KEY

(M) - Runs in High Resolution Mono.

(C) - Runs in Medium or Low Resolution Colour.

(DS) - Double-Sided Disk

(1Meg) - Needs one megabyte of RAM.

(Not TOS1.4+) - Will not run under TOS 1.6 (STe) or TOS 1.4 (Rainbow TOS fitted to all recent STFM and Mega ST's).

($) - source code included.

($C) - C language.

($ASM) Assembler.

Doubled Up: With the exception of a few specially formatted disks, all single-sided disks in this catalogue are now available on double-sided disks. Doubled-Up disks have a disk code in the format: AAA*NN. All PD disks are the same price - there is no surcharge for double-sided disks.

Ordering Details

Please note that we do not accept orders by credit card. Orders accompanied with a cheque or postal order are dispatched by 1st Class post on the day we receive them.

All PD disks are copied onto high quality disks from known manufacturers. The price you pay us for PD disks covers only the costs of acquisition, duplication, cataloguing and distribution.

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PD Disks: Standard and Doubled-Up disks.

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Non-Subscribers	£2.80	£2.50
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Disk-Mag Subscribers	£2.35	£2.05

Licenseware disks cost £2.95 or £3.95 each.

All prices include VAT at 17.5%, packing and 1st Class post.

The Order Form for these disks is on Page 57

Licenseware Update

These disks are all Licenseware: only authorised distributors are allowed to sell these disks. You are free to copy them, but not to to sell them. Licensed Distributors pay a fixed royalty for each disk sold, all of this money goes to the Budgie authors. The ST Club were the first PD service to join the Licenseware scheme, and with the exception of one quarter, we have been the largest contributor of royalties to the authors of these programs.

Budgie Games - £2.95 each

GBU.49: KAHN by Markus Kronenberg. Budgie's first release from Germany, three games on one disk. Kahn is a great Sokoban clone where containers have to be pushed on an equal number of plates. Comes complete with a game-editor. Megamix is a two-player memory game where 20 pairs of icons have to be matched. Zyklop is a diamond collecting game where skulls and walls have to be avoided. (C)

GBU.50: SPACE INVADERS by Robert Leong. Needs no introductions! Choice of classic or modern aliens and three levels of difficulty. Also on this disk: DETONATOR by Ian Blair, a memory game testing your visual and musical skills, plus a Q*BERT clone game. (C)

GBU.61: A WINTER'S TALE by The Happening Boiz - This is Dizzy Lizzy II with the same addictive gameplay and 40 more levels. Set in a serene Christmas atmosphere, this follow-up boasts new graphics, with transporters, switches, grave stones, snow balls, exploding Christmas puddings (?) and the persistent meanies. Shapeshifters music. (C)

GBU.62: COLONY by The Bombout Bros - An excellent scrolling "missile command" variant with a multitude of special effects and some great graphics which give a new lease of life to a classic game! Plus: Operation Wimp - simple and amusing game of reflexes, where you have to trap Evil Eddy in your computer. Written in STOS, it won't have FTL or Psygnosis worried, but it's great fun. (C)

GBU.63: SPACED WELLER by Simon Wilsher - Spaced Weller tests your power of mind and observation. Your aim is to create coloured lines upon a magical grid. Spheres of different colours have different effects. Beware of chain reactions. (C)

GBU.64: CASTLE FRANKENSTEIN by Philip Bishop - As the title implies, your ultimate goal is to create a Monster out of a pile of bones that has gone missing. The bones are scattered throughout the first 19 levels of the game, and all you have to do is get them to level 20, where you pull the odd lever and stick them together. (C)

GBU.65: DOUGLAS II by Goth - At last the half meg follow-up to the hugely popular Douglas Rockmoor. Three versions on this disk: two running on 520 ST's, with 24 levels each, and one version requiring one meg memory. The one meg version has an amazing reset surprise, which is not suitable for users under 14. Goth has now added an extra option to regulate the speed of the game and the music, needless to say, is from the Shapeshifters. (C)

GBU.66: MISSILE ALERT! by Robert Leong - Destroy each and every wave of incoming missiles and planes. If possible, protect the tank and radar installation as well. The game ends if any part of the city sustains five hits. Two-player option where one player controls the tank and the other aims the anti-missile batteries. (C)

Budgie Productivity - £3.95 each

BPR.05: The SPRITES PORTFOLIO version 2 - A collection of 600+ top quality sprites which have been compiled by Eddie Bryan and are ready to be incorporated in your own games. Various subjects and sizes, all in Degas PI1 or PC1 format (DS). Updated disk: for upgrade return disk plus recopying fee of £1. (C)

BPR.16: ST-68K-REFERENCE version 3.0 by Neil Smith - A reference system for the serious programmer. Contains full data on the ST's internals. The information inside the database is displayed on pages within nested GEM windows. Subjects can be accessed by clicking on 'keywords' and this process can be repeated until there are no more links to new areas. The database gives details of all Bios, Xbios, Gemdos, AES, VDI and Line-A calls. The 68000, 68901, 6850 and YM2149 are also covered. (DS)

BPR.17: SPLASH by Philip Bishop - Splash is an art package for young users (age 3 to 10). Being icon-driven, it is extremely easy to use and conducive to artistic creativity. All usual functions, such as draw, line, fill, palette, disk, cycle, etc., are available. Ideal as an introduction to computer art. (C)

Budgie Magazines - £2.95 each

MAG.09: STOS BITS Issue 1 - (February 1991) - From the Happening Boiz, this is the latest diskzine for the STOS programmer. Together with the inevitable games reviews, tips, and demo gossip are thirty two STOS listings covering cycling routines, fades, scrolls, rasters, starfields, zooms and even... vector graphics. (DS)

TOS 1.62

The majority of TOS 1.62 incompatibility problems caused by STOS have now been resolved. The disks that are still effected are: GBU.04 (Tablit), GBU.31 (Inferno), GBU.36 (Dogfight), GBU.50 (Detonator), GBD*43 (Inferno and Tablit), and GBD*45 (Dogfight). All other Budgie titles are fully compatible with all versions of TOS. If you have disk that need upgrading for compatibility with TOS 1.62 you may return the disks for a free upgrade.

ONE STOP DTP

...not just a pretty face

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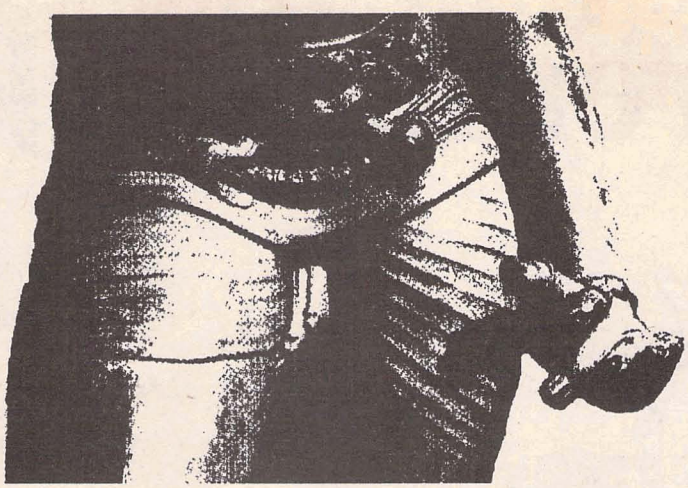

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Jeremiah's Journal

Jeremiah reviews some of the "back bedroom" ST adventure titles that feature in the Zenobi catalogue.

Splinterbone

There is a large and fairly healthy "homegrown" adventure games industry in the 8-bit computer world, especially for the various Spectrum computers. This industry was created mainly as part of the reaction to the decision taken several years ago by the major High Street retailers to cease stocking adventure games in general, and text-only adventure games in particular.

Accordingly, the publishing companies also ceased their interest in adventure-related products. This left an awful lot of adventure game players, and writers, high and dry. There was still a market for text, or text and graphic, adventures and there were still writers able and willing to satisfy that market, but, with the withdrawal of distribution facilities, there was a vacuum for a time while a means of bringing these two parties together was re-established.

The method eventually settled on was, in many ways, a return to the roots of computing. Many of the adventure producers were no more than one- or two-man bands. It was not possible for them to sell their products in the same way as before. They couldn't afford the expense of advertising in the monthly computer mags, for instance! Therefore, instead of trying to reach the mass market, they settled for trying to reach other adventure enthusiasts like themselves. They set themselves up as "back bedroom" producers, publishers and distributors of their own software, selling through mail-order. They advertised in adventure fanzines and sent review copies to magazine columnists in the hope of generating a little free publicity through favourable review comment. But, mainly, they depended on 'word of mouth' and the repeat orders generated by previously satisfied customers to keep them going.

The market quickly became saturated with text-only adventures. Programs like the Quill, the PAW and the GAC had placed the means of creating an adventure game into the hands of a lot of people, and most of them were eager to sell their completed masterpieces. Unfortunately, buying the adventure game creator had not imbued many of the purchasers with the necessary imagination or programming skill required to use the software successfully. As a result, there were a lot of extremely bad adventure games around.

In time however, the situation changed. A lot of the "cowboys" disappeared as they realised that selling software by mail order was actually not an easy route to quick riches but very hard work for little, if any, financial return. Those that remained were, by and large, the best of the bunch. They were the most dedicated and the most consistent producers of good quality games. They provided an excellent and reliable service time after time and therefore attracted a staunch following.

Probably the most prominent amongst this remaining elite is Zenobi Software, a small company which grew from the efforts of its proprietor, John Wilson, to market his own games. He eventually took on the process of copying, publicising and distributing the work of other authors also. The Zenobi catalogue is now very impressive indeed and the adventure pages of 8-bit magazines (those that still possess adventure pages, that is) are often dominated by its products.

Over the last twelve months or so, Zenobi has tried to spread its wings a little and move into the ST market, offering products very similar to its Spectrum titles - that is, "homegrown" text and text and graphic adventures, written mainly with adventure creator programs by "back bedroom" enthusiasts. We take a look here at a sample of the current Zenobi offerings.

Cortizone

The Zone was originally a highly sophisticated hospital complex. But that was so long ago now that few remember it. Following on from The Great War, a much weakened and precariously placed government found itself having to deal with a large number of criminal malcontents without creating an undue burden on its much reduced tax-paying population. The solution was to simply throw up a huge walled barricade around the hospital and patrol the

perimeter rigidly. They then set all the criminals loose within the walls to fend for themselves as best they could - preying on each other instead of on the innocent. A simple but effective strategy.

Or at least it was, until a certain lunatic doctor tried to blackmail the world by means of a device known as the Adrenal Bomb. The doctor's scheme failed and he was sentenced to a life term in the Zone. It was only then that it was discovered that the Adrenal Bomb had already been primed and the countdown to detonation was well under way. Now it is necessary to send an agent into the Zone to find the deranged medico and gain the knowledge required to locate and disarm the dreadful mechanism.

Cortizone has been created by three young men - Anthony Lees, Gareth Harrison and Tom Green - who go by the name of High Voltage Software. It has been written using STAC and it features a large number of digitised graphics. The game is accompanied by an information file produced with STOS which gives background detail regarding the game and its scenario. The contents of this file can be output to a printer if you so wish.

It is a large game, occupying 2 disks, with a great number of varying locations, many of which appear to be no more than "fillers", however. The text is serviceable rather than inspirational, but the problems are quite well balanced between the simple and the more difficult, with some requiring several stages to be successfully completed before they can be solved.

Cortizone represents a very creditable first effort from a group of talented young programmers and adventure game afficionados.

The Magic Shop

It's strange that you should have noticed The Magic Shop today. After all, it must have been there all the time. How could you have missed it before? You step inside and meet the proprietor. To your suprise she considers you a powerful magician since, she claims, only those adept in the arcane skills can see The Magic Shop and only the very best practitioners can leave it again. Now, you know you ain't no sorceror, so how are you going to learn the magic necessary to allow you out again?

Talespin isn't an adventure creator that I'm familiar with. In fact, I think that this is the first game I have played that has been produced with it. The system operates through use of graphic scenes (which are mainly static but do boast a little animation in places). Clicking on items within the scene will bring up a window containing text messages. Moving the mouse pointer over the text will usually highlight certain passages. These passages represent the options open to you at that stage and clicking on the highlighted passage will allow you to perform a certain action or move to another scene.

The Magic Shop revolves around a series of short, interlinked scenarios. The proprietor of the shop will show you a number of magic items. Clicking on each item will transport you to one of the scenarios. Your aim in each scenario is to gain possession of a magic spell which you will be able to use in another scenario. Eventually, of course, you will find the spell which will allow you to leave the Shop and finish the game.

The game, written by Jason Taylor from Ireland, is very simply structured and is aimed squarely at the adventuring beginner. The graphics are adequate for the task, but nothing out of the ordinary. In places, the execution of the game is a little clumsy, but the author will undoubtedly do better in time.

Border Warfare

This game is set on an Earth-like planet in the far future. You take the part of Colonel Olias, founder of the Rubycon Resistance Force and dedicated defender of your people from the depravations of the Mordenians, a war-loving race from the far south. Your objective now is to reach the city of Rovoner, which lies across the ocean, and there find the Mordenian leader. By slaying him, you hope to be able to restore peace to your homeland.

As with Cortizone, this adventure has been created using STAC. The authors are two guys from Scotland called Neil Clark and Gerry Tonner, who are collectively known as OmmaSoft. Once again, this is a very big game with a large number of locations. Graphics however seem to be very few and far between - I only came across two in the first third or so of the game.

I must admit that, right from the start, I was less than enamoured by this game. Those awful fantasy names are a surefire turnoff at the best of times and when, after less than half a dozen locations, I met a farmer with the suitably rustic name of Bill Bensonandhedges, I almost gave up in disgust there and then!

However, as the old saying goes, "Smile and be happy - things could be worse". So, I smiled and was happy and things did indeed get worse! There was the wizard who would not talk to you unless you were carrying a bag of coins; mainly, I think, because the only response programmed into the wizard was to say "Where did you find that bag?". Pretty stupid thing to say if you don't happen to be carrying a bag in the first place, so the wizard says nothing instead. Then there's the spaceship which is in perfect working order despite the fact that it has been interred for innumerable years and you have to dig it up with a spade. (Dig up a spaceship with a spade? Yep, that's right!) Blow me, and what's this lying on the ground just two locations away from the spaceship? Well, if it isn't the disc which you need to insert in the slot to open the door into the spaceship itself! And when you get inside and launch this perfectly functioning spaceship into its pre-programmed flight, where does it take you? Why, straight to the very planet you were trying to get to in the first place! Blimey, that's handy, Harry, pop it in the oven! Shortly after this, I gave up on the game when I was confronted by a Warrior I simply couldn't pass. Even when I used the solution provided by Zenobi with the game, I still couldn't progress, so I just stopped trying.

This game is a prime example of some of the things that people hate most about the text adventure. It does not have a believable scenario. It makes little attempt to involve the player and therefore it quickly becomes boring. The amateur presentation (i.e. spelling errors, illogical structure) is tiresome, tedious and irksome.

Changing Tastes

The process of upgrading from an 8-bit computer to a 16-bit one brings with it a subtle change in adventuring tastes. To the 8-bit player, the games considered here would be well worth investigating further. However, the 8-bit market does not offer games with the depth of play to be found in titles such as Dungeon Master, Cadaver, Leisure Suit Larry and Powermonger. Neither does the 8-bit market possess a healthy, thriving public domain sector, which has become the traditional home for "homegrown" ST adventure software of all levels of quality. Therefore, the circumstances prevailing in each market are distinctly different and it does not necessarily follow that the success of "homegrown" product in the 8-bit market will be emulated by similar success in the 16-bit market.

These games seem pale and tame by comparison with full blown commercial products. They are too bland and lacking in gameplay to pose serious competition to professionally produced products. They may offer slightly more than the average Public Domain adventure but that is really the level at which they are pitched. If you decide to buy any of these titles, expect to receive no more than that and you won't be disappointed.

Product: ..... Cortizone (2 disks)
Written by: ..... High Voltage
Price: £3.99
Product: ..... The Magic Shop
Written by: ..... Jason Taylor
Price: £2.99
Product: ..... Border Warfare
Written by: ..... OmmaSoft
Price: £2.99

All three titles published by:

ZENOBI SOFTWARE
26 Spotland Tops
Cutgate
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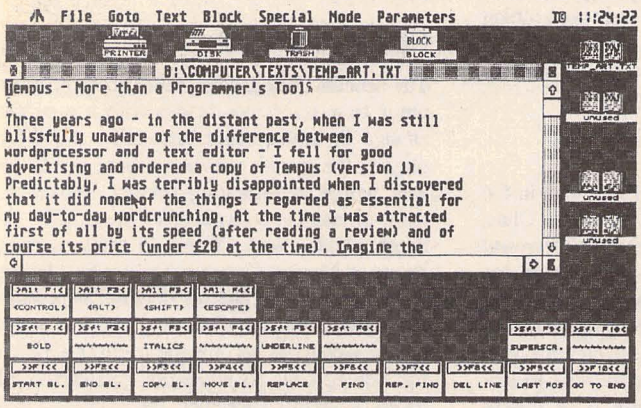
Tempus

More Than A Programmers' Tool



Part 2:

Hugh Beyer continues his look at Tempus 2 in its guise as a word processor.

Tempus desktop

Tempus has its own natty little desktop (see illustration), which, like so many of its features, can be changed to suit your own requirements. I like having the file icons lined up vertically on the right, while the current text window leaves enough space for them to be visible - simply to remind me which is which. In my configuration, window number one (my 'main text') is opened immediately, while the second, third and fourth windows remain shut upon loading, waiting to be called up via <CONTROL> plus), / or * on the numeric pad.

Launching a program

You may occasionally want to pop out of Tempus and into Wordplus (or whatever) and then back again. Provided your ST has enough memory (2 megabytes?), then you can do that quite easily without going through the desktop. Simply click on 'Launch immediately' under 'Parameters', select Wordplus from the item selector, and off you go. When you've finished wordplussing, quit and you'll be back exactly where you left off in Tempus. (This doesn't work terribly well with only 1 megabyte, though if your files are small and you've got very few accessories and memory-resident programs installed, you'll probably be all right.)

Direct ASCII input

Though I'm generally not very keen on IBM-compatibles, there is one function which I've always ogled with envy. MS DOS allows you to enter any of its ASCII characters via <ALTERNATE> plus numbers from the numeric key pad. Tempus does the same. <ALTERNATE> plus, say, 194 on the numeric pad will give you Hebrew aleph.

Search and replace

Tempus allows you twenty user definable search strings in the 'Search' and 'Search & Replace' functions. I've found this a great help for wordplussing a Tempus document, i.e. replacing the straight printer codes by Wordplus codes before exporting a document to Wordplus: it means that you can have several codes in the Search string memory of the program, ready to be called up for your search-and-replace whenever required.

Wordwrap

Like Wordplus, Tempus 2 has two modes: Wordwrap and non-Wordwrap (called 'Source' mode). Under Wordwrap you can generate a paragraph by pressing carriage return which will generate a CR character on the screen (ASCII 13). Press it again, and you will get to the next line. You can key in text continuously, just like in a wordprocessor. You can even have right-justified text, though this only affects the screen display and a print-out under Tempus, though not the text on disk. The default parameter provides some funny character as a full justification marker. I changed this to a blank. Full justification is messed up, though, if you have italics, bold, etc. in the text, as the control characters will be included in the full justification on the screen but not on paper.

Inserting text

One of the greatest assets for anyone who has to edit a text (such as a translation) on the screen is the way in which Tempus pushes the following text to the right and quickly rearranges the entire paragraph so that the overall stylistic effect of the insert or delete can be appreciated immediately. Under Wordplus I tend to leave the text all higgledy-piggledy until I've finished editing, so that bad stylistic blunders don't get detected until the third reading.

Keyboard shortcuts

Pressing <SHIFT> or <ALTERNATE> plus function keys allows you 20 keyboard shortcuts of up to 192 characters each, including carriage returns. These can be saved into the program's configurable memory so that they'll be available for every session. I've found this indispensible for translations where a computer-literate client needed pure ASCII with his own codes in it, e.g. <it> for italics, </it> for undo italics - terribly fiddly under Wordplus.

Macros

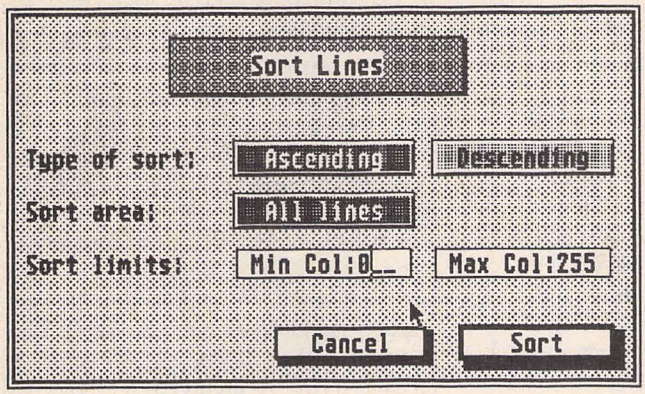
Talking of macros: these can also be stored temporarily and assigned to any key or combination of keys. Press <ALTERNATE> <ESCAPE>, record your macro, press <ALTERNATE> <ESCAPE> again, then the macro key, e.g. <NUMERIC *> or <SHIFT> <ALTERNATE> <Y>. Macros can of course also be stored more permanently in the keyboard driver file, e.g.

T133 := " Y" " o" " u" " r" " s" " " " s" " i" " n" " c" " e" " r" " e" " l" " y" " ,"* [Shift][Alt][D]

so that whenever you press <SHIFT> <ALTERNATE> <Y>, this will come out as "Yours sincerely,".

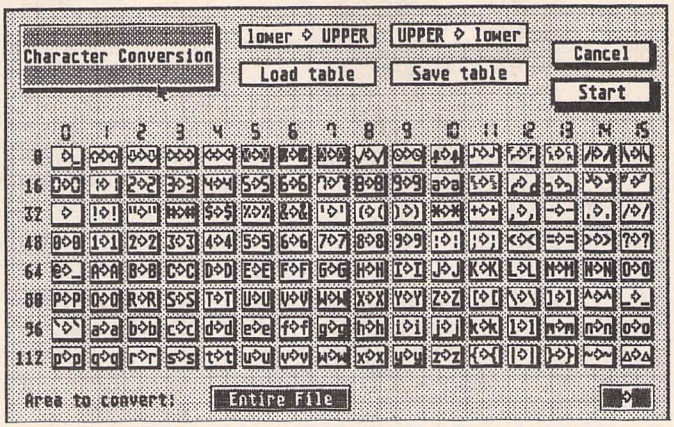
Different setups

In fact, Tempus 2 allows you to rename the whole program. This can be very useful if you need several different Tempus configurations. For example, I've renamed one version of Tempus TAGGING.PRG which has Timeworks style tags on the function keys. (Aside: make sure you leave TWO carriage returns between paragraphs before exporting an ASCII text to Timeworks.)



Sort lines

Have you ever wanted to sort your lines? Well, there's a seemingly unnecessary option which simply puts lines in alphabetical order. If, say, you have an alphabetical index or list of countries in a translation, simply translate the list as it is, write it to a separate file, call up 'Sort lines', enter the beginning and end of the sort and your list or index will be alphabeticised for the target language. Unfortunately, though, this is strictly ASCII-oriented, i.e. caps and small letters are not ignored. To avoid this, you may write your list completely in lower case letters to start with and then add capitals by hand via <CONTROL> <G> afterwards.



Character conversion

The program allows you to change any number of individual characters at one fell swoop in its 'Character Conversion' function. If, say, you have called up a Wordplus document and you want to be able to read it without the squiggles, simply call up 'Character Conversion' and replace those characters (i.e. ASCII 28, 29, 30 and 31) by blanks (space bar). Then press OK and your Wordplus text looks reasonably clean for you to read without getting a headache. I have also found the 'Character Conversion' function useful for editing a Russian or Greek text file after a change in my Fontkit ASCII assignment (A1_RUSS.FON AND Q2_RUSS.FON) for characters in these languages.

Undo

If you are fallible, you'll be pleased to hear that UNDO actually means UNDO - very useful when you've accidentally deleted a word or line. Also, I've often made use of the 'Replace text' function, which simply abandons your current edits since the last save and replaces the text from disk. This would require several keystrokes and mouse clicks under Wordplus.

Autosave

Crashes are extremely rare under Tempus - much rarer than under Wordplus. If you feel that this might lull you into complacency, then you should perhaps use the Auto save function, which can be set for any number of minutes - though obviously you can also disable this option.

Printing

Printing out can be handled very nicely with the current window still in memory or even open. (In fact, it has to be in memory.) You may even wish to have all line numbers printed in the left margin. I find this a very handy device for proof-prints of longer documents, because it enables me to retrieve lines more easily when I put the changes in. However, I would suggest using Tempus 2 in connection with some print-out accessory for your printer (there are plenty in the public domain), which will set it to endless paper (if required), as well as changing the left-hand margin, the page length and the font. If you use accented characters quite a lot, then the printer driver may need some substantial editing, which may be rather fiddly. I used the Wordplus HEX file for my printer as a guideline and converted hexadecimals into decimals for some vital characters.

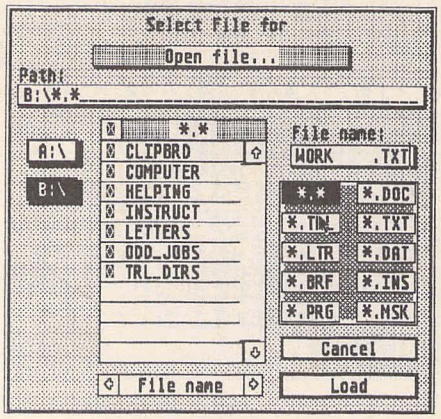
Wordplussing a Tempus text

Obviously Tempus 2 has its limitations. It is, after all, a text editor, not a word processor. If you need lots of centred lines, tabs and right justification as well as footnotes and indented paragraphs, then you'll probably do better with Wordplus, though it may still be quicker to knock up your text under Tempus and then import it into Wordplus for further processing, where you can then also get rid of widows and orphans (sounds brutal, but simply means preventing single words or lines on the previous or following page). When you do that, make sure you turn on WP mode in Wordplus. Your next step is also important: place the cursor at the beginning of the file, call up the 'Find and Replace' function, put a single space in the 'Find' line and another single space in the 'Replace' line. Press OK and watch good old Wordplus tootle through the text, replacing all blanks by blanks. This may sound silly, but the program is not actually replacing blanks by blanks. Rather, it is replacing ASCII 32 (space) by ASCII 31 (a squiggly character that would in fact show up under Tempus but not under Wordplus). This Wordplus-specific space character is essential for correct paragraph formatting, because otherwise each line will be regarded as a separate paragraph by Wordplus and you'll be tearing your hair out, wondering why the program is stubbornly ignoring all your formatting attempts.

Tempussing a Wordplus text

Have you ever found that you would like to change all your underlining in a Wordplus document to italics or vice versa? With Tempus this is a very simple affair. Simply call up your Wordplus document (making sure you're in source mode, otherwise the program may try to reformat your whole text as a single paragraph), then replace all <ESCAPE> <ê> by <ESCAPE> <ä>. If you haven't got "ê" and "ä" on your keyboard, you can enter them via <ALTERNATE> plus 136 and 132 on the numeric pad respectively. Save your file, load it back into Wordplus, and all your underscores will have changed into italics. For reference purposes, here's a list of all the Wordplus parameter codes you may need:

BOLD <ESCAPE> ü (= ASCII 154)
UNDERLINED <ESCAPE> ê (= ASCII 136)
ITALIC <ESCAPE> ä (= ASCII 132)
SUPERSCRIPT <ESCAPE> É (= ASCII 144)
SUBSCRIPT <ESCAPE> á (= ASCII 160)



Item selector box

Of course, you simply can't replace the file selector box. If you're used to the original Atari box, then you'll probably be quite happy with the one in Tempus. But anyone who has worked with the Universal Item Selector III will find the Tempus selector somewhat restrictive. The only plus points - compared with UIS III - are perhaps the large number of user-definable extensions (10 in all) and the fact that all the functions are also accessible from the keyboard.

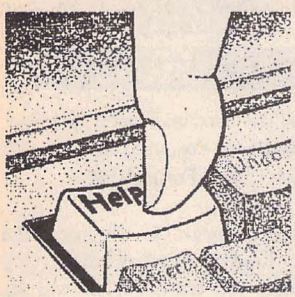
PARAMETER OFF <ESCAPE> Ç (= ASCII 128)

Tempus and foreign scripts

Another limitation is Tempus' arrogance with regard to some external changes, especially anything that concerns the keyboard. If, say, you've used Fontkit to redefine ASCII 176 - 255 as Russian, Greek, Persian, Arabic or whatever and you've got a beautiful keyboard configuration for it, this set-up simply won't work under Tempus. Pressing, say, <ALTERNATE> plus <1> will not get you into Greek mode but simply fulfil whichever function has been defined for it under Tempus (such as going to the first 'bookmark'). The best thing you could do would be to define a whole new keyboard driver with all your foreign characters included. But then you won't easily be able to toggle between, say, Russian and English any longer, but you'll be stuck with Russian. The way out (though still rather clumsy) would be to have two different keyboard drivers in memory (e.g. KEYSYS.INS and RUS_SYS.INS) and then to install and re-install them as required whenever you switch between the two languages (activate appropriate Keysys window and click on 'Save Settings'). I do find this rather fiddly, so whenever a foreign script is involved I revert to trusted old Wordplus.

A final word

Calling Tempus 2 a programmer's tool shows a great deal of false modesty on the part of software salesmen. I am not a programmer, and yet I have found Tempus 2 an indispensible tool in my daily translation work. Although it has its limitations, these are quite insignificant when compared with its versatility and speed. Once you've been working with it for a while, you'll wonder how you've ever managed to do your daily wordcrunching without it.



FORUM

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 condiderable 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.

You can now post messages for inclusion in the Forum via the CIX bulletin board on 081-390-1244. All messages posted onto our **stapplications** conference on CIX are considered to be for publication. Private mail can be sent to us with **mail to paglo**, but do not expect an instant reply! Messages reprinted in the magazine Forum pages are identified by the CIX stapplications conference message number after the author's name.

CIX is a commercial system with a £15 joining fee and on-line charges of between £2 and £3.10 per hour. For more details see the introduction to CIX in issue 3 of ST Applications.

Key:

The following codes are used for each Forum entry:

J Pringle - Forum 29: Author who first raised the subject, and in which issue. In this case 29 refers to the Forum pages in Issue 29 of The ST Club Newsletter.

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

DeskJet Matters

Keith Baines - Forum STA1
Andrew Barclay - Forum STA3
David Alwyn Thomas - Forum STA5
H H Patterson - Forum STA5

Q We are getting reports that a handful of users have intermittant problems with Hewlett Packard DeskJet printers and, in our case, the C-Lab Notator music software program. By all accounts, the problem appears to be that the Hewlett Packard needs a more consistent signal than the Atari ST is able to provide from its printer port.

One solution offered is the use of a "Centronics Booster Cable". It seems that individual computers have this problem; it does not depend on the series or version. One user's computer will function properly for weeks, then have a week of missing lines, etc., before settling down again. Can anyone help here - is this a recognised Atari/HP problem?

Will Mowat

● A DIY solution to this problem appeared in issue 2 of ST Applications (Parallel Port Buffer). You need to buffer the ST signals using an OCTAL line driver. The line drivers sold as 'Booster Cables' should have the same effect.

Q The spread sheet I use is Kuma KSPREAD 4, but unfortunately no-one in the USA supports this program. I am looking for help in getting a printer driver for the HP DeskJet 500 printer. Can anyone in the UK help me?

John G Frazier

● For GDOS output from K-Spread 4 you can use either the TurboJet or Migraph GDOS drivers. Following the demise of Neocept, the (superior) TurboJet driver is no longer on the market, so you will have to settle for the Migraph driver; this is available direct from Migraph in the USA, and from GST Electric Distribution (0480-496600) in the UK, price £19.95.

We haven't anything for straight text output - it's a matter of slogging through the printer manual, unless someone has a ready-to-go driver available.

HP LaserJet (Dropping Characters)

Rob Harris - Forum STA3

I I recently found that print buffers may have an unexpected side effect. I use an HP LaserJet printer driven from GDOS via a 128K printer buffer, the Microtime one. I knew that printing via GDOS at 300-dpi can be slow and assumed that an hour and a half for 7 pages was normal.

It suddenly occurred to me that the buffer, which must only get a small percentage of the CPU's time, may be slowing things down a little, and so I removed it from my setup. I now get the same document printed in 6 minutes. Quite a saving!

I suspect the problem is that print buffers only expect a volume of throughput equivalent to printing, say, a maximum of 500 cps. Running under a VBLANK routine they must have an upper limit as to how much data they can shift out per second as opposed to direct output from the program to the printer. As soon as you start pushing megabytes through, as you would if printing via GDOS or similar, then I expect you must hit this limit hard.

Iain Laskey

Protext 5

Paul Rossiter and Piper - STA2.
Dr J M Bowsher - Forum STA4
Mark Tilley - Forum STA4
Fred Fee - Forum STA5
Leslie W Dewhurst - Forum STA5

I I was interested to read Dr. Bowsher's comments in Issue 4 about PROTEXT. I too have used PROTEXT for a couple of years, and upgraded to version 5 when the opportunity arose; I am, frankly, disappointed in it, because the 'improvements' are not facilities I use, except for the Index Generator. However, this ability is probably worth the upgrade price on its own.

I find that version 5, with drop-down menus, is not ergonomically superior to V.4 - a simple 'Save' of the working file can be performed

with V.4 with 4 keystrokes. Using the mouse in V.5, it takes 2 mouse moves, one right click and one left click - much more hand movement and not so quick for one acquainted with the keyboard. Of course, one can still use the command line in V.5, thank goodness, but I have something of an aversion to paying for 'improvements' which have not really improved anything.

I also resent having to have, and pay for, a spelling checker which I don't need or want. I was educated in the days when pupils were taught, in one way or another, to spell, and to recognise errors where they occur. In any case, some odd things happen with Protext's checker. Let us see what happens when the above text goes through the mill:

Well, apart from Dr. Bowsher's name, the forms 'click-', 'Dr' and 'KW' have been displayed. All very understandable except for 'click-'. The dictionary is capable of shearing off full-stops, commas and hyphens, but not dashes. The same thing happens with multiple full-stops, as in "The door slowly opened, admitting a sinister insurance man...."

A writer who needs a thesaurus to the extent of having one available from the keyboard should give it up. He is never going to write anything with any spontaneity.

W F M Deans

Gramslam for Grammatik

Dr J M Bowsher - Forum STA4
David Smith - Forum STA4

I thought you might like to learn my impressions of Gramslam.

Broadly, the programme is exactly what I expected: disappointing. I am not taking any notice of the 10 second delays cunningly inserted by the author to force one to buy the proper version. By the way, the programme read texts in Protext format without any apparent difficulty. The main criticism is that the programme is so lacking in ambition that it really is of no use. There are some good features, in that attention is drawn to unusual words and phrases and simpler alternatives are suggested. However, these suggestions are all at the level of a bad tabloid newspaper sub-editor, and are always, in my view, unacceptable. Words like "its" and "it's" are spotted, and the importance of remembering that the possessive is "its" and the contraction "it's" is pointed out. The same point, though, is made every time without any attempt to say which is the correct form - a good programme should be able to identify which form is needed from the context. Similarly, "good" and "well" (which cause Americans much trouble) are pointed out, but again with no positive help. The author of the programme is particularly vigilant when what he terms vague phrases are found; his definition of vagueness is too extreme, though, and he picks up quite ordinary expressions far too often. Readers might like to know that, according to Gramslam, every occurrence of "that" in this letter should be omitted! Incidentally, the programme missed an incorrect "to" when "too" was intended.

Some statistics are presented after each run, and a fog index is calculated - the fog index of this letter is 12.6. Which fog index is not stated, so one has no basis of comparison. I fed in some of my own writing and a passage of Jane Austen; according to Gramslam, my fog index is lower and I throw up fewer problem phrases! I think that should be enough to convince anyone that they should not buy Gramslam.

Dr. J M Bowsher

A new can of worms?

Derryck Croker - Forum STA4
John Higham - Forum STA4
David Smith - Forum STA4

To me a disk is something you store data on, which usually comes in a square casing! A disc is something round and flat - such as the magnetic media in disks!

Programme/program: I think you're fighting a losing battle there. While the use of the American spelling may irritate some people, I think the distinction is useful (so please don't change it in my letters!).

Dialogue/dialog: The Atari and Digital Research documentation refer to DIALOG boxes. Yes, I know that's because they're American (and presumably don't know any better), but that is what the things are called! Even if they do enable you to enter into a dialogue with your ST.

Les Bessant

I disagree with David about 'program' and 'dialog' (and 'disk'). The 1990 edition of the Concise Oxford Dictionary lists 'program' and 'disk' as the normal spellings.

Jeremy Hughes

● Alrite, alrite, I give in. I shall henceforth ax all final ue's and me's, I shall refer to color palettes (palets?) and centered text, and I may even go the whole hogue (sorry, hog) and catalog these raveled spellings for each future iss of STA. But should 'cataloguing' now become 'catalogging', etc.? (DFS)

Disk Labels Which Way Up?

Peter West - Forum STA3

● We give in! Once our stocks of the current disk labels for PD disks are exhausted, we shall be printing the labels on PD disks so that the disk code may be read correctly regardless of whether the disk's shutter is at the 'top' or the 'bottom' of the disk.

Using German Software

G Plain - Forum STA2
Philip Beed - Forum STA2
Graham Steel - Forum STA4

A There is a program in Germany that works as an English-German dictionary, language teacher and translator. It will also work as an accessory. The basic package costs DM99 (approx £33), but you will also need the additional German-English vocabulary which costs DM49 (approx £17), plus DM8 (approx £2.70) for mailing. The program can give a very rough translation from English into German. I don't know whether it can also translate text from German into English. Those who are interested should ask the company before ordering. Their address is: TMD-Software, Am Krummacker 3, 6109 Muhltal, Germany; Tel: 01049-6151-14221.

Till May

I As an ST Club member with German as my mother tongue and trying to keep up a working knowledge of English, I would like to offer to help other members with translations of Read-me-files from German to English. They will be no literary masterpieces, but I am sure they can be understood. Of course, I cannot start a fully-fledged translation business, having a job to do and a family, a cat and a computer to care for; not necessarily in that order.

Heinz Kusznier
3, Kapuzinerstraße, Linz,
Austria A-4020

Maxidisk and TOS 1.6

Adrian Crewe - Forum 31
Keith Jackson - Forum STA3
John Watkins - Forum STA4

I Something funny indeed!

Maxidisk will not run on my STE (bought Christmas 1990), but exits smartly to the Desktop after throwing up two bombs. It does, however, leave the left vertical edge of the flashing cursor on screen below the Drive A Icon on my desktop, directly adjacent to where I have my Drive B Icon.

Meanwhile, back on my older ST (a 1987 STF), Maxidisk ran perfectly under TOS 1.2 and also under TOS 1.4 when I installed new ROMs. On this machine, the flashing "edge" appeared on screen where most users would install a Drive D Icon. I did not find this a nuisance, since installing my ramdisk icon here produced a winking edge to the title box. I found this useful to remind me that Maxidisk had been installed.

Having recently purchased Harlekin, I no longer have need of Maxidisk. (This seems to

apply to most of my DA'ss and many Utilities - Harlekin is great!) However, it does seem to indicate that Maxidisk and TOS 1.6 are incompatible. Incidentally, KRAM does not run under TOS 1.6 either, but it is polite enough to report "Sorry, can't relate to AES version 1.6" and exits cleanly to the Desktop following the next keystroke.

Peter Carbines

I The problem is not a problem, but a mistake that John Watkins has made. If he enters the parameter A:\COPY C: into COPY.TTP (without the final "COPY" he mentions in his letter), the programme will only copy the files he has in the COPY folder on drive A, but will not create a folder on drive C.

Heinz Kusznier

Dosacc and Maxidisk

Alan Kennedy - Forum STA4

I I am a little out of touch with the Atari world after having spent most of the last year working on Olivetti 3B2 computers running under Unix, and I must admit that I had never heard of Maxidisk. Assuming that the program in question is the RAM disk listed in the ST Club Catalogue, I can't really see why it should invert the screen display when used with DosAcc. I went to a great deal of trouble to ensure that no unsupported calls were used in the program, so I assume the problem is in Maxidisk. However, I like to make DosAcc as useful as possible, so I enclose a modified version with an extra button on the main menu which inverts the screen. (UTI.113 has been updated with this new version.) If anyone has any suggestions about the cause of the problem I would be interested.

I have also made some minor adjustments to the code so that the file displays are sorted more quickly.

Les Kneeling

Gem Calc

Charlie Lloyd - Forum - STA4
S Garnett - Forum STA5

I I noticed in the latest copy of ST Applications a letter about Gem Calc. I have used this but I have had problems with Block Copy Relative. I have followed the instructions as I read them but obviously I am doing something wrong as it copies Absolutely every time.

It has in fact worked properly a couple of times but I have not been able to do this to order. I wonder if any other member of the Club can enlighten me. I have managed to do the job using Cell Copy but that is very tedious. I only persevered in order to use the graphics which are very good. I have also used Sheet (which is excellent) but there is no graphic output in the version I have.

R A Stevens

The missing 0.1, 0.01, 0.001, etc.:

Gem Calc is a good Spreadsheet but it does have an annoying gremlin. When I tried to type in 2.30, the command line showed the number correctly but the cell showed as 2.2, 2.29, 2.299, or 2.2999 depending on the number of decimal places selected for the column(s) by key F5 or Shift F5. A limited number of checks - by adding, subtracting, multiplying and dividing - appeared to indicate this is only a display problem, as the correct answers are displayed. This is not a problem which arises from rounding up but is something in the way that the program handles some numbers. I am using this spreadsheet to monitor performance of shares and unit trust and the odd penny difference in the shown value does not matter, but for purposes of accounts and income tax it is not acceptable. Perhaps it has been fixed in later version.

George E Hogg

Shareware

Jos Milton - Forum STA4
P Holton - Forum STA4
Tim Garwood - Forum STA4

I Unfortunately, I have to confirm the problems that Jos Milton et al. are having with shareware authors, especially in the USA. I have been having problems too, the most "prominent" being Charles F. Johnson (of "Little Green Selector" fame). On October 31st of last year I sent a letter to him - by registered post, as you advise - asking for registration and including US$25 for the shareware fee, postage and handling, etc. Since then, I have not heard a word from Mr. Johnson, despite telephoning his company and sending them a Fax.

I have had similar experiences with "Branch Always Software" to whom I had to return an obviously faulty copy of their "Quick Tools 1". They nevertheless know how to reach me, when they want to: I got the first edition of a newsletter, boasting about "Branch Always" now being a real company with president, vice president - and much higher prices!

I am writing this letter to your Forum pages because I hope a broad discussion about such practices by shareware authors may give - at least some of them - second thoughts about how to treat customers. In every programme intro' Charles F. Johnson pleads "Please support Shareware authors!". We are willing to do so, but authors also have to deliver.

Heinz Kusznier

I The cheapest way to send the small amounts abroad is to purchase the appropriate amount in the relevant currency notes. Any bank or building society will have the notes available over-the-counter, for a small transaction charge. However, to be certain of delivery, registered mail should be used. I have registered with the authors of Superboot (highly recommended), and the authors of Gemini. Gordon Moore has just forwarded version 7 of Superboot, together with an informative letter; however I still haven't heard from the Gemini authors - I guess you pays your money and takes your chances.

On the freeware side - for those who use WordUp, Keith Baines has written an excellent desk accessory called Checkup (WPR.69), which is a spelling checker, free memory indicator and ASCII character table combined. The author is very helpful, and has recently produced a new version.

Robin Burr

I I went to the regional HQ of the NatWest here in Manchester to ask their foreign exchange department for advice on making small payments to distant parts. It would be inaccurate to accuse them of being unhelpful. It's just that small transactions are not cost-effective. As one of the letters points out, cheques, even in the programmer's local currency, land the other party with clearing charges which can wipe out the typical $20 - $30 payment. So I talked to a TSB manager who is a personal friend. They don't do much foreign exchange so he couldn't help.

Problems like this militate against even the conscientious being able to make shareware payments. Is there perhaps a role for some noble soul to organise an international shareware payments clearing house? It wouldn't surprise me to hear that it's been done already but I've never read of it yet.

Dennis Pepler

I Like many before, I have had some bad deals from the shareware folks States-side. However, I am pleased to report that my "final crack" at obtaining shareware has renewed my faith in these hard working lads, who spend long hours to give us users little gems that "Make Our Day".

The "DOT-MAGIC" demo by Chet Waters of WizWorks looked so good, I sent a cheque, not aware that he now takes the card.

In just over a week, I received the full version and information on his other goodies. What service! 'Tis a pity that more shareware lads do not follow in Chet's footsteps... Let's face it, we need them on the scene, and they need our cash to keep going. Let's all keep the faith: more of us users should send funds, and more shareware lads should give proper service.

John Maclaren

I In June of last year I purchased a demo copy of Sheet v3.0 by Chor-Ming Lung. On the 2nd of July I sent a draft in the sum of $42 (£24) to the address quoted on the disk document: Russell St, Boston, U.S.A.

On the 3rd of October, following a letter sent in August requesting acknowledgement of my order, I sent yet another letter demanding acknowledgement of my letters within two weeks. Still no response!

I wrote to the ST Club in October asking if

they had any idea of Chor-Ming Lung's whereabouts. They advised me that the last known address was Tremont Street, still in Boston. Once again another letter was sent requesting contact and advising Chor-Ming Lung of my previous order and letters. Nothing! I finally cancelled the draft at the end of December and wrote off the related bank charges.

Now for the good news:

I have recently discovered the series of educational programs published by the Knowledge Vine of 500, 4th Avenue S.E. Waseca, MN 56093, U.S.A. Learning from previous experience I wrote to the address on the disk document and requested where I could obtain further modules for my PD disk and confirmation of the costs. Within 14 days I had been sent all the information requested (and more), with full details of costs and also a disk of additional modules completely free of charge!! I will certainly be sending my order for further programs to them.

Don Hancock

I have recently purchased a number of shareware programs from both the USA and Canada after trying demo versions supplied by PD libraries in the UK.

The first one I bought was the Dot Magic document processor. This was written by Chet Walters of the North East Ohio ST user group. After trying out the demo version and being suitably impressed, I sent an airmail letter (along with an IRC for his reply) to Chet asking him if he was still supporting the program . About two weeks later a parcel arrived which contained not only the full version of Dot Magic but also a demo disk and details of three other programs his group was selling commercially. A very nice personal letter was enclosed saying that should I buy any one of the three other programs, I could have Dot Magic for free! He also gave me details of another Dot Magic user in the UK who I may want to swap fonts and correspondence with.

I sent off an order for two of the programs offered along with my Mastercard number and two weeks later the programs arrived - and they have proved to be excellent. One is a mega program along the lines of Touch-Up, the other is a picture cataloguing and printing program that will print out hard copy of Degas, Neochrome, IMG, and just about any other format pictures. The total cost of these five disks and full printed manuals was only just over £50.00, and of course I had Dot Magic and the other demo disk for free. A real bargain, and fast, friendly and super efficient service. Well recommended.

Address details: Chet Walters, Wizworks, PO Box 45, Girard, Ohio, 44420, USA.

My second shareware dealing was with the Canadian author of TV-Titles, an excellent program that allows users to scroll, dissolve, fade, wipe, etc., etc., Degas PI1 pictures, for use in home videos. The original demo program appeared on a recent ST Format cover disk. There were a number of features disabled on the demo version, plus a time delay which after a time really bugged you! But I was impressed enough to send away $20 as asked for in the documentation.

About two weeks later, a parcel arrived with the full program and an excellently written, clearly printed manual. The personal letter thanked me for my interest, and went on to explain that the author had written the program 18 months previously and he had started selling it commercially a year ago after making many improvements and additions. He was therefore taking the risk that I would send him the extra $19 required to make my donation up to the the normal selling price. He also hoped that I would use the program and send any comments and suggestions for further upgrades. Again the quality of the program is excellent, and the service fast, friendly and efficient. I therefore have sent him a further $20 dollars in payment. The author can't accept credit card payments, so I have used cash in my dealings with him.

Address details: J.P.Déziel, RR#1, Boc 6, Chelsea, P.Q., JOX 1NO, Canada.

I hope the above information will be of interest to STA readers. I'll try and write an article on TV Titles for the magazine once I have time to get down to it!

Mike Kerslake

I tried to register for some shareware. I sent a cheque to Jon Dalton at an address in London last November for the BigColor colour emulator; but the cheque has never been paid in.

I see now that we cannot even unpack the contents of the ST Club Disk Mag without using a piece of shareware, very nice though UNLZH is. If every Disk Mag subscriber has to use this shareware, would it be possible for the ST Club to act as an agent to whom we could send registration fees in sterling? Surely it is not ideal for us all to make contact with the author across the Atlantic before registering, as suggested in the Forum in ST Applications 4.

Graham Steel

● At the moment we do not have the (spare) resources to set up a clearing house for shareware payments to overseas authors. There are a couple of such services offered by PC PD libraries, but they find it necessary to levy a £5+VAT handling charge on each transaction. If there is sufficient demand for such a service, at this sort of price, then we will reconsider the situation over the summer.

In the meantime, we will carry a list in the Forum of all shareware authors who are actively supporting their software. Please help us to keep this list up to date by sending in reports of your correspondence with shareware authors.

Supported Software:

Dot Magik (Chet Waters)

Knowledge Vine of 500

Superboot (Gordon Moore)

TV Titles (J P Dèziel)

The following products are no longer supported:

Big Colour (Jon Dalton)

Sheet 3.0 (Chor Ming Lung)

Technical Information

Paul Chamberlain - Forum STA3
Leslie Dewhurst - Forum STA3

I have recently spoken to Atari US regarding obtaining technical and programming data on the ST. They advised me that they have just started a two tier system with the full-blown Developers' Package for commercial development as in the UK, but they have now added a hobbyist package with just the documentation and no development software for $125.

I called Atari UK and they said that they have been looking at a similar idea but didn't consider there was enough interest to warrant a print run. I mentioned your idea about using disks to distribute the data cheaply. They said that this was a good idea but thought it unlikely people would pay, say, £99 for a disk. We discussed paper-based documentation. I said I would be willing to pay £60 to £70 for a full set, with £10 for updates. They seemed happy to consider it if the market is there.

As £70 is the cost of three average programming books, I would think this is not a bad deal, although obviously this was just a figure thrown into the air. I think those readers of ST Applications who are **genuinely** interested in buying such a package should write to Atari and let them know that the interest is there.

As a final note, I asked the person I spoke to if he knew of ST Applications and was told - 'Yes, an excellent magazine!' What more can I say?

Iain Laskey

Zoomracks

Leslie W Dewhurst - Forum STA3

Having received a copy of your excellent magazine 'ST Applications' today for the first time, I was interested to see a letter published about Zoomracks 2.

I have been using Zoomracks since 1987 and often wondered why such a versatile program had disappeared from the market. I've used it in the past not only as a database, but also for printing disk labels, mailing lists and as a reasonable word processor. In four years I have not found a better database for the price!

Contrary to your reply to Leslie Dewhurst's letter, it is compatible with TOS 1.2. (At least I think so: I believe I have TOS 1.2.) Whether it is STE compatible, I do not know. I guess it will be if the demonstration version is.

Stephen Taylor

TOS 1.4

Keith Jackson - Forum STA3

I Pinhead really is superior to the fastload feature in TOS 1.4 since it is configurable. Setting an extra clearance of 32KB takes hardly any extra time at all, and works with all programs I have tested this far.

Karl Forsberg

Magazines (User Abuser)

Anon - Forum STA1
Les Bessant - Forum STA2

I In last month's ST Applications Günter Minnerup was rather rude about one magazine, ST Format, which sells more than 60,000 copies every month.

Günter is virtually silent on another, called ST User, which sells fewer than 38,000. He does not mention it recently infected its readers' computers with a highly dangerous virus.

Günter praised to the sky a third, called ST World (ceased publication owing to lack of readers).

The two magazines about which Günter is by turn tactfully silent and embarrassingly fulsome in his praise have regularly paid Günter to work for them.

And the one Günter so wittily disparages ("I often wonder why I bother buying it") now sells more copies on its own than the other two have ever done put together. It has never published anything written by Günter.

Mere coincidence? I think we should be told.

Steve Carey
Publisher, ST Format

● When Günter reports that "a new issue [of ST User] rarely engages my attention for longer than it takes to check that my monthly payment has been calculated correctly", this surely has to be be some way away from being 'virtually silent' about ST User? At least Günter buys a copy of ST Format every month.

Praising ST World and mourning its demise is a religion amongst ST users with few tendencies to play (computer) games. It does not need to be justified! Mind you, ST World seems to be getting better with every day that we have to go without it, so I hope we won't be in for a shock when it returns...

What really saddens me is that, despite being paid for the article, Günter didn't say one nice thing about ST Applications!

I ST Applications continues to improve. Good to see in-depth reviews of Harlekin and Calligrapher. As ST World appears to have disappeared from our lives, STA is now the only publication which takes the ST seriously, with the honourable exception of Computer Shopper, whose ST section is often of interest - good piece on the TT this month (hands up who wants one?!). Have you any information on what Interactive are planning to do with the much-missed ST World? Have they given up on it altogether? Perhaps David Stewart should be forced to re-read his editorial in the March 1990 issue in which he said:

"...it [the merger] can only result in better standards all round [like virus-infected cover disks?]... we have the scope to improve, expand, and respond more adequately to reader demands."

So what the hell happened?

And while I'm moaning about magazine publishers, I note that Future are launching a couple of new Amiga magazines, including a monthly for serious users. How about something similar for the ST (let's all start writing!). For some reason they placed an advert for their new titles in the April ST Format - now that's what I call knowing your market!

Les Bessant

● We have got it in writing from Interactive that ST World will be going monthly from the June issue. But in a recent trade press item (in CTW), the impression given was that the June STW will be stuck to the BACK of ST User, and - if the response is good enough - STW will go monthly again. We shall see; it probably all hinges on how much cash Interactive have left out of their £250,000 promotion fund for Games X.

At the end of the day, glossy magazines are published for profit, and you only have to sit down and calculate the advertising revenue from a single issue of Amiga Format to see why they NEED to launch more Amiga titles.

One final magazine-matter: we are not allowed to mention the words "newsletter", "magazine" or "ST Applications" in any of our adverts in either ST World or ST User. Our current ad in ST Format was rejected by Interactive as "unacceptable". Yet the most recent ST User carries a full page advert by.... Commodore.

Power Drive

Les Bessant - Forum STA2

I Power Computing now sell their external 3.5" 720k drives with internal power supply for £59.... (no affiliation, honest), so I invested in one and so far it's been brilliant - the convenience of two drives is life changing! But why, when reading/writing from/to drive B, does the motor for drive A also start spinning? There is no synchronous head activity on drive A when accessing drive B, but surely this motor activity could be avoided.

Martin Norfolk

● A 'feature' (bug?) in TOS and the ST's hardware forces both drive motors to run regardless of which drive is being accessed.

Tempus Word?

Q Where is Tempus Word? I've been hearing about this word processor for nearly a year, but where is it? I want a fast and flexible WP with simple font and IMG facilities to replace First Word Plus, and I'm hoping that Tempus Word will suit. Any news?

Martin Norfolk

● Tempus Word is on sale in Germany and Holland - at around £260 - but there is no sign of a UK release yet. Indeed, it must be doubtful whether the UK market would support a £200+ word processor in what is already a very crowded sector of the market. There are numerous cheaper alternatives that will fit your requirements: Script, That's Write, Calligrapher, Le Rédacteur, WordFlair.

Worst Company

I The business about Third Coast losing my hard drive drags on. It's looking very difficult to build a case against them that would be good enough to win in court. In addition, the OCR software I bought direct from Marvin has never worked. I've sent it back asking them either to fix it or to remunerate the cost. I've heard nothing from them. I'm probably going to write an article warning others off these companies, and raising questions about lack of protection for customers who buy by mail, lack of a sense of responsibility on the part of many companies in the ST world, etc.

The result of all this is that I'll buy less software and hardware. I'm tired of being messed around by these people. I strongly suggest that ST Applications and other ST mags have annual 'Worst Company' and 'Worst Service' awards as well as the more usual 'Best of' awards. The best way to deal with these people is to hit them with adverse publicity and consequent lack of sales. They would then suffer for a year and be forced to either mend their ways or get a permanent bad reputation.

Tony Smythe

DIY Modem

Q Has anyone built their own modem? Maplins sell a modem chip, but as far as I can see do not have a project for it.

Robin Burr

Bug Warnings

I 1. KeyMaster crashes during saving when using COPY FIX from ICD. (COPY FIX is part of their hard disk software.)

2. EDIT on DMG.20 only saves the first 4K of the file; the rest is corrupted to nulls.

D J Ansell

Programmers' Forum

This month, ST Applications' regular programming column finishes its review of the interrupt system of the ST with some programming examples for the MFP interrupt controller chip. Also included are some tips and comments from readers.

MFP 68901 interrupts (Level 6)

The majority of possible interrupt sources in the ST are connected to the MFP chip. In order to see how to program an MFP interrupt handler, we should first look at the programming model of the MFP chip. Figure 1 shows the registers which are most involved with the operation of the interrupt system. The chip can manage 16 possible sources, using paired 8-bit registers for each function. Each bit in the register pair controls the operation of one interrupt channel. The assignment of channels is shown in Figure 2. Channel 0 corresponds to bit 0 of register B, channel 1 to register B bit 1, and so on up to channel 15 which is bit 7 of register A. As an example, the RS232 Clear to Send (CTS) line is associated with bit 2 of register B of each pair (i.e. registers 5,7, 9 and 11); channel 2.

Installing an interrupt handler is done by inserting the address of a handling routine into a table of vectors maintained for use with the MFP (addresses given in Figure 1, March Programmers' Forum). After this, the appropriate bits in the Interrupt Enable and Interrupt Mask registers are set to 1 to open the channel.

When an interrupt occurs on an open channel the other two register pairs shown in Figure 1 are brought into play. The appropriate bit in both the Interrupt Pending and Interrupt in Service registers is set to 1 by the MFP. This blocks any further interrupts on that channel (other channels are unaffected) until both bits are cleared. The Interrupt Pending bit is cleared by the MFP automatically when it tells the 68000 which handler to jump to.

However, the Interrupt in Service bit is left active, and must be cleared by the handler routine in order to unblock the channel for further use. This is usually done at the end of the handler, thus allowing time to process the interrupt without having to worry about the arrival of a second one while the handler is executing.

There is a further refinement applicable to some of the interrupt sources. Examination of Figure 2 will reveal that some channels are connected to bits in the MFP general purpose input/output port. These are the channels associated with signals from outside the MFP chip (i.e. the outside world). As an example (which we will use later), the Centronics BUSY line is connected to bit 0 of register 1 (GPIP) which is in turn associated with channel 0.

To allow maximum flexibility when programming these, the MFP allows the programmer to specify how the state of the port bit should be related to an interrupt. MFP interrupts are *edge-triggered*, that is they respond to a change in state. In a binary system there are two possible changes of state: high (or logical 1) to low (logical 0), or low to high. The first is termed a falling edge, and the other a rising edge. Each bit in GPIP is associated with a bit in register 2, the Active Edge Register, which tells the MFP which edge to use for triggering an interrupt.

Programming a handler

To see how this theory can be made useful, I have written a short demonstration program which implements a form of background printing using the Centronics BUSY interrupt. The assembler source for this is given in Listing 1. The program prompts for a text file to be printed; it will then load the file into memory and quit, keeping itself and the file resident. You should be able to run other programs, copy disks, etc., while the handler is feeding data to the printer. If you have a fast printer you may have to give it a fairly large file to convince yourself that the printing is not being done from the printer's buffer. When you have finished, you should press RESET to free up the memory taken by the program.

Since the point of the program is to demonstrate the MFP interrupt, some of the housekeeping parts of the program were kept to a minimum size (and functionality). You should most definitely not release a program with such dodgy memory management and error handling as this!

The first half of the program is concerned with getting a filename from the user and loading into a buffer at the end of the program. Being a rather brain-dead program, its response to most errors is simply to exit. As you can see from the listing, it does check that it can find and read the file properly before attempting to fiddle with the interrupts. It does not check that there is enough memory into which to load the file. (You weren't going to use this to print the latest draft of your novel anyway, I hope!)

The first interrupt-related task that the program performs is to set up the Active Edge Register. In order to understand why, we will have to delve a little into the working of the parallel interface. To write a character to the printer, the ST first sets up a representation of the character on its output port. It then signals to the printer that there is some data for it. This is done by temporarily lowering an output line called the STROBE. The printer responds to this by reading the data. While it is doing this, it informs the ST that it cannot accept any more data: raising another line: BUSY. When the character has been read into the printer's buffer, the line is lowered, and the process can begin again. This sequence is depicted in Figure 3.

By looking for the lowering of the BUSY line, the ST can determine when the printer is ready to be fed some more data. Therefore, by setting up an MFP interrupt on a BUSY line falling edge, and linking this to a routine to output another character, we can drive the printer as fast as it can go.

Now, from Figure 2, Centronics BUSY is connected to bit 0 of the port, and a falling edge interrupt is set by a 1 in the active edge register, so we need to set bit 0 of the AER to 1. Each MFP register is mapped to a memory location in the ST I/O area. This area must be accessed in supervisor mode, otherwise a bus error will occur. Therefore, the program uses the XBIOS Supexec call to call a tiny subroutine to set the appropriate AER bit.

After this, we have to install the handler routine and open the interrupt channel. We could write directly to the hardware again, but it is much easier to let the operating system do this work. The call that we need is the XBIOS Mfpint function. The programmer simply supplies the channel number and the address of the handler, and TOS sets the appropriate bits and installs the vector.

There are two other XBIOS calls related to the MFP interrupt system: Jenabint and Jdisint. The former is used to open a channel which already has a vector installed, the latter to close a channel down. In order to ensure that the channel is opened properly after installation, the program performs a Jenabint call: this may be redundant.

If the program finished at this point, the printer would never be sent anything, because the BUSY line would be stable in the low state (printer ready, but quiescent). We have to induce the printer to create a BUSY falling edge to get the output going. As a rather inelegant way of doing this, the program sends the printer a NUL character (ASCII 0). Both of my printers (Epson LX80, HP DeskJet Plus) accept this, thus rattling the BUSY line in the desired fashion, but do not print anything as a result, so that the printout is not prefixed with any junk! If it causes a problem with your printer, you could send a carriage return (ASCII 13) instead.

After all this, the program reserves enough memory for itself and the file, and returns to the system. You should be able to run other programs, etc., while the file prints in the background. Those fancying a challenge could use this as the basis for writing a full background printing facility.

The routine that is called by the Centronics BUSY interrupt fetches a character from the buffer and writes it to the printer. Notice that it saves all the registers used by it and its subroutine. This is essential to prevent a crash. Readers with good memories should recall the March Programmers' Forum explaining that an interrupt handler cannot call the operating system routines. Therefore, as we cannot use the BIOS Bconout call to write to the printer, we will have to do it ourselves. This is done by the feed_prn subroutine. Keen readers should be able to tie the operations in this subroutine to Figure 3 and the description of the ST parallel port given above.

The routine also keeps track of its position within the file, and closes the interrupt channel when the file is finished. This has to be done by a direct write to the hardware, as the XBIOS Jdisint is not available. The last task to be performed by a handler is to clear the appropriate Interrupt in Service bit, signalling to the MFP that another interrupt can be accepted: if this is not done, the printer will get one character only, and the channel will remain blocked and inactive.

Sharing vectors

The Mfpint routine does not save the old handler address, so if you wish to restore the system when your program exits, you should obtain the existing handler address prior to installation. This can be done by calling the BIOS function Setexc. Another use for this function is when the MFP vector is to be shared with an existing handler rather than taken outright. This is especially important if you want to use the Timer C 200Hz clock interrupt. TOS uses this for several important tasks, so you should not steal it. Ideally, avoid it, but if absolutely necessary, code like that in Listing 2 should keep the system relatively happy. Last resort only!

Tips

In the January Programmers' Forum, I outlined a method by which a program could determine if it was being run from the AUTO folder (i.e. before GEM was initialised). This method depended on testing the state of a word in the Line-A variables which is altered when GEM is brought up. **Alex Kiernan** has written in with a better way of solving this problem:

> "Atari's official line for some time now has been that the Line-A will not be supported in future resolutions and so applications should move away from it. In this vein Lattice C 5 uses the official method for auto-folder detection of attempting an appl_init() and comparing the TRAP #2 return value with 200. This technique obviously may require an appl_exit() if the AES was not in fact required and was available (i.e. not running from the AUTO folder)."

For those who require a little explanation to understand this: in order to call an AES function like appl_init(), a program must set various things up correctly, and then perform a trap #2 with d0 set to $C8 (200 decimal). Normally, the AES function is performed and a result returned in d0. However, during the time when the AUTO folder programs are being run, the trap #2 vector points at some ROM code which simply returns without altering d0. This method does rely on the normal return value from appl_init never being 200. Listing 3 is a code fragment showing show this algorithm might be implemented.

David Wicks of St. Albans has a tip for programmers who want to make their code compatible with non-standard screen sizes (definitely a good idea):

> "If you use Autoswitch-Overscan, the size of the screen varies from the standard size, so some form of calculating the number of lines available is required."

Listing 4 contains David's code fragment for Lattice C 5. This the right approach to take for applications which need to know anything about the screen size. The work_out array filled in by the v_opnvwk call contains several other entries of interest:

```
work_out[0] Width of screen in pixels,
            starting at 0
work_out[1] Height of screen in pixels
            starting at 0
work_out[3] Width of pixel in µm
work_out[4] Height of pixel in µm
work_out[13] Number of colours available
             on screen
```

A related problem is that of saving the screen to disk. Finding the start address is easy (returned by the XBIOS function Logbase), but the length is a little more involved. The standard ST screen occupies 32000 bytes in all screen modes. However, with various extra boards or display hacks this will change. One way of making software compatible with such extensions is to calculate the screen size from figures provided by GEM. The number of pixels in each dimension can be obtained from v_opnvwk as above. The other piece of information which is required is the number of screen planes (ie the number of bits of colour information per pixel). To get this, we have to make use of another VDI call, vq_extnd: see Listing 5. The size of the screen is then simply

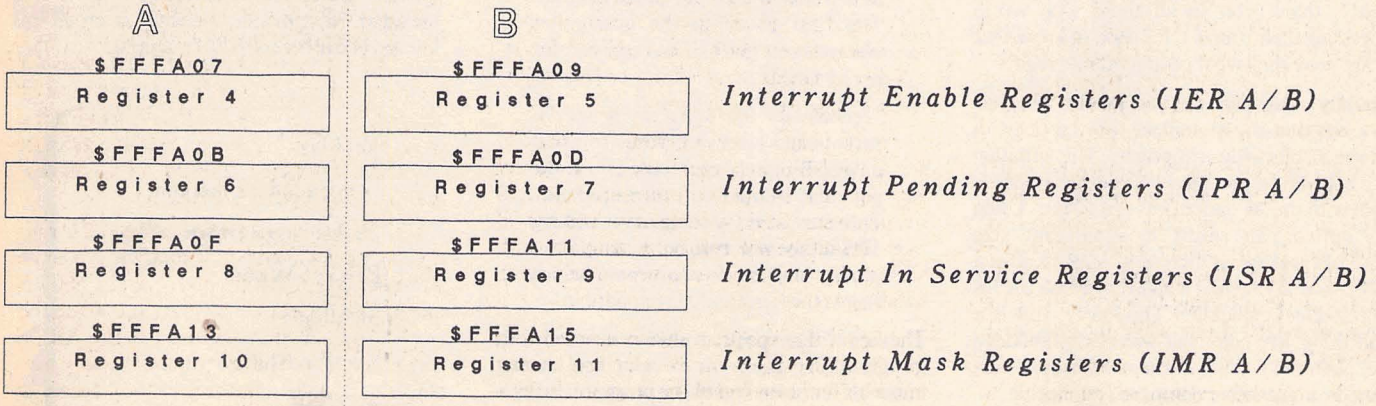


Figure 1

(x * y * planes)/8 bytes.

Questions

G H F Seiflow of Swanage is starting to learn assembly language using a PD assembler package (ST Club disk LAN22), but is having problems:

> "I am starting from scratch in assembler using Compute! Technical Reference Guide, Vol 3, so I type in a 4-line program to write "X" to the screen, starting with:

```
1 move.l #'X',-(A7)
```

Having put in the next 3 lines I type <RETURN>/ASM, and get "PASS 1 Illegal Opcode" and Line 1, which means it doesn't understand my command."

Having taken a look at the program mentioned, I think I can help a little. Firstly, the program expects each unlabelled line to start with a space, presumably to signal the absence of a label. Secondly, it uses a non-standard method of representing ASCII literals: a single unmatched quote before the character, rather than enclosing the character in single quotes (ie 'X rather than 'X'). The line

```
move.l #'X,-(A7)
```

is accepted quite happily.

However, the documentation file details other departures from 'normal' behaviour which are probably going to make it difficult to simply type in code written for other assembler packages. Perhaps it would be better to consider another assembler system: in any case, if you are intending to do any serious programming in assembler, you will need a fully-fledged package. For learning assembler, you might take a look at zzSoft's new book & disk package 'Introducing Atari ST machine code' (full review in ST Applications soon). This includes an assembler and debugger as well as lots of source code. Again the assembler is rather limited, but a useful learning tool. As for a full development system, most programmers that I know have Hisoft's Devpac, which should have all the features you are likely to need.

Feedback

The first couple of Programmers' Forum articles have stimulated several people to write in. Firstly, thank you to all those who wrote expressing their support. It's good to know that we are providing what people want to read.

Secondly, **Alex Kiernan** and **Jeremy Hughes** point out that my statement that Lattice C 5 ints are 32 bits wide is imprecise. This situation only holds if the compiler default behaviour is used; with the -w option, ints are 16 bits. Using this option can result in significant size decreases and speed increases. Jeremy cites a ~10% space saving and a speed increase for his Fontkit Plus application. Obviously, this is a good thing. My comment was really intended to explain the listing for those wishing to port the code onto another compiler system.

Alex also makes some other points arising from the January Programmers' Forum:

> "The implication that GEM is careless as to its use of the VBL queue is unfair. The first entry in the queue has always been marked as reserved for use by GEM.
>
> "Technically the p_parent pointer is private and reserved, hence to use it unless absolutely necessary is to invite potential trouble in future upgrades. There are already some multi-tasking TOS-alikes which do not maintain this pointer and so any program which relies on it is instantly incompatible."

Neither of these points is always mentioned by programming guides or development system manuals. Informed guidance on approved programming practice is always welcome.

Submissions containing large chunks of text or source code (ASCII only please) should be sent on disk which will be returned if an SAE is included. Next month, a change from all this low-level stuff: some GEM material.

Jon Ellis
Programmers' Forum
29 Ashridge Drive
Bricket Wood
St Albans
Hertfordshire
AL2 3SR

Figure 2

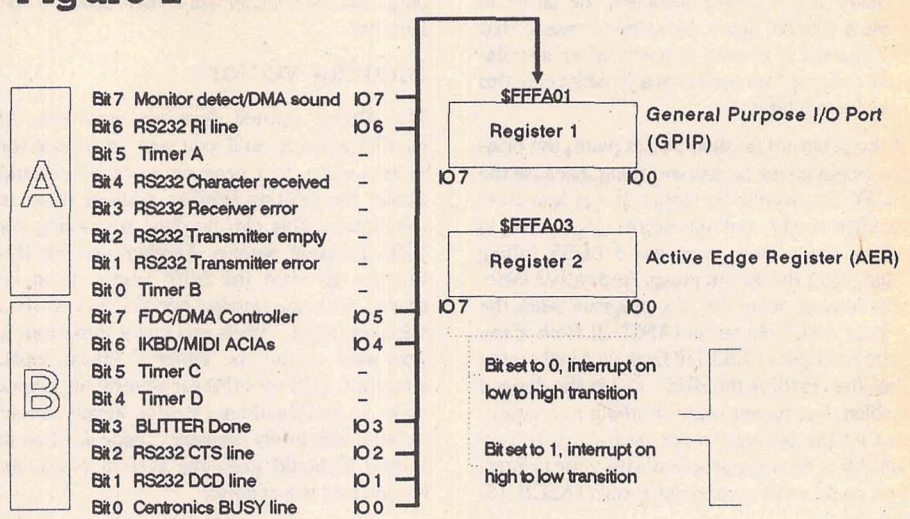
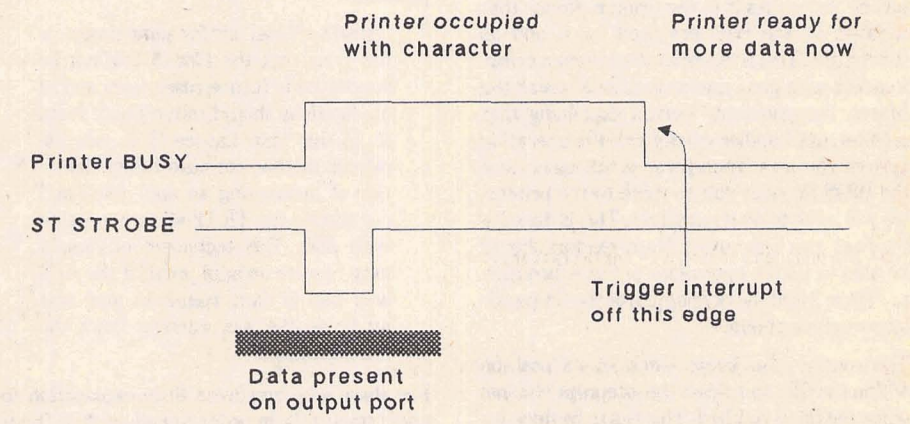


Figure 3



Listing One

```
**
** Listing 1.
** Programmers' Forum May 1991
**
** Demonstration program for the MFP Centronics
** interrupt. The user is prompted for a file to
** be printed. This is loaded and control returned
** to the system while the file prints in the background.
**
** Assembler system: MCC ASSEM v12
** Written on 17th March 1991
**

** TOS equates

GEMDOS      equ     1
Cconin      equ     1
Cconws      equ     9
Cconrs      equ     10
Fsetdta     equ     26
Ptermres    equ     49
Fopen       equ     61
Fclose      equ     62
Fread       equ     63
Fsfirst     equ     78

BIOS        equ     13
Bconout     equ     3

XBIOS       equ     14
Mfpint      equ     13
Jenabint    equ     27
Supexec     equ     38

** System variables

ym_select   equ     $FF8800
mfp_base    equ     $FFFA01
mfp_aer     equ     $FFFA03

**
** The program starts with installation...
**
            TEXT

start       move.l  4(sp),d5        Get our basepage address
            pea     sign_on         Print the sign message
            move.w  #Cconws,-(sp)
            trap    #GEMDOS
            addq.l  #6,sp
            pea     filename        Get a filename from theuser
            move.w  #Cconrs,-(sp)   Use the GEMDOS readln
            trap    #GEMDOS
            addq.l  #6,sp
            lea     filename+1,a5   Address the filename buffer
            clr.w   d0
            move.b  (a5)+,d0        Fetch the number of
                                    characters typed.
            beq     exit            Quit immediately on
                                    empty line.
            clr.b   0(a5,d0.w)      Null terminate the string.
            pea     our_dta         Set up our DTA.
            move.w  #Fsetdta,-(sp)
            trap    #GEMDOS
            addq.l  #6,sp
            clr.w   -(sp)           Search for R/W file.
            move.l  a5,-(sp)        Filename as search pattern.
            move.w  #Fsfirst,-(sp)  Search for it.
            trap    #GEMDOS
            addq.l  #8,sp
            tst.w   d0              File found ?
            bne     file_err        No, quit.
            move.l  our_dta+26,d6   Fetch the file length.
            move.l  d6,file_len     Save it for the handler.
            clr.w   -(sp)           Open the file for reading.
            move.l  a5,-(sp)        Filename address.
            move.w  #Fopen,-(sp)    Open it now.
            trap    #GEMDOS
            addq.l  #8,sp
            tst.w   d0              File found ?
            bmi.s   file_err        No, exit.
            move.w  d0,d7           Save the file handle.
            pea     buffer          Read file into our buffer.
            move.l  d6,-(sp)        Get it all in one block.
            move.w  d7,-(sp)
            move.w  #Fread,-(sp)
            trap    #GEMDOS
            lea     12(sp),sp
            cmp.l   d0,d6           All read OK ?
            bne.s   file_err        No, exit with an error.
            move.w  d7,-(sp)        Close the file.
            move.w  #Fclose,-(sp)
            trap    #GEMDOS
            addq.l  #4,sp

**
** Set up the active edge register - this has
** to be done in supervisor mode.
**
            pea     set_aer         Routine to do the set up.
            move.w  #Supexec,-(sp)
            trap    #XBIOS          Call it in supervisor mode.
            addq.l  #6,sp

**
** Install and enable the handler.
**
            lea     buffer,a4       Point to start of the text.
            move.l  a4,next_char    Set up our current
                                    position.
            pea     handler         Now install our handler.
            move.w  #0,-(sp)        Channel 0: Centronics BUSY.
            move.w  #Mfpint,-(sp)
            trap    #XBIOS
            addq.l  #8,sp
            move.w  #0,-(sp)        Ensure the channel is clear
                                    for use
            move.w  #Jenabint,-(sp)
            trap    #XBIOS
            addq.l  #4,sp

**
** Finish up the installation.
**
            clr.l   -(sp)           Kick-start the printer
                                    with a NULL.
            move.w  #Bconout,-(sp)
            trap    #BIOS
            addq.l  #6,sp

            add.l   a4,d6           Calculate size of area
                                    to keep.
            sub.l   d5,d6
            clr.w   -(sp)           Return with code 0.
            move.l  d6,-(sp)        Keep basepage+program+file
                                    resident.
            move.w  #Ptermres,-(sp)
            trap    #GEMDOS         Terminate & stay resident.

**
** Error handling code - a little rudimentary !
**
```

```
file_err    pea     err_msg         Write the error message up.
            move.w  #Cconws,-(sp)
            trap    #GEMDOS
            addq.l  #4,sp
            move.w  #Cconin,-(sp)   Wait for return to be
                                    pressed.
            trap    #GEMDOS
            addq.l  #2,sp
exit        clr.w   -(sp)           Exit now, program not
                                    installed.
            trap    #GEMDOS

**
** Tiny routine to set the AER bit for the
** Centronics BUSY line - on my printer this
** is a high->low transition after the character
** has been accepted.
**      Inputs:         ** SUPERVISOR MODE **
**      Outputs:        None
**      Destroys:       None
**
set_aer     bset.b  #0,mfp_aer      Falling edge, channel 0, AER
            rts
============================================================

**
** This is the MFP interrupt handler
** itself, called shortly after each
** char has been accepted by the printer.
**
handler     movem.l d0-d1/a0/a6,-(sp)Save what we use.
            lea     mfp_base,a6     MFP register 1.
            move.l  next_char,a0    Point to the next
                                    character.
            move.b  (a0)+,d0        Fetch the character.
            move.l  a0,next_char    Update the pointer.
            move.l  file_len,d1     Have we finished yet ?
            subq.l  #1,d1
            bne.s   1$              No, continue.
            bclr.b  #0,8(a6)        Close channel by clearing
            bclr.b  #0,20(a6)       the IER and IMR bits.
1$          move.l  d1,file_len     Update our counter.
            bsr     feed_prn        Write the character out.
            bclr.b  #0,16(a6)       Clear ISR bit - ready for
                                    another.
            movem.l (sp)+,d0-d1/a0/a6 Restore and return.
            rte

**
** Function to write a character out to the
** parallel port. This will be called during
** an interrupt, when we cannot use the BIOS
** routine. Not TT compatible because it
** relies on the 68000 rte stack frame.
**      Inputs:         d0.b = character to write
**                      a6 -> MFP register base
**      Outputs:        None
**      Destroys:       d0-d1/a0
**
feed_prn    move.w  sr,-(sp)        Save the SR - note we now have
            or.w    #$0700,sr       an rte stack frame.
                                    Interrupts off.
            lea     ym_select,a0    Address the sound chip.
            moveq   #7,d1           Start with fixing
                                    the port direction.
            move.b  d1,(a0)         Register 7:
                                    port I/O control
            lsl.w   #8,d1           Move the register
                                    to the high byte.
            move.b  (a0),d1         Fetch the current
                                    register setting.
            or.b    #$80,d1         Write for port B.
            movep.w d1,0(a0)        Write back to register 7.
1$          btst.b  #0,(a6)         Get the I/O port status.
            bne.s   1$              Busy wait till printer free.
            or.w    #$0F00,d0       Make movep: register 15+data.
            movep.w d0,0(a0)        Write the data out (Port B)
            moveq   #14,d0          Deal now with register 14:
                                    Port A.
            move.b  d0,(a0)
            move.b  (a0),d1         Fetch the current settings.
            bclr.b  #5,d1           Strobe low.
            move.b  d0,(a0)         Write to Port A.
            move.b  d1,2(a0)        New value to register.
            move.b  d0,(a0)         Fetch again from Port A.
            move.b  (a0),d1         Current value.
            bset.b  #5,d1           Strobe high again.
            move.b  d0,(a0)         Write to Port A.
            move.b  d1,2(a0)        New value.
            rte                     Restore interrupts and write.

**
** Program data area.
**
            DATA
sign_on     dc.b    27,'E',13,10,'MFP interrupt
                    demonstration',13,10
            dc.b    'File to be printed: ',0
err_msg     dc.b    13,10,'Error while trying to load
                    file.',13,10
            dc.b    'Installation aborted',13,10,0
file_len    dc.l 0
next_char   dc.l 0
our_dta     ds.w 22
filename    dc.b 126,0
            ds.w 63
buffer      dc.l 0

            END
```

Listing Two

```
**
** Listing 2.
** Programmers' Forum May 1991
**
** Code fragment showing how to share a vector
** with an existing handler. The 200Hz ticker,
** Timer C, is used as an example, <mono2>**
** Assembler system: MCC ASSEM v12
** Written on 18th March 1991
**
** TOS equates
BIOS        equ     13
Setexc      equ     5

XBIOS       equ     14
Mfpint      equ     13

**
** Installation code
**
            .
            .
            move.l  #-1,-(sp)       Just read the current
                                    contents.
            move.w  #69,-(sp)       Number for Timer C:
                                    64+channel number
            move.w  #Setexc,-(sp)
```

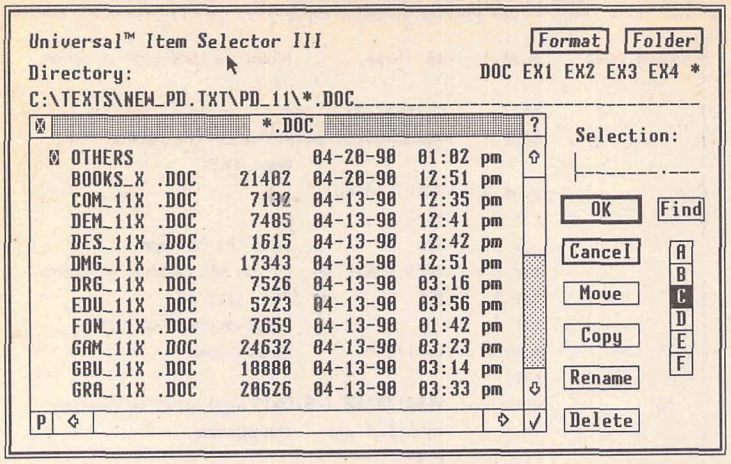
```
            trap    #BIOS
            addq.l  #8,sp
            move.l  d0,old_user     Save the vector.
            pea     handler         Now install our handler.
            move.w  #5,-(sp)        Channel 5: Timer C.
            move.w  #Mfpint,-(sp)
            trap    #XBIOS
            addq.l  #8,sp
            .
            .

**
** The new handler: this must be as short as
** possible. Taking too much time here could
** upset the system. Note that we do not clear
** the Interrupt in Service bit: as far as the
** MFP is concerned, our handler and the TOS handler
** are just parts of the same routine.
**
handler     movem.l d0-d7/a0-a6,-(sp) Save what is needed
            .
            .                         Do the work.
            .
            movem.l (sp)+,d0-d7/a0-a6 Recover registers.
            move.l  old_user,-(sp)    Do a long jump to the old
                                      handler.
            rts

old_user    dc.l    0                 Space to save old vector.
```

Listing Three

```
**
** Listing 3.
** Programmers' Forum May 1991
**
** Code fragment, demonstrating Alex Kiernan's
** tip for determining whether a program is being
** run from the AUTO folder.
**
** Assembler system: MCC ASSEM v12
** Written on 16th March 1991
**
AES_MAGIC   equ     200

            TEXT

**
** Main part of program.
**
            .
            .
            bsr     from_auto
            bne.s   <run normally>
            .
            run from AUTO folder
            .
            .

**
** Subroutine to determine whether the program
** is being run from the AUTO folder or not.
**      Inputs:     None
**      Outputs:    d0.l = 0 if AUTO folder program, else -1
**                  Flags set according to d0.l
**      Destroys:   d0-d2/a0-a2
**
from_auto   move.l  a6,-(sp)        Saved in case your program
                                    uses it.
            lea     control,a6
            move.l  #$000A0000,(a6)Write control block for
                                    appl_init
            move.w  #$0001,4(a6)
            clr.l   6(a6)
            bsr     aes             Call the AES now.
            cmp.w   #AES_MAGIC,d0   Is the AES handler present ?
            bne.s   2$              Yes, skip on.
            clr.l   d0              Program run from AUTO.
1$          move.l  (sp)+,a6        Return now.
            rts
2$          move.l  #$00130000,(a6)Call appl_exit to restore
            move.w  #$0001,4(a6)    the system.
            clr.l   6(a6)
            bsr     aes
            moveq   #-1,d0          This is not an AUTO program.
            bra.s   1$

**
** Subroutine to call the AES once the
** control and intin arrays have been set up
**      Inputs:     None
**      Outputs:    d0 = AES return value
**      Destroys:   d0-d2/a0-a2
**
aes         move.l  #aespb,d1       Point to our arrays.
            move.w  #AES_MAGIC,d0
            trap    #2
            rts

**
** GEM parameter blocks.
**
            DATA

aespb       dc.l    control,global,intin,intout,addrin,addrout

============================================================

**
** GEM arrays.
**
            BSS

control     ds.w 128
intin       ds.w 128
intout      ds.w 128
addrin      ds.w 128
addrout     ds.w 128
global      ds.w 16

            END
```

Listing Four

```
/*
** Listing 4.
** Programmers' Forum May 1991
**
** Tip from David Wicks:
** code fragment showing
** how to calculate
** the number of lines of text
** that can be fitted on the screen.
** This is stored into a global variable
** 'screen_lines'.
*/
```



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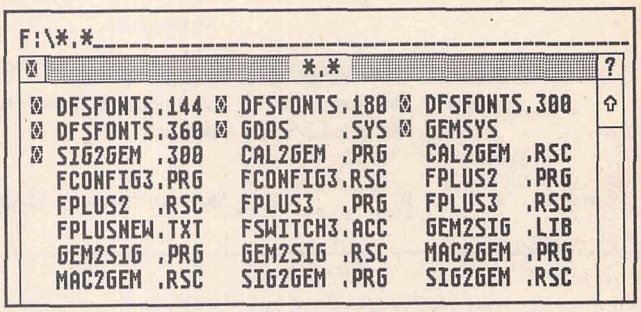

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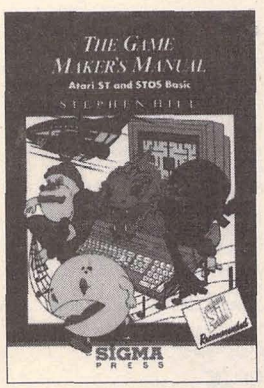

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Giving it the WERCS

PROGDEF's tend to be treated as mysterious and difficult to understand in the literature. They get pushed into the back pages and given very scrappy descriptions. Naturally, this makes them hard to understand and gives them a bad name. But they aren't really difficult to handle if you deal with them systematically. John Durst shows how.

PART 4: WITH PROGDEF TO THE FUTURE!

"PROGDEF" is probably the most liberating item in GEM's resource handling routines. With PROGDEF you can extend the way Forms and Dialogue Boxes behave in an almost limitless way.

What they do is let you incorporate your own drawing and graphic routines into a Form, or Dialogue Box, so that you aren't limited to the boxes and buttons which are in stock. They let you use interactive graphics in your displays; the moving "thermometers" in the Atari "Format" box are PROGDEFS. There is also a very good example of a PROGDEF in use to produce "piecharts" in the program "STATS" on DMG.22.

I've written a simple Demo program for this article, which is a variation on the "thermometer"; but instead of an area of tone just moving along a line, this one has a growing sector, like a clock face. And to show what you can do with Clipping Rectangles, I've made the dial square. It also shows how you can treat a PROGDEF just like any other resource object and "disable" it, making it show pale, or grey.

Tackling a PROGDEF involves to separate pieces of programming. First you have to write a routine which will draw your graphics as you want; in this case to produce a "dial", in which a coloured sector will be bigger by a fixed amount, each time the routine is called. Second, you have to make the appropriate arrangements for the Resource file and the GEM Form routines to use your routine.

Usually this kind of programming is done in Assembler. There are reasons for this: you want the drawing to be done swiftly, so as not to hold up the rest of the program; also, you are interfacing with the main program at a fairly low level. However there is no law which says you can't do it in "C", or Basic, if they can cope with the interfacing. However, my example is in Assembler and I'll try and make clear what's happening.

The drawing routine.

You can use virtually any routine you care to write: however, you must not use any AES calls, though you can, of course, use VDI calls. You must also save all CPU registers, except d0, during your routine and restore them at the end.

My routine is really just an application of the VDI "v_pieslice" function (the one that appears as "PCIRCLE" in Basic). This takes as parameters, centre x_coord, centre y_coord, radius, start angle & end angle. In the normal way, this will produce a circular, coloured arc. However you can set a clipping rectangle, with the same centre coordinates, with a diagonal smaller than the diameter of the circle, using another VDI routine, "vs_clip". If you do this, the parts of the circle outside the box are not drawn, so you get the sector filling out a square box, as appears in the illustration.

The actual routine, as it appears in Assembler, is shown in Listing One.

A PROGDEF routine is always called by the AES with the OBJECT STATE of the PROGDEF in register d0. You can use this to make it do something if you want (e.g. do not draw if disabled). You should also return with d0 holding the STATE you want the object to be in after drawing, as we have just done.

You can write the drawing routine as an independent project; try it out and de-bug it to your satisfaction. Once you are happy, you can set about installing it, so that it is used by your Dialogue. This is what we must tackle now.

Setting up a PROGDEF

WERCS only lets you set up the bare bones for a PROGFDEF: it could hardly do otherwise, as a PROGDEF is such a highly individual object. When you include one in a Dialogue, it appears as an empty box with a diagonal line: it has co-ordinates, but very little else, though you can set its States and Flags in the usual way.

You, as the programmer, are responsible for getting your routine into action, and this is largely a matter of placing the right addresses in the right places for the program to handle them.

The blocks of code or data you have to deal with are three:

(1) your drawing program
(2) a short data structure holding two addresses, called APPLBLK
(3) a longer data structure called PARMBLK, which is obligingly set up by the AES.

Only the first two of these need action from you, but PARMBLK contains various useful items, which you may want to use in your drawing program.

Your first move, when you write your program, is to allocate two longwords in the BSS section (the uninitilialised section of memory allocated to your program for data) labelled "ab_code" and "ab_parm".

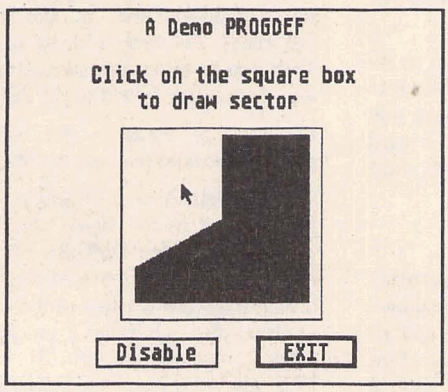
After you have made your program install the Resource file, with "rsrc_gaddr", you must put the address of your drawing routine (labelled "arc" in the Demo) into "ab_code". the first address in APPLBLK. Then you must put the address of "ab_code" into the "ob_spec" field of the PROGDEF.

Listing Two contains the code for the resource initialisation and the Main Routine.

The complete Assembler listing for this project, as well as the Demo program itself is given in Disk Mag DMG.23. I have tried to keep this as simple as possible, but Assembler listings always look untidy. See if you can work through it, but if you have trouble, please contact me through "ST Applications": I'll be glad to try and make things clearer.

One: Sector Drawing Routine

```
arc
* first save all the registers for safety
        movem.l     d1-d7/a0-a7,-(sp)
* now set the fill colour No:2
        vsf_color   #2
* the interior of the slice to be solid colour
        vsf_interior #1
* now collect the x, y coords & width & height
* of the PROGDEF object in registers d4-d7:
* these are in a table called PARMBLK,
* of which more later...
* (address of PARMBLK is at 4(a7)+saved regs.)
* however! we have stacked 15 registers,
* so the address is actually at 64(a7), not 4(a7)
        move.l      64(a7),a6
* the coords start at position 10
        lea         10(a6),a5       copy this to a5
        movem.w     (a5)+,d4-d7     get x,y,w,h
* we need top left & bottom right coords
* for the VDI, so we have to calculate them:
        move.w      d6,d0           copy w
        move.w      d7,d1           copy h
        add.w       d4,d0           x'
        add.w       d5,d1           y'
* and set the clipping rectangle to the size of PROGDEF
        vs_clip     #1,d4,d5,d0,d1
* some more juggling to get the centre coords
        lsr         #1,d6           divide by 2
        lsr         #1,d7           divide by 2
        add.w       d6,d4           get centre coords
        add.w       d7,d5
* the start position is always the same,
* but the end position is taken from "ab_parm"
        move.w      26(a6),d3       end position arc
* at last! we can draw it...
* x_coord=d4 y_coord=d5 radius=100 start angle=d3
* end angle=900 (vertical - VDI draws backwards!)
        v_pieslice  d4,d5,#100,d3,#900
* now we must restore original clip rectangle
        movem.w     (a5)+,d4-d7
        vs_clip     #1,d4,d5,d6,d7
        clr.w       d0              d0 sets OBJ_STATE
* check whether the "disabled" state has been set
        btst        #3,9(a6)        this is LSB of "pb_currstate"
        beq         xit             no it hasn't
        move.w      #8,d0           yes it has!
xit         movem.l (sp)+,d1-d7/a0-a7
* put back the registers as we found them
* and go home
        rts
```



Two: Initialise Resources

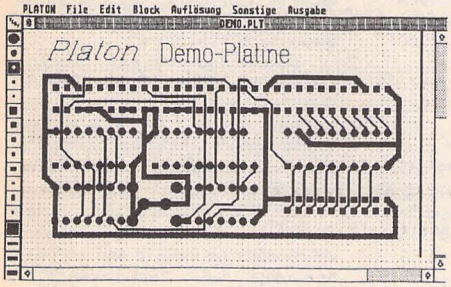
```
        rsrc_gaddr  #type_tree,#arc_fill
        move.l      addr_out,a3
        clr.w       (a3)            DO NOT pass this as -1
        move.w      #prgdef,d3      PROGDEF object in tree
        OBJECT      a3,d3,a1,d0
* a MACRO to get the address of an object
* in a tree: required address in a1
set_appl
        move.l      #ab_code,a0     address of APPBLK in BSS
* now put address of arc drawing routine into "ab_code"
        move.l      #arc,(a0)
* now put address of "ab_code into "ob_spec"
        move.l      a0,ob_spec(a1)
* set up the initial END position for the arc as a parameter
        move.w      #900,ab_parm
* install the clipping rectangle
* first, width & height
        movem.w     ob_width.d0-d1
        movem.w     d0-d1,clip_w
* then x & y
        objc_offset a3,d3           AES routine finds screen coords
        movem.w     int_out+2,d0-d1
        movemd0,d1,clip_x
        graf_mouse  #0              mouse is an arrow
        rts
```

** That's all the initialising you have to do, but the long-word at "ab_parm" and the contents of the table "PARMBLK" are there for you to use in your drawing program. You can see them both handled in "arc". This is handled in the "main" routine:

```
*****************************************************************
************************* MAIN ROUTINE **************************
*****************************************************************
main    rsrc_gaddr  #type_tree,#arc_fill
        move.l      addr_out,a3
        clr.w       (a3)
* go to the subroutine which handles the dialgoe box
* it returns with the number of the object which caused
* the exit in d3
        bsr         start_dial
* so check d3...
.loop   cmpi.w      #exit,d3
        beq         end
* if it was EXIT, finish
        cmpi.w      #sector,d3
        bne         .skip1
* if it was NOT the "disable" button, increase the sector
* otherwise...
        move.l      prog_ad,a0      address of PROGDEF object
* toggle "disable/enable" the PROGDEF, using EOR (XOR)
        eori.w      #8,ob_state(a0)
        bra         .skip3
* increase the sector size & cycle if >3600
.skip1  move.w      ab_parm,d0
        sub.w       #50,d0
        bne         .skip2
        move.w      #3600,d0
.skip2  move.w      d0,ab_parm
.skip3  movem.w     box_x,d4-d7     set box coords
* then, back to the dialogue box again...
        bsr         dial_2
        bra         .loop
end     bsr         end_dial
        rts
```

CAD Column

It took a new CAD program to divert Joe Connor away from hacking resource files. If your favourite application has no keyboard shortcuts, or the drop down menus are simply unintelligible, then the tutorial is especially for you.



Platon is a sophisticated vector-orientated circuit board designer. An English version is under development and will be available soon. A maximum working resolution of one 2000th inch and optional photoplotter and CNC interfaces enable total control of the production process. Boards up to 832mm x 832mm can be designed. Up to six boards can be worked on at the same time. Boards can drawn from 0.1 to 10 times full size. A good selection of solder point and circuit track styles are provided. Text height, width, spacing and angle of up to 4 typefaces are fully definable and can also be mirrored. Output options include GEM Metafile, drivers for most plotters, 9 and 24-pin, inkjet and laser printers. Other features include, block move and copy functions, mouse and keyboard control, extensive Symbol library and pop up menus. The latest version of Platon is ST/TT compatible and requires TOS 1.2 or later, minimum 1 Mb RAM, double sided disk drive and monochrome monitor. For further information contact Expressworks Ltd on 0252 726255.

News

If you have ever tried running a serious MS DOS based CAD applications using one of the Atari MS DOS emulators you probably decided not to repeat the experience. Most serious CAD software now runs in Windows and all but the latest emulators creak under the strain. A combination of memory limitations, processor speed or lack of a maths coprocessor usually conspire to make the software unusable. A new board announced by Omega Computer Systems in Germany looks set to change this situation and speed up your ST at the same time.

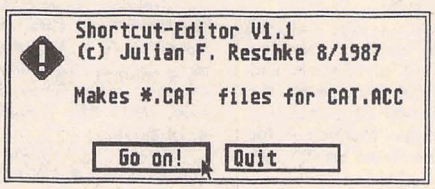
The Delta board contains a replacement 68000 and 80386SX processor both running at 16MHz. A 16K data cache enables the board to run at speed for longer periods. Sockets for both 68881 and 80387 Maths coprocessors are provided. AT slot options will be available. The board measures 12.7cm x 14cm and boasts a Norton SI factor of 15.8 which should make the opposition sit up and take notice. Estimated retail price is around 1200DM. For further information contact Omega Computer Systems on 010 49 511 17294.

CAD file formats

These seem to be causing a lot of confusion amongst CAD users. Each CAD application generates its own file format but to exchange usable drawings for use in other CAD programs look for a facility to export the drawing in either .GEM, .ASC, or .DXF format. Often export options are provided as separate modules, utility programs or 'drivers' within the printer/plotter section of the program. Drawings can alternatively be exported as pixel graphics (see Jargonbusters in issues 2 and 3) in image (.IMG) or Degas (.PI*) format and used as illustrations in DTP applications. Using Calamus, DynaCADD and a utility program it is possible (but expensive!) to convert .GEM files to .DXF. If anyone would like .GEM files converted, send them on disk, together with an SAE and your hints, tips or queries, to:

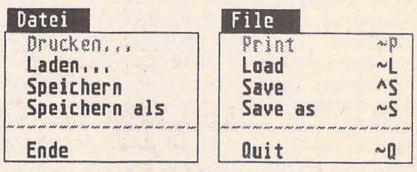
Joe Connor, 65 Mill Road, Colchester, Essex, CO4 5LJ.

CUT & RUN



Before modifying any file ensure you are working with a back up copy of the software and take notice of any copyright restrictions that may apply.

Using CAT .PRG (available from the ST Club on UTI .58) Keyboard short cuts can be added to most GEM applications. CAT .PRG loads the .RSC file for the chosen application and displays its drop down menus. Menu items are selected as required and the desired keystroke combination entered. CAT .PRG finally saves a .CAT file to disk. The shortcuts are activated from within the chosen application using CAT .ACC which must be installed as a desktop accessory. Although I had written the shortcuts down, when I came to use the application again several months later I never seemed to be able to find the scrap of paper. Sound familiar? I decided to modify the .RSC file! This can be achieved either by loading the .RSC file into a resource file editor or directly modifying the code using a sector editor. Search through the file until you find the text for the drop down menus then simply edit to suit! Take great care not to change any characters other than text as one mistake can cause the entire program to crash.



This shows what can be achieved with a dictionary and a little effort. Fortunately, most German words are longer than their English equivalents. If you change a piece of foreign PD, send a copy to the author and ask if he/she minds if you release your translated version.

Classified Adverts

Classified adverts are free to subscribers. Please use the form on page 58.

FOR SALE

ST games for sale. BSS Jayne Seymoure with F.O.F.T £10. Dungeon Master, Quest for the Time Bird £7 each. Archipelagos, Eliminator £5 each. Star Wars, Raffles £3 each. Tel:- 0358 22119. (6)

Mini Office Spreadsheet £10.00, Share Master £50.00, Verminator £10.00. If interested contact John on 071-260-2885. (7)

ST "Professional Pack" boxed, sealed and unopened, complete with all manuals. £65. Comprises Hyperpaint, HiSoft First Basic, STAC, Prince and Kuma ST-Word, ST-Base, ST-Calc and ST-Graph. Evenings Tel 081-366-2151. (7)

Don't buy a PC Emulator for your ST when you can have the real thing for less! Opus PC11, 1Mb ram, 3.5" Disk Drive, 20 Mb Hard Disk, Hercules Monitor, MS DOS and Software. Whole Lot for £200. Call John (0252-716711). Buyer collects. (7)

Citizen C-120D 9 Pin D/M Printer, two spare ribbons, owner's manual, printer stand, seen working. Buyer collects. £55.00. Ring 0432 (Hereford) 356520. (Can chuck in ST Lead!). (7)

Casio CZ101 Midi Keyboard with PSU + Midi leads £100. Migraph Hand Scanner with Touch-Up £150. Mega-Paint 11 £60. STAD Art package £40. Borland Reflex 2 Database (PC Version). All in original condition. John Nuttall (0252-716711). (7)

Epson LQ800 24 pin printer. Friction/tractor feed, parallel and serial interface. 180 cps draft, 60 cps LQ. All manuals, original box and single sheet guide, plus 2000 sheets quality paper. Also, good selection PD fonts, drivers, etc., for above. £185. Phone Keith: 0244 880091. (7)

Devpac ST Wercs, Twist, Hi-Soft Basic. Still in original boxes unused *and not yet registered.* First Word Plus, Superbase, ST Basic, Microsoft Write - all unused. Total original cost £250+. Offers for the whole lot. Tel 0226-765106. (8)

520 STFM S/S Drive. Panasonic *1081, PC Ditto + MS DOS 3.3, K-Seka,* Deja Vu, Football. Fast Basic Rom, GST C Compiler, 35 PD Disks + Games + Books. Ring 081-5932243. £250. (6)

Olympus OM40 with standard 50mm Zuiko Lens, Sirius 28-70mm Macro Zoom. T20 Flash, Vivitar 2500 Zoom Thyristor Bounce Flash, Tripod, Winder, 2 Motor Drive, Soft Carry Bag, Various Filters. All in perfect working order. 'No Manual!', well used, gives excellent results. £250 or swap for Atari ST Hand Drive of 20 Meg or more. Phone 0275 375496 Evenings/Weekends. (8)

First Word Plus, current version, boxed and sleeved with manual. Mint Condition £25. Tel - 0457 87 2221, evenings only. (6)

Books - 3D Graphics (Abacus) £9. Learning C on The ST (Wikert) £5. Minix Manual for ST £2. Programs - K-Roget £10. Trip a Tron £10. Printer - Star LC10 colour, boxed as new, with lead and ribbons £110. Tel: Chris 0272 781178 (Bristol). (6)

Arkanoid £2. ST Doctor £5. Disktool £7. Artwork Bridge 5 £15. Books - ST Disk Drives Inside Out £7. Anatomy of the Atari ST £7. Atari single sided disk drive £7. Pace Nightingale 1200/75 and 300 Baud modem £20. All plus postage/packing. ST User, ST Format, ST World magazines to Dec '90. Offers wanted. (Must be collected.) Phone Roy 081-578-9136. (6)

Yamaha DX100 Synth, boxed with manuals. £85 (carriage excluded). Seon Smyth, 'De Porres', 67 East Princes St, Helensburgh, G84 7DG. 0436 71181. (6)

1040 STF (no modulator, monitor required!) £250 including Microsoft *Write WP software and five games,* in perfect working order. Phone Clive Parker on 0275-375496 after 6pm. Quick sale wanted, as I am upgrading to Mega 4 or TT. (7)

Postscript on a shoestring - FSP 1.1 + *Postscript driver* £50. Also, K-Graph 3 (ver 3.3) £18. Script £24. Turbojet (HP Inkjet GDOS driver £15, Megapaint 11 (ver 2.3) £45. Tel: 0792 371286. (7)

Original ST software, Leather Goddesses of Phobos, Beyond Zork, Spell Breaker, The Pawn. All £6 each. Tel: 0709 532468 after 7pm and ask for Nigel. (6)

Midi music sequencer. Passport Master Tracks Pro (2.5v)(89). All original with manual. This very versatile software still retails at £275. My offer £100 .0603 411185. (6)

Atari Software for sale. The following are all in excellent condition and of course are all originals and boxed. I am selling all items for the stated price. APL 68000, GFA Draft V.3, Degas Elite, Borodino, Waterloo. All for £85.00 Telephone Martin on 081 303 0289. (6)

Atari Half Meg single sided internal disk drive and associated PCB. Virtually new. Cheap: any reasonable offer accepted. Tel: 0970-623328. (7)

Atari 520 STFM with 1 Meg Internal Drive, mouse and mat, joystick, *manuals, magazines,* dust cover, lots of software in lockable disk box including games, databases, wp's etc. All in immaculate condition. £280. Ring (0342) 327072 (East Grinstead, W. Sussex). (7)

Iron Lord. Original, boxed £8. Phone 0902-21448. (6)

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Cyber Studio £22, Flair Paint £7, Supercharger inc 1 Meg, 8087, PSU £175. Ring Phil Woodall on Dudley (0384) 241461. (6)

STAR LC1011. Less than 1 year old. Perfect condition. Boxed, lead and ribbons etc £115.00 Tel: 0602 817198. (6)

Atari Stacy, 2Mb Ram, 40Mb HD. Still under guarantee. £1500 ono. Spectre GCR Macintosh emulator for ST. £250. Prodata, Arnor's database package for ST. £35. Ring John (0603) 259111. (6)

Data Manager Professional, little used £25. Phone 0202-515476. (6)

The Blag (ST) - huge detective adventure on two extended format S/S disks. Features digitised graphics, printed manual and free pen: £7.99 plus 50p P&P. Apply G. Atkinson, 60 The Green, Rowlands Castle, Hants, PO9 6AB. (10)

2 x 1Mb internal replacement disk drives for ST, £40.00 each. 1 Mb internal replacement drive for ST (Citizen) £30.00. Contact: Colin on 0270-780257. (7)

Panasonic KXP1081 9-Pin Printer, with spare ribbon, ST interface *cable, and special iron-on transfer* ribbon for DIY T-Shirts: £80. Call Frank Hollis on (0279) 434168 (Eves) 622017 (day). (6)

Star LC10 Printer £125. JUKI 6100 Printer £170. Telephone 0487 841637. Home use only. (6)

FZ1 Shareware. 100's of sounds from USA & UK. SAE for List. 50p/Disk if you supply, or £1.50 (DD), £2.50 (HD) + P & P if I supply. Contact Brian at "Kave Studios" on 0909 486971. (9)

GENERAL

Treknet - A new club for all fans of Star Trek. Great club magazine, produced on ST's, for information contact:- Captain Angie Jarrett, 46 Regis Crescent, Milton Regis, Sittingbourne, Kent. ME10 2ES. Telephone: (0795) 471970. (7)

Postscript Printing Service for Timeworks DTP and FSP3. Excellent quality laser output for only 90 pence per page. Also laser output of various graphic formats including IMG, GEM and PI3. Send your disk plus cheque, or £2 for further details, font charts and examples of the quality obtainable to:- E, Nelson, 3 Woodview, High Street, High Littleton, Bristol, BS18 5HT. (7)

Crystal Tower BBS 01-886-2813 24hrs 300-2400 Baud (Towernet System) Atari ST, PC, Languages, Comms etc + much more. All callers welcome. (R)

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STARGATE BBS: 0476-74616 V21 V22 V22BIS V23 Atari ST section; also PC, Amiga and Comms areas. Comms help and advice for ST and PC via ST Editor. Give it a call and leave a message. If you need comms software get Uniterm from the ST Club. (R)

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WANTED

Frequency Modulator for early Model ST. Phil Adams, 11 Huddersfield Road, Delph, Oldham. 0457-870024. (8)

"Eickmann" HD Plus software wanted so I can re-install my hard disk. My Eickmann diskette has died. Also wanting internal clock card, 1 Meg. internal disk drive, and hand scanner. Also Info about "Overscan" Mono-Monitor. Answer with address and telephone number please! Einar Skog, Sualaskjerran 46, N.4645 Nodeland, Norway. (6)

NEC Multisync GS (mono) monitor, preferably with a suitable cable for the Atari ST. Call Dave (081) 305 1331 (answerphone 24hrs). (6)

Does anyone have any Mean 18 course files, other than the six available from Accolade? If I can gather enough together, perhaps a diskful could be added to the ST Club library? Phone Steve on 0923 265539. (7)

Infocom adventures - Bureaucracy, Hitch Hikers' Guide, Beyond Zork, Nord and Bert. Must be original *versions (i.e. not the new budget* copies) with all original material. Phone Steve on 0923 265539 (Watford/Hemel area). (8)

GENISCAN SCANNER - Has anyone found/written some software which works on the STE and will capture images larger than screen size? Needed desperately. Phone Tim on 0602 224773l. (7)

CONTACTS

Established ST User wishes to contact other ST users. Interested mainly in serious stuff. P. Armitage, Ashmere House, Week St Mary, Holsworthy, Devon, EX22 6UN or telephone 028 884597. (6)

I'm looking for a Graphic Artist to work with me on my games project. If interested ring Ed on 0255 675983. (6)

Electronic Circuit Simulation. Available now is a well featured analoge circuit simulator, similar in operation to the industry standard 'spice' simulator. Included is a Text Editor for Metlist Creation and Editing, a Graph Plotter to show results, and a graphical shell to bring it all together, all making *use of Gem. What is required are a* number of people to help with beta testing of the package as a whole, and to suggest modifications etc, additions etc for on going development. Also, any correspondence on the subject of *circuit simulation would be much* appreciated. The B-Test version comes on a single sided disk, including all files mentioned, and a fully working analogue simulator. To cover costs, I would appreciate a cheque or p.o. for £12. This will allow me to keep all testers etc. up to date with revised versions as and when developed. Cheques/P.O. payable to M. Schcmalenbach, or write 21 Kenwith Road, Bideford, N. Devon EX39 3NW. (7)

Authorware

Every issue of ST Applications will feature advertisements and notices about products that are published by their authors. With the depressed state of the market for non-games ST software, many products that deserve to be published are not being taken up by publishing houses. Special-interest software, in particular, is very difficult to place with a suitable publisher. Self-publishing of software is only viable when there is a cost-effective advertising medium, or an active and responsive market for Shareware.

To get the ball rolling, there will be no charge for Authorware advertisements in the next few issues of ST Applications. In future issues all Authorware products will be given a free 20-word listing, and display advertisements will be available at a preferential rate. The only requirements are that the product should be of a suitable quality, ST Applications are given a review copy of the software, and the publisher/author should not be VAT registered.

Authorware is envisaged as a complimentary system to Shareware; Authorware entries and advertisements are an effective way of keeping users up to date on the features in the "registered users only" versions of Shareware packages.

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.

STEN

ST ENthusiasts disk magazine - for your copy send a disk + SAE to:

Dave Mooney, 14 School Road, Morningside, Newmains, Lanarkshire.

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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 in the U.K./ Europe. Outside Europe, by airmail it costs £5.25/ £30. Cheques made payable to S. Medley should be sent to 9 Warwick Road, Sidcup, Kent DA14 6LJ.

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It is available at £5 (including postage) from David Waller, The Standon School, Molrams Lane, Great Baddow, Chelmsford, Essex, CM2 7AQ. Cheques should be made out to 'Sandon School'.

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Back Issues

ST Club Newsletters and ST Applications

For four years prior to the launch of ST Applications, The ST Club produced "The ST Club Newsletter"; this experience has formed the building blocks for this magazine. Whilst the layout and content of ST Applications has altered, enabling us to tackle more ambitious, long-term projects and have up-to-the-minute news and reviews, you may find the back issues of the newsletter of some interest. The following is a list of the back issues available, with a brief outline of the content of each Newsletter.

Newsletter Issue 28

Reviews: Calamus, A Book on C, STOS, HP Desk Jet Plus, Fontkit Plus Tutorial I, Football Crazy, Canvas, Goliath 2, Hi-Soft Forth. Articles: NEC P2200 Ribbons, First Steps in Prolog - I, Monitors - adding an audio amplifier, GEM Retrace, News from Japan.

Newsletter Issue 29

Reviews: Le Rédacteur v3, Citizen Swift Printer, Astronomy Lab, Hyperpaint. Articles: First steps in Prolog - II, Some thoughts upon learning C, Fontkit Plus Tutorial II, Canadian News.

Newsletter Issue 30

Reviews: Atari Tower, K Spread 3 & K Graph 3, PC Ditto 2, PC Board Design, Lattice C version 5. Articles: First steps in Prolog - III, Calamus Comment, Hardware - DMA Port and Hard Disks, Fontkit Plus Tutorial III.

Newsletter Issue 31

Reviews: Supercharger version 1.4, Xenomorph, Scanner Appeal, Zubair Z-RAM Board, Resolution 101, Chronoquest II. Articles: First Steps in Prolog - IV, Cupertino Cowboys, DIY Half Meg Upgrade, Fontkit Plus Tutorial IV.

ST Applications Issue 1

Reviews: NeoDesk3, Universal Item Selector III, Deluxe Paint ST, Easy Draw 3, Tristan, PD Adventure Games: Invasion and Darkness is Forever; Jeremiah's Journal: Adventure Probe Convention, Operation Stealth, Tamoret; Book Reviews: C: A Dabhand Guide, The Oxford Dictionary of Computing. Articles: Computer Entertainment Show '90, MIDI Hands on Show, MIDI in the UK, Fontkit Plus Tutorial V, That's Write, Hard Disk Backup, Searching Directory Trees, MIDI Software in C, Gadgets by Small, Reading CP/M disks; Regulars: PD Update 11.1, Forum, CAD Column, STicks and STones.

ST Applications Issue 2

Reviews: NeoDesk CLI, Le Rédacteur v3.03, Megapaint II, Protext v5, Jet Setters (Inkjet printer), Dr. T.'s Tiger Cub, Headstart. Articles: Whistle Stop Tour, Fleet Street Publisher 3 or Timeworks?, TeX Notes, Fontkit Plus Tutorial VI, ST Parallel Port Buffer, MIDI Software in C. Regulars: PD Update 11.2, CAD Column, GFA Problem Page, Programmers' Forum, Adventure Column, Forum, STicks and STones.

ST Applications Issue 3

Reviews: Wordflair, Molgraph, Write ON, EdScheme. Articles: Computer Shopper Show, Living with the Atari Laser, Working in Tandem (ST & HP DeskJet), LaserFace, On-Line Conferencing (CIX), Racing Spreadsheets, Giving it the WERCS (1), Dan Wilga Interview. Regulars: News, Forum, Adventure Column, CAD Column, PD Update 11.3, STicks and STones, Programmers' Forum.

ST Applications Issue 4

Reviews: Harlekin, CADja, Calligrapher, Titan Designs' Reflex Board; Articles: 16-bit Computer Fair Reports, Pictures Scanners and Pixels, Your FirST BASIC book review, ST Internals, DIY Fan Thermostat, Fontswitch 3, Giving it the WERCS (2), GEM Dialogue boxes in C; Regulars: News, Forum, Adventure Column, CAD Column, STicks and STones, PD Update 11.4, Programmers' Forum.

ST Applications Issue 5

Reviews: Keys!, Craft 2, ISETL, AdSpeed, Personal Finance Manager Plus, Master Time, Game Makers' Manual, FastCopy 3; Articles: FastFire, Bertha (DIY Upgrade), MIDI Fundamentals Pt1, Auto-Run, Software Documentation, Fontswitch Pt 2, Tempus Pt 1; Regulars: News, ST Internals, STicks and STones, Adventure Column, Forum, GFA Problem Page, Programmers' Forum, WERCS Pt 3, CAD Column.

Newsletter back issues cost £1.20 each.

ST Applications back issues cost £2.00 each.

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You can also subscribe to ST Applications and The ST Club Disk Mag. 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. A subscription to ST Applications magazine plus the six Disk Mags costs just £22.50. To buy all six disks individually would cost £15.00: subscribers get a massive 50% saving off the cost of the disks!

For details on back-issues of the ST Club Disk Mag see the PD Catalogue Version 11 and subsequent updates.

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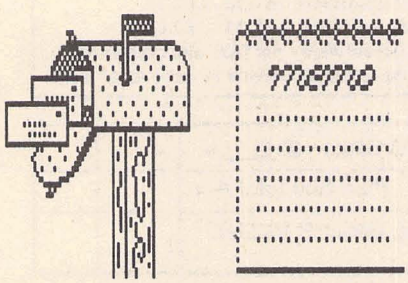

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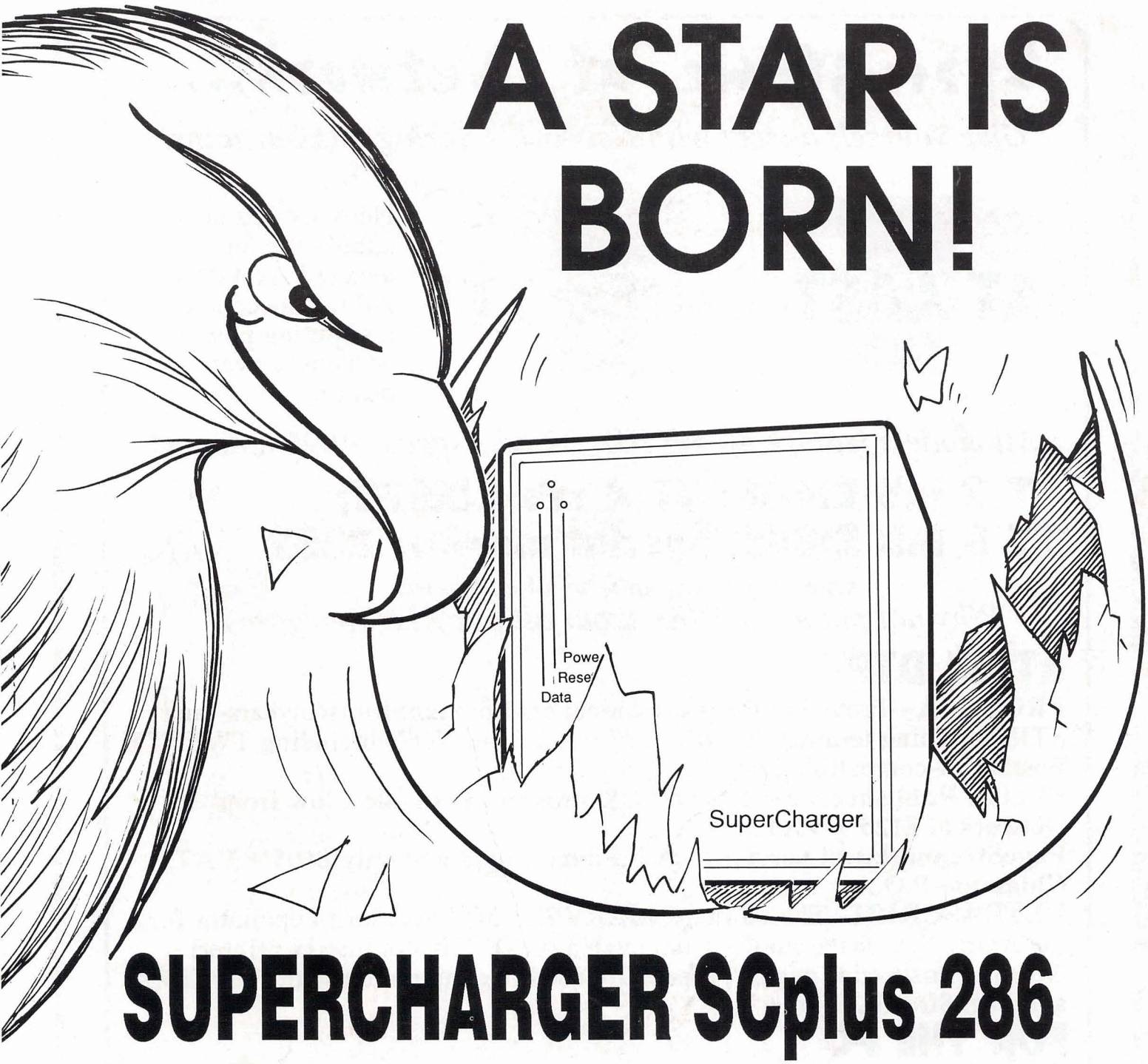

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