

ST APPLICATIONS

Price: £1.50

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

Issue No. 15 March 1992

THIS MONTH

REVIEWS

- * Ultimate Virus Killer
- * Technobox Drafter 2
- * Stereo Replay
- * Baby Brother
- * Laser DB
- * D70 Softworkstation

ARTICLES

- * SuperBoot
- * Calligrapher Road Test
- * Cookie Monster
- * PD Software

REGULARS

- * News
- * Jeremiah's Journal
- * CAD Column
- * STicks and STones
- * Desktop Discussions
- * Programmers' Forum
- * The A-Z of the ST
- * Forum
- * Going On-Line

Plus

PD Update

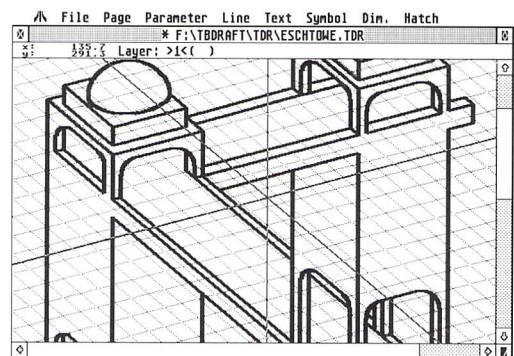
Starting on Page 30

Ultimate Virus Killer

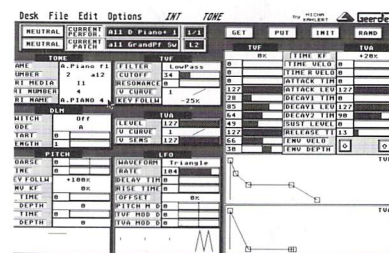
Peter Crush puts the latest incarnation of the Ultimate Virus Killer through its paces. Version 5.3 has a host of features, and at less than £10 for the initial outlay and with regular upgrade support it is well worth the modest investment.

Technobox Drafter 2

The successor to the highly acclaimed Campus CAD, Drafter v2.1 is a mid-priced cut-down version of Technobox CAD/2. A professional tool or a sophisticated toy for the amateur enthusiast? Joe Connor gives his views in this issue.



GEERDES D70 SOFTWORKSTATION



From Newtronic UK comes the Geerdes MIDI Systems D70 editor/librarian. It claims to offer MIDI multi-tasking on a 1MB machine - fact or fiction? Ofir Gal provides the answer.

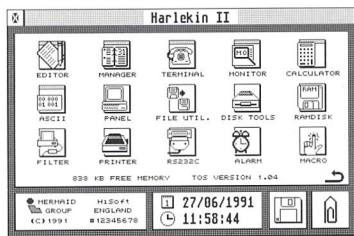
STEREO REPLAY

Piper looks at a new hardware/software combination from Microdeal that offers stereo sampling on the ST. Though impressed by what it does, he wonders which part of the music market it is aimed at...

HARLEKIN 2

- your dreams can come true

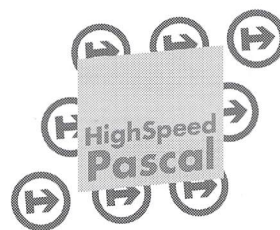
Harlekin 2 is a unique collection of utilities and applications for your Atari ST and TT computers. All programs are available from a single desk accessory, providing maximum convenience while taking up only one slot on the Desk menu:



- complete editor with search and replace, block-marking with the mouse, external clipboard with cut copy and paste, full page setup options for printing, word wrap and more.

- extremely powerful appointment diary/calendar/ideas organiser called the Manager. This allows you to make notes of any size and assign dates, times, priorities, icons and alarms to them. Then print out your notes by day, month, year etc. for a complete time management system.
- dynamic printer spooler that takes just as much memory as it needs, comprehensive printer filter.
- full macro processor allowing keyboard shortcuts for Harlekin's modules and extensive keyboard macros, all totally under your control.
- communications package allowing X-Modem and Y-Modem protocols plus full modem set up and an extensive dial directory.
- many, many more utilities too numerous to mention in this small space, plus a 150-page, wire-bound manual.

Harlekin 2 is available now at a price of £59.95 inclusive. Upgrades from version 1 cost £24.95; just send your master disk back to HiSoft, together with your remittance.



HighSpeed Pascal 1.5

Version 1.5 of this immensely popular compiler is now available. Additional features over 1.1 are:

- inline assembler
- help desk accessory
- i/o-mapped maths co-processor support
- faster, improved editor; more compact libraries
- structured constants - an invaluable addition
- absolute-address variables

Upgrades from earlier versions cost £7.50 inclusive including new documentation.

For those not in the know, 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 TT.

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 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.



HiSoft C

The ideal way to learn the difficult C language is with an interpreter and HiSoft C for the ST has all you need:

- try out your new C programs quickly and easily
- interactive editor with on-line help
- debugger with single-step
- extensive GEM toolbox
- complete manual with C tutorial

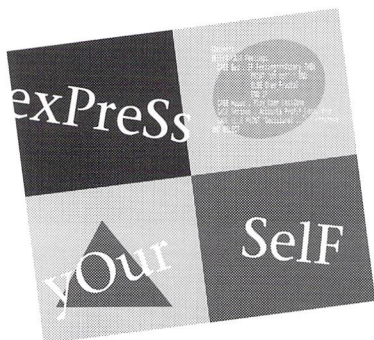
HiSoft C is already widely used and has received reviews by its users and alike.

So take the hassle out of C and learn the language talking everybody's about.



When you're ready, move up to Lattice C 5.

HiSoft BASIC 2



HiSoft BASIC 2 is here at last:-

- New, multi-window editor with lots of features
- Extremely fast development thanks to pre-tokenising
- Many more language features inc. static arrays
- Full support for the STE, MegaSTE and TT
- Completely new high level GEM toolbox
- Linking with Lattice C & DevpacST assembler files
- Resource construction set and debugger included
- 2-volume documentation of over 700 pages

Diamond Back II

Diamond Back is the hard disk backup utility that you have all been waiting for. Packed full of features and with an extensive manual, it is the fastest and friendliest package available:

- Extremely fast backup of any number of drive partitions and directory paths
- Easy-to-use GEM interface with online help
- Incremental backups by date/time or using the archive bit (TOS 1.4 upwards)
- Lots of information and features - disk statistics, disk usage estimation, backup to different floppy types or to other partitions, automatic drive switching, flexible full or partial restoration
- Incredibly fast data compression algorithm
- File encryption included
- Even backup Spectre partitions

Priority Order Form

Yes, please rush me copy(ies) of

- Harlekin version 2 @ £59.95
- HiSoft C Interpreter @ £59.95
- Lattice C 5.06.02 @ £149.00
- ProFlight Tornado Sim @ £39.95
- HiSoft BASIC 2 @ £79.95
- HiSoft Devpac 2.25 @ £39.95
- HighSpeed Pascal 1.5 @ £99.95
- Diamond Back @ £39.95

Name:

Address:

Post Code:

- I enclose a Cheque/Postal Orders I would like to pay by:
- Access/MasterCard/EuroCard etc.
- Visa/TrustCard etc.

Card No:

Expiry Date: Signature

All prices include UK VAT and postage within the United Kingdom. Goods will normally be despatched within 2 working days of receiving your order. Call, write or fax for export prices. All offers subject to availability.

Please post this coupon to HiSoft at:
The Old School, Greenfield, Bedford MK45 5DE UK.
Tel: +44 525 718181, Fax: +44 515 713716

Free mouse mat with every order!

Special Offer

Please phone or write for upgrade details for HiSoft BASIC 2 and Harlekin 2.

CONTENTS

Regulars

News4
 PD Update30
 Jeremiah's Journal.....36
 The A-Z of the ST (M)38
 STicks and STones.....39
 Forum.....40
 Desktop Discussions.....45
 Programmers' Forum.....46
 CAD Column.....53
 Classified Adverts.....54
 Subscriptions & Back Issues.....56

Articles

pLeisure Computing.....14
 Hard Disc Lockout.....18
 ST Church User28
 Calligrapher Road Tested.....32
 Going On-Line35
 Cookie Monster.....50

Reviews

Computer Shopper Show8
 The Ultimate Virus Killer.....9
 Technobox Drafter 2.....12
 Stereo Replay Cartridge.....16
 Brother HJ-100 Inkjet20
 Answer Back Junior Quiz.....22
 Laser DB.....24

Read Me 1st

Subscription Expired? If you received this copy of ST Applications through the post, check the first line of your address label carefully: if it reads STA15, then either your subscription has expired with this issue or you have been sent a free evaluation copy of ST Applications. Either way, you must take out a new subscription in order to receive further issues.

Information

Editor: Paul Glover
 Sub-Editor: Nicky Wilson
 Layout: David Smith
 News Editor: Steve Delaney

Published by: The ST Club
 2 Broadway
 Nottingham NG1 1PS
 Tel: 0602 410241
 Fax: 0602 241515

New Address:

Mail sent to our old Stoney Street address will be forwarded and our telephone number is unchanged.

Owing to lease restrictions, we are no longer able to make retail sales from our offices. Callers by appointment only, please.

Günter Minnerup's second Prepress article will appear in Issue 16.

Advertising

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.

© The ST Club, 1992.

No part of this magazine may be reproduced without written permission of the publishers. Whilst every care is taken in the preparation of this magazine, the publishers cannot be held legally responsible for any errors.

Subscription Rates

United Kingdom:
 12-issues : £15.00
 12-issues plus 6 Disk Mags : £22.50

Air Mail to Europe:
 12 issues : £18.00
 12 issues plus six Disk Mags : £26.50

Subscription and Order form will be found on page 57.

Overseas Distribution

Distribution overseas is dealt with via our agents:

Worldwide Magazines

Contact us for details of your nearest ST Applications stockist.

Disk Mags

These are bi-monthly compilations of the best PD software to come to our attention in the preceding couple of months - not magazines on disk. The next Disk Mag, DMG.28 will be dispatched a few days after issue 16 is sent out.

CREDITS

Typeset with Timeworks DTP, with some help from FSP3 & PS2.

Text Preparation: Redacteur 3.

Final output on HP DeskJet Plus.

Printers: Wiltshire (Bristol) Ltd.

Contributors:

Mark Baines	James Beswick
Paul Bocij	Joe Clemson
Joe Connor	Peter Crush
Roger Derry	Jon Ellis
Ofir Gal	David Harvey
William Hern	Les Kneeling
Mathew Lodge	Graham McMaster
Günter Minnerup	Jim O'Keefe
Piper	Sandra Vogel

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.

EdScheme News

The EdScheme implementation of the Scheme programming language has been updated since it was reviewed in *ST Applications* (issue 3, February 1991), and now stands at version 3.4. New features (some of which are influenced by the 1990 draft IEEE standard for the language) include extra functions for list, string and symbol manipulation, a new representation of boolean values (*t, *f), and improved optimization of conditional expressions.

In addition, names of primitive functions may be entered in American or British spellings (where they differ, e.g. randomise/randomize), and the system is now distributed with a comprehensive set of example programs and utilities.

A book on Scheme is available from Lambda Publications, the distributors of EdScheme. The *Schemer's Guide*, by Ian Ferguson, Edward Martin and Burt Kaufman, draws on several years experience of teaching Scheme to U.S. high school students, and is among the best introductions to programming (in any language) that I know. The emphasis

throughout is on understanding programming concepts: because the syntax of Scheme is so simple, attention can be paid to the 'why' rather than the 'how' of programming, making the book an exciting intellectual adventure and not simply 'learning a language'.

The many examples and exercises are well-chosen, and build towards the development in the final section of a game-playing program which uses AI techniques to learn from its experience. For classroom use, a teachers' guide is available, along with substantial educational discounts for institutions and individual school or college students.

EdScheme and The Schemer's Guide are available from:

Lambda Publications
194 Cheney Manor Road
The Green
Swindon
Wiltshire SN2 2NZ
Tel: (0793) 695296

Prices: EdScheme - £45.00
The Schemer's Guide - £17.50

(Write or phone for details of educational discounts.)

David Harvey

Ladbroke News

Ladbroke Computing have announced a cut of £40 on the entire range of Data-Pulse hard drives and introduced two budget models to the line up. The 45 Mb model costs £299.99 and the 105 Mb costs £449.99. Both use NEC drives and come with a two-year replacement guarantee.

The Aries RAM upgrade board has been improved and the 1/2 Meg board can now take up to 4 Meg of chips which can be added at a later date. The board populated to 1/2 Meg costs £42.99 and populated to 2 and 4 Meg remains unchanged at £99.99 and £169.99 respectively.

ST Secure is a hardware device which is fitted internally to the ST. It forces the computer to reset if the correct password is not entered within 45 seconds. After entering the correct password, you will not be asked for it again unless you switch off the machine.

ST Secure is available now at a cost of £25.

For further details on the above products contact:

Ladbroke Computing International, 33 Ormskirk Road, Preston, Lancashire, PR1 2QP;

Tel: (0772) 203166;

Fax: (0772) 561071.

Compo Advert

If you've sent off the tear-off enquiry slip from the Compo advert on the back page of *ST Applications* and haven't heard anything from them, it could be because there was no space for your phone number or address... Give Compo a call on 0480 891 819.

Shareware Bits

Shareware Success

Everyone thought that Jeff Minter was taking a chance releasing *Llamatron* as a Shareware product. I'm glad to report that the gamble has paid off. There have been over 800 registrations for the ST version with Amiga registrations just beginning to come in now (the Amiga version was released several months later than the ST version). This means that *Llamatron* has generated around £4,000 of income to date. Bearing in mind the fact that registrations are continuing at the rate of about 5 a day as well as the assumption that the Amiga version will do at least as well as the ST version, Jeff expects to make about £10,000 in all from *Llamatron*. It's not as much as he would have made on a full blown commercial release but it is more than a budget release would have generated.

According to Jeff, "...I have to state that based on our experience, Shareware works. It is a viable alternative to the commercial way of selling software" and "...it's a really nice way to make some money when everyone pays over their fiver with a smile on their face and no-one feels disappointed". In view of this he has now released *Colourspace* as Shareware. *Colourspace* is a light synthesiser and is the followup to *Psychadelia* on the Commodore 64 and the predecessor to *Trip-A-Tron* on the ST. The registration fee for *Colourspace* is a mere £5 and for this you get a full manual and a copy of Jeff's Newsletter,

Nature of the Beast. As an alternative, rather than register you can buy the full blown commercial release *Trip-A-Tron* for £10 off the normal selling price. *Colourspace* is available from The ST Club.

Jeff's success in the Shareware market should encourage other sceptics to try this method as a low cost way of publishing their software. You'll never become a millionaire as a Shareware author but you may be pleasantly surprised. Perhaps Shareware can work in Britain after all. Look out for *Llamatron's* next Shareware release, *Revenge of the Mutant Camels*, coming soon.

B.(Share)Ware

Educational specialists B.Ware have recently announced a cut in price on their card index program *Super Card 2* to £14.95 and entered the Shareware market with several of their back catalogue titles. *Super Card 1* was the forerunner to the commercial release and is enjoying a new lease of life as a Shareware product. The registration fee is a mere £5.00 and for that you get the a printed manual and an offer of substantial discounts on other B.Ware products. For example, registered users can buy *Super Card 2* for £9.95 and *Master Time* for £6.95 (normally £17.95). Those are only two of the five special offers: you'll have to register to find out about the others. B.Ware are at 19 Southfield Road, Hinckley, Leics. LE10 1UA; Tel: 0455 613377.

Worldwide Shortage Pushes Disk Prices Up

A major shortage of 3.5" disks surfaced in the run up to Christmas. Many firms were either unable to obtain blank disks from their regular supplier or were being forced to wait about twice as long for supplies to arrive. The main problem appears to have been with low cost unbranded disks. Both Future Publishing and Europress Publications were reported to have experienced difficulties in obtaining enough cover disks for their January issues although they did get all publications out with a bit of a struggle.

One theory being put forward is that the shortage has been artificially created by the large disk manufacturers in order to force up prices. It is common knowledge that the major manufacturers were unhappy at the low prices that unbranded disks were being sold at. This was combined with the fact that there has always been over-production by disk manufacturers which in turn pushed prices down. Even once the current shortage eases, prices are unlikely to fall back to their pre-shortage levels.

Vortex Announce 386 Emulator

The 80386 PC emulator, ATonce-386SX from Vortex is now available for all ST models (previously it was only available for the Mega STE). It runs at 16Mhz and has a Norton factor of 8.4. There is the option of fitting 512K of fast RAM. This increases the Norton factor to 15.6. A maths co-processor can be fitted if extensive numeric computation is needed. ATonce-386SX requires at least 1 Megabyte of memory, giving 704k available for use under DOS. It allows use of extended or expanded memory on STs with more than 1 Megabyte. Atari AHDI compatible hard drives are sup-

ported as are removable hard drives. ATonce-386SX supports Hercules, CGA, EGA and VGA (monochrome) as well as a number of other lesser known graphic 'standards'. It also supports multi-tasking of up to 8 applications. Like its predecessor ATonce, ATonce-386SX is fitted internally into the ST. It does not require soldering but does require an additional adaptor for the STE. For details of price and availability contact:

Silica Systems, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX; Tel:(081) 3091111.

The Latest From The Computer Shows

Westminster Exhibitions have announced the dates for the 5th International 16-Bit Computer Show. It is to run from 14th to 16th February 1992 at the Wembley Conference Centre. Over 70% of stand space has already been booked and around 30,000 visitors are expected to attend the post Christmas event. Further details from Westminster Exhibitions Ltd, Surrey House, 34 Eden Street, Kingston, Surrey, KT1 1FR; Tel: 081 549 3444; Fax: 081 547 1311.

Market research undertaken at the last All Formats Midland Fair has thrown up some interesting statistics. According to the survey, 73% of visitors were regular games players, 53% use a PC regularly, 47% own an ST or an Amiga and the same amount own an 8 bit machine. Only 18% own a games console. Obviously these figures show that many users own more than one computer, 66% in fact! The average visitor spent up to £120, being attracted mainly by the low prices and wide choice available. The regional venues have proved popular and are to hold around 5 fairs per annum with more venues being added next year.

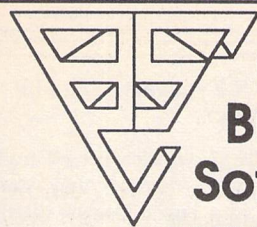
New All Formats Venues

Following last month's announcement that more regional fairs were to be added to the 1992 All Formats line up, we now have details of the additional venues. Haydock Park is situated next to J23 of the M6 about half way between Liverpool and Manchester.

Donington Park is next to the famous motor racing circuit just off J23A of the M1. It is situated between Derby, Nottingham and Leicester. The last venue is the Northumbria Centre which is a large sports hall in Washington, near the A194(M). Each venue will hold four to six Fairs per year. The line up for the first half of the year is as follows:-

1st February - Donington Park, J23A of the M1
 2nd February - Haydock Park, J23 of the M6
 8th February - Northumbria Centre, Washington, A194(M)
 23rd February - National Motorcycle Museum, Birmingham
 8th March - City Hall, Candlerigg, Glasgow
 14th March - Royal Horticultural Halls, Greycoat Street, London
 15th March - Brunel Centre, Temple Meads, Bristol
 21st March - Donington Park, J23A of the M1
 22nd March - The University Sports Centre, Leeds
 12th April - Northumbria Centre, Washington, A194(M)
 26th April - National Motorcycle Museum, Birmingham
 16th May - Royal Horticultural Halls, Greycoat Street, London
 17th May - Brunel Centre, Temple Meads, Bristol
 7th June - City Hall, Candlerigg, Glasgow
 14th June - Haydock Park, J23 of the M6

Further details from John & Christian Riding on (0225) 868100.



Cambridge Business Software

ATARI ST SOFTWARE

ACCOUNTS

Small Business Accounts Cash	£69.95
Small Business Accounts Extra	£99.00
Cashbook Controller	£39.95
Final Accounts	£24.95
Cashbook Combo Pack	£59.95
System 3 (Inv/Stock)	£39.95
Home Accounts 2	PHONE
Sage Cash Trader	£79.95
Wages ST	£89.00
Personal Accounts Plus	£26.90
Personal Finance Manager Plus	£34.95

DATABASES

Adimens Plus	£99.00
Data Manager Professional	£29.95
Superbase Personal 2 (v3.02)	£69.95
Super Base Professional (v3.02)	£175.00
Digit DGBase	£39.95
Prodata	£59.95

DESKTOP PUBLISHING

Timeworks DTP	£69.95
Calligrapher Junior	£69.00
Pagestream v2	PHONE
Fleet Street Publisher v3	£159.00
Calamus	£250.00
O-Line Art	£159.95

COMPUTER AIDED DESIGN

PC Board Designer	£135.00
BeckerCAD	£99.00
Megapaint II	£79.95
Megapaint II Professional	£199.00
GFA Draft Plus v3.13	£79.95
CAD 3D v1.0	£18.95
CAD 3D v2 (Cyber Studio)	£39.95
Cyber Control	£32.95
Cyber Paint V2	£39.95
Cyber Sculpt	£59.95
Cyber Texture	£39.95
Architectural Design Disc	£17.00
Easy Draw 2	£39.95
Supercharged Easy Draw 2	£59.95

MUSIC

NEW C-LAB Creator v3.1	£269.00
NEW C-LAB Notator v3.1	£429.00
Creator/Notator Upgrade	£239.00
C-LAB Notator Alpha	£179.95
C-LAB Aura	£89.00
C-LAB Midia	£59.95
C-LAB v.3 upgrade	£37.95
Cubbeat	£239.00
Cubase	£459.00
Sequencer 1	£79.95

LANGUAGES & COMPILERS

Mark Williams C v3	£89.00
Mark Williams C Source Debug	£42.00
Prospero C	£75.00
Prospero Fortran	£75.00
Prospero Pascal	£75.00
Prospero Toolkit	£55.95
Hisoft Lattice C v5	£115.00
Hisoft High Speed Pascal	£89.95
Hisoft C. Interpreter	£49.95
Hisoft Devpac v2.22	£45.00
Hisoft Devpac TT	£119.00
Hisoft Power Basic	£39.95
Hisoft Basic	£59.95
Hisoft Nevada Cobol (With CP/M)	£42.00
FTL Modula 2	£52.00
FTL Modula 2 Developer	£69.95
FTL Toolkit	£49.95
GFA Basic Interpreter v3.6	£45.00
GFA Basic Compiler v3.6	£24.95
Nevada Cobol (with C/PM)	£42.00
MPE Forth 83 (GEM)	£44.00
Minix v1.5	£149.95

SPREADSHEETS

K-Spread 3	£67.95
K-Spread 4	£89.00
NEW 3D Calc	£34.95
Logistix v1.2	£79.95
Hyperchart by Atari	£95.00
LDW Power Spreadsheet	£99.00
Digicalc	£29.95

WORD PROCESSORS

Thats Write	£85.00
Write On	£45.00
GST First Word Plus v3.2	£57.95
Protext v5	£109.00
Protext v4.2	£69.95
Wordperfect v4.1	£179.95
Timeworks Wordwriter	£39.95
Wordflair	£65.00

MISCELLANEOUS

NEW AT Speed C16 PC Emulator	£229.00
PC Speed	£99.00
SLM 804 Replacement Drum	£169.95
SLM 804 Toner Cartridge	£39.95
SLM 804 Epson Emulator	£24.90
Neodesk v3 (UK)	£29.95
Deluxe Paint	£59.95
Hyperpaint v2	£29.95
Hyperdraw	£29.95
Degas Elite	£19.95
Harlekin	£39.95
Turbo ST v1.8	£29.95

No surcharges on European orders!
 Many other titles in stock.

Phone 0763 262582 NOW!

protar

HARD DRIVES
FAST, HIGH-SPEC, HARD DRIVES FOR ALL STs

NEW LOW PRICES!

- FAST ACCESS TIME
- EXTERNAL DEVICE NO. SWITCH
- DMA THROUGH PORT
- UP TO 12 PARTITIONS
- AUTO BOOT/PARK
- EXCELLENT GRAPHICS-BASED SOFTWARE
- 12 MONTH INSTANT REPLACEMENT WARRANTY

Progate 20Mb	£279.00
Progate 30Mb	£326.00
Progate 40Mb	£340.00
Progate 40DC	£423.00
Progate 60Mb	£437.00
Progate 80Mb	£486.00
Progate 80DC	£565.00
Progate 160Mb DC	£922.00
Progate 440Mb	£1589.00
Progate R44 removable	£610.00
T60 Tape Streamer	£580.00

24-HOUR ORDER LINE (0763) 263127
MODEM USERS — CALL OUR BULLETIN BOARD ON 0763 261624
 All prices include VAT & delivery. Make cheques payable to Cambridge Business Software.

Melbourn Science Park, Cambridge Road, Melbourn, Royston, Herts. SG8 6EJ



IMMEDIATE DESPATCH (subject to availability)

ORDERS WELCOME FROM EDUCATION, GOVT. & TVEI

HOW TO ORDER:

TEL 0763 262582 • FAX 0763 262425 • TELEX 817932

News In Brief

Atari News

Atari UK have received a rap over the knuckles from the Independent Television Association over their 30 second TV commercial advertising the ST. It was ruled as being unsuitable for broadcasting before 5.30pm owing to the skin being ripped off a skull in order to transform one character into another. The ten-second commercial, which merely depicts the android and was intended as a reminder of the fuller advert, was cleared. Atari don't see the ruling as a major setback as they believe their target audience to be after 5.30pm anyway. A full one minute version of the advert has been made and is to be screened from March onwards in the cinemas. It is to be shown alongside major film releases. The advertising restrictions do not apply to cinemas or satellite TV.

After numerous delays, the Mega STE was finally released in the UK just before the end of last year. Very few were actually sold before a major problem was diagnosed. The built-in TV modulator was manufactured to European rather than British standards so that it didn't work with British television sets. Those using the Mega STE with a monitor should experience no problems. Atari are now rectifying the problem and expect to re-release the machine in the first quarter of this year.

Easy Text Professional

The latest news from Roger Pearson at zzSoft is that work is progressing well with Easy Text Professional. Regrettably, the original release date was a little optimistic. The mono version is now expected in February or March with the colour version following soon afterwards. The good news is that even more new features have been added. Easy Text Professional will cost £40 and existing users of Easy Text Plus will be able to upgrade for £25. A full review of the product will appear in a future issue of ST Applications. For further details contact zzSoft, 25 Honeyhole, Blackburn, Lancs, BB1 3BQ, Tel: (0254) 672965; Fax: (0254) 678803.

TCB Tracker 2 Up For Grabs

MPH of Norwich ceased trading recently. Although they started out as a Public Domain distributor, they are better known as the UK distributors of TCB Tracker. Following their closure, TCB are looking for a new UK distributor to handle the yet unreleased TCB Tracker 2. Unfortunately I haven't got an address for Anders Nilssen (An Cool).

Customers who have placed orders with MPH should send stamps for return postage and their cheque will be sent back. Those who paid by credit card will not have been charged for the goods.

Calamus Support To Continue

Following the shock announcement in last month's ST Applications that Signa Publishing appears to have gone out of business, the good news is that Atari UK have appointed Helco as the UK distributors of Calamus. Although Atari UK hold the UK distribution rights to the package, they decided not to distribute the product themselves in this country. The long-awaited colour version of Calamus should be available as you read this. For further information contact Helco on (0734) 441525.

More Publications From The Sandon School

Following the release of their low-cost Calamus tutorial (as featured in the Authorware section of ST Applications), The Sandon School have finished work on four new titles. These are tutorials for LDW Power, K-Graph 3, First Word Plus and Easy Draw. A Superbase tutorial is to follow soon. The Calamus and LDW tutorials cost £5 each and the others cost £3 each. Cheques should be made payable to Sandon School and sent to David Waller, The Sandon School, Molram's Lane, Great Baddow, Chelmsford, Essex, CM27AQ.

TEX Move Into Simulators

German based Thalion Software, set up by former demo coders TEX, are set to release a number of flight simulators in 1992. The first release will be A320 Airbus and it should be available about now. A helicopter simulator based around the Bolkow 105 is due out

next month as well as a management-type game based around the running of an Airline. A wartime simulator based in South America and titled 'Tales of the Golden Goose' is pencilled in for September. All titles concentrate on simulation rather than gameplay. Prices were not available as we went to print.

Mirrorsoft Up For Sale As Maxwell's Empire Crumbles

Following the death of Robert Maxwell, the future for the software house Mirrorsoft has been uncertain. Despite original claims that nothing had changed and that it was "business as usual", it soon emerged that the company was up for sale. Unlike many of Maxwell's other business interests, it appears that Mirrorsoft was trading profitably. At the end of last year, the firm's assets were frozen temporarily and it was operating in administration, although not in receivership. This was done as a temporary measure to protect Mirrorsoft in the short term. Several offers have been made for the company with the favoured one being a management buy out. The future of Mirrorsoft remained uncertain as we went to press.

In another twist to the tale, Mirror Group Newspapers were raided recently by FAST (Federation Against Software Theft) for illegal duplication of software. It is expected that further action will be taken as a result of the search.

Ocean Take A Stand Against The Pirates

Unsurprisingly, Ocean's recent approaches to the manufacturers of copying devices (ST Applications No 13) failed to generate a single response. They have decided to try out a new type of dongle

which is reputed to be the best anti-piracy device available. The first product to use it was the Amiga version of Robocop 3 but it will also be used with ST and PC games. For the uninitiated, a dongle is a device which plugs into one of the ports on the machine (usually the joystick port or cartridge port). The software checks to see if the dongle is present and will not run unless it is attached. You can back up the software for your own peace of mind but the copies also require the dongle to be present. This method of copy protection protects both the software house and the consumer. The device being used by Ocean was developed by Mick Lambert and John Hollis, founders of the Quicksilver label in the early eighties.

Ocean have decided to absorb the extra costs involved in supplying the dongles in the belief that they will more than recoup their costs in increased sales. Other software houses are watching developments closely and several are expected to start using it, should it prove successful. Psygnosis have already said that they will pass on the extra cost to the customer if they decide to use the device.

Gremlin Launch Educational Label

Gremlin Graphics recently launched the first in a series of education titles. The new label is called *First Class* and the first release is titled *First Class with The Shoe People*. It is aimed at the under-six year olds as will be the case with the other titles in the series. The current package features six different programs. Gremlin claim that the time is right for producing educational software as we now have a generation of computer-literate parents!

New Fontpac Plus Set

The ST Club has released a new set of GEM fonts in the Fontpac Plus series - the calligraphic "Derwent", based on the Foundational hand.

Available in three different sets for standard or high resolution 24-pin and laser/inkjet, the point sizes supplied vary according to the printer resolution, but there are at least ten fonts in each set, ranging from 8 to 24 for the higher resolutions (300dpi and 360dpi) and from 10 to 45 for the standard 24-pin 180dpi set. Screen fonts are provided in both high and medium resolution. These fonts may be used with Timeworks Desktop Publisher (1.12 and 2.1) and WordUp as they stand, but will need some minor changes if they are to be used with other non-standard GDOS applications. The fonts are well implemented, incorporating accented characters specific to most of the European languages, and some of the commoner ligatures. Price per set is £9.95.

GASTEINER Technologies

Tel: +44 081 365 1151

Fax: +44 081 885 1953

COMPUTERS

Atari	POA
520STFM	
520STE 1/2MB	£289.00
520STE 1MB	£305.00
520STE 2MB	£329.00
520STE 4MB	£419.00
1040STE 1MB	£339.00
1040STE 2MB	£399.00
1040STE 4MB	£469.00
Mega STE 1	£869.00
Mega STE 2	£1110.00
Mega STE 4	£1999.00

All MEGA STE comes with mono monitor

TT 2MB	£2200.00
TT 4MB	£2500.00
TT 8MB	£2700.00

All TT's come with colour monitors

MONITORS

SM144 new 14" Hi-Res mono monitor	£149.00
Philips 14" COL	£219.00
ATARI 14" COL	£239.00
NEC 3D	£459.00
QUADRAM 1480	£349.00
PHILIPS 15" TV	£249.00

PRINTERS

Panasonic	
KXP-1180	£155.00
KXP-1123	£209.00
KXP-1124i	£305.00

Star	
LC-20	£149.00
LC24-200	£225.00
LC24-200 COL	£285.00

LASERS

Panasonic 4420	£849.00
HP IIII	£879.00
ATARI 605	£879.00
HP DESKJET 500	£379.00

GASTEINER MEGA DRIVES

ALL GASTEINER MEGA DRIVES are AUTO BOOTING & AUTO PARKING
Comes in many different capacities 15 Months back to base guarantee
Full metal case
Integral power supply
Backup software

MEGA DRIVES (SEAGATE MECHANICS)	
32MB 28ms	£269.00
50MB 28ms	£329.00
65MB 24ms	£349.00
85MB 23ms	£399.00

MEGA DRIVES (QUANTUM MECHANICS)	
52MB 11ms	£349.00
105MB 11ms	£459.00

MEGA DRIVES (NEC MECHANICS)	
40MB 24ms	£295.00
100MB 24ms	£429.00

MEGA DRIVES KIT

Everything needed to build ATARI HARD DRIVE

HOST ADAPTOR	£59.00
METAL CASE	£35.00
50 WATT PSU	£35.00
DMA CABLE	£5.00
SCSI CABLE	£5.00

BARE DRIVES

SEAGATE 32MB	£150.00
SEAGATE 50MB	£250.00
QUANTUM 52MB	£270.00
QUANTUM 105MB	£349.00

MEMORY

For STFM & MEGA	
2/2.5MB	£89.00
1/2MB	£49.00
For STE	
1/2MB	£22.00
2MB	£69.00
4MB	£139.00

PERIPHERALS

Optical Mouse	£29.95
Golden Image Mouse	£14.95
Track Ball	£29.95
Track Ball (click & hold)	£39.95
Internal Power Supply for ST, STE & STF	£29.95
ST CLOCK with thru port	£14.95
GOLDEN IMAGE SCANNER	£149.00

ATARI ST SOFTWARE

ACCOUNTS

Sage Fin Control	£379.00
Small Business	£39.00
Cash Trader	£76.00

DATA BASE

Superbase Personal 2	£59.00
Superbase Pro	£169.00
Prodata	£55.00

MUSIC

C-LAB Notator	£399.00
C-LAB Creator	£249.00
Cubase	£449.00
Cubeat	£219.00
C-LAB AURA	£89.00
C-LAB MIDIA	£65.00
C-LAB ALPHA	£189.00

DTP

Pagestream V2.1	£149.00
Fleet St	£159.00
Calamus	£248.00
That Funface	£29.00
Time Works V2	£84.00

WORD PROCESSORS

That's Write	£29.00
1st Word +	£45.00
Calligrapher Pro	£110.00
Calligrapher Jnr	£65.00
Protect	£109.00

MISCELLANEOUS

Neo Desk 3	£28.00
Easy Draw 2	£34.00
Data Manager Pro	£29.00
Cyber Studio	£45.00
Cyber Control	£35.00
Cyber Paint	£45.00
Cyber Sculpt	£65.00
3D Developer	£15.00
1st Mail	£10.00
LDW Power	£89.00
Maps & Legends	£15.00
Datamap 1	£10.00
Datamap 2	£10.00

"THIS MONTHS SPECIALS"

Philips CM8833 MKII	£209.00
Atari Optical Mouse	£24.95

GASTEINER

Unit 3 Millmead Business Centre, Millmead Road, London N17.

Tel: 081 365 1151. Fax: 081 885 1953. Mon-Fri (9.30am-5.30pm) Sat (9am-2pm).

Credit Cards
Welcome

Personal Callers
Welcome

All prices correct when going to press

All prices inc VAT

Computer Shopper Show

Review by James Beswick

Well, another Christmas, another show. This time it was the Computer Shopper Show, at Wembley Exhibition Centre, in London, from the 5th to the 8th of December. Living only an hour or so away, I took a look at what was happening...

Generally speaking, the shows this year have been a little disappointing, with the companies using them as an excuse for a consumables price war. But, after over five hours, I left the show happy with the products I had bought, and with enough literature to start my own library!

Ticket prices were unreasonably high: £6 for adults and £4.50 for children. Then, on top of that, parking was an extra £6 on top. I'd already spent a fortune before I had even bought anything! As always, the Shopper Show Guide (£1) was an excellent tour-guide and was very comprehensive.

Whispers on ST territory

It was unfortunate to see the absence of new products supporting the ST market. While new, adventurous devices were being unveiled on the PC front, there was very little to amaze most ST users.

Perhaps the most exciting whisper I heard all day was from **Power Computing**. It seems that an upgraded version of the PC emulation package, *AT Once*, will be sailing its way from Germany for Christmas, stepping up from 286 to 386. Power are on 0234 843388 for more information.

I must have spent around half an hour playing with a game on the Apple Macintosh called *Spaceship Warlock*, which was stored on CD-ROM. The interesting part of CD-ROMs is that while they're extremely fast at reading in data, it's often the data transfer to the computer's memory which slows it down. I was talking to one of the representatives on the **Optech** stand, who said that while the ST can't be used with a CD-ROM at

present, they were testing a system which uses a PC emulator on the ST to access it. CD-ROMs aren't just for playing games - they have a whole world of uses, so they're worth watching out for...

Cash, cash, cash!!

Underneath, that's what all computer shows come down to - cash - for both the exhibitors and the visitors. There were, however, some huge discounts on some of the major hardware.

PC prices were dropping at an amazing rate - I was very tempted to buy one. Portable prices were also slashed, with some being reduced by £800. According to one exhibitor, some suppliers had dropped their prices so far, they were only making around £5 on some of the £1000+ machines.

It was the same on the ST. There were many good offers for those with the money to spend. External drives from £50; clock cartridges from £15; modems from £40. Some stands were offering half-meg memory expansions for the STE for as little as £10.

And now from the sublime...

The gadget of the day must be the *Wristpad*, costing around £5. If you're another typist who sits through an eternity of hell while typing, either hovering your hands over the keyboard or breaking your wrist bone on the desk edge, then this is for you. It's a sponge pad which sits in front of the computer.

In second place comes the *Mouse Stand*, costing £7.99. If you're severely short of desk space, and can't find a permanent home for your mouse, then you need one of

these. It fits over the ST, front and back, providing an area above the keyboard to use the mouse. Unfortunately, it's a little difficult to type with this on!

The modern of the day (by way of price) was the *Pocket Stradcom* from Valcom, costing only £40 (originally £90). This tiny portable modem (V21/22 only) runs either on mains AC or a 9V battery, and comes with comms software for the PC. I used the ST PD comms program, *Vanterm* instead. I think this is a great little modem, and well worth buying if you want to enter the comms (under)world.

The highly acclaimed bubblejet printer, the *Canon BJ-10e*, now has a successor, the *BJ10-ex*, which is Epson compatible and was selling for as little as £189. Full colour can

now be achieved on these printers thanks to **Inkman Inks** and their colour printing system. Call **System Insight** on 0707 276913 for more details - the results are fantastic.

...to the absolutely ridiculous!

Michel Lotito (or Mr. Mangetout, as he is known) ate a complete PC at the show, within four days. He has previously eaten a light aircraft amongst other machines, and is in the record books.

The next Shopper Show

The next Computer Shopper Show will be from 28th-31st May, 1992, at the National Hall, in London (Olympia).

The Bournemouth and Poole Atari User Group

will hold an "open evening" at the Kinson Community Centre, Pelhams Park, Millhams Road, Bournemouth at 7.45p.m. on Friday 6th March. The evening will cover a wide range of activities, both "serious" and leisure, and will feature a beginners' section especially aimed at those recent recruits to the ranks of ST/E owners who are interested in gaining some idea of the full potential of their machine. Other interests which form the core of the Group's activities will also be on show, including MIDI, Desktop Publishing, Digitising and Programming. Entry is free. For further details, contact Mike Hosking on (0202) 842147.

Offer
Extended
to 28 Feb

Save

£30.00

Redacteur 3

for just £89 (RRP £119)

If you place your order before 31/1/92
ST Club, 2 Broadway, Nottingham,
NG1 1PS Tel: 0602-410241

The Ultimate Virus Killer

THE ULTIMATE VIRUS KILLER
Version 5.3GB
Written by Richard Karsmakers

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

F1	Search'n'Destroy Viruses
F2	Repair Disks
F3	UVK 5.3 Information
F4	System Status
F5	Quit to Desktop

SAT 07.12.1991 11:07:23

Killer on the Loose

Computer viruses are just the stuff of magazine writer's hype, aren't they? That's right, until they strike on your system! But protection and survival is possible, and Peter Crush puts the latest incarnation of The Ultimate Virus Killer through its medical examination.

Every time you put a floppy disk into your ST, you run a risk of virus infection. Scaremongering, alarmist nonsense? Well, I was never too concerned about such matters until I had a couple of close encounters with those nasty little malignant characters. My first brush with them was via that embarrassing Cover Disk incident when a certain well known monthly ST magazine inadvertently included the unwanted added extra feature of a Virus. (To save painful reminders to the staff of the said publication, it shall remain nameless, but it wasn't *Format* or *Applications!*) The Little Green Goblins got onto quite a few of my disks before I realised that something was amiss, and they caused hassle but fortunately no serious loss of data. I had to

re-create my Boot disk from scratch, and re-format other disks affected. Ever since then I have religiously kept backups of anything important!

My second encounter with viruses was at a computer exhibition. I was chatting with Neil of Compo Software when a guy came over to the Stand waving a floppy disk and going on about some problem or other he was having with a program: could it be checked out? The first thing Neil O'Nions did was to check the disk with a virus detecting program, and - surprise surprise! - up came a warning that the disk was infected! Exit with undue haste one embarrassed punter. I wondered whether he was up to no good, and if he had toured around other exhibitors too. The lessons learnt

from this little episode were:
i) Compo were on the ball;
ii) I wasn't!

Bugged by Viruses

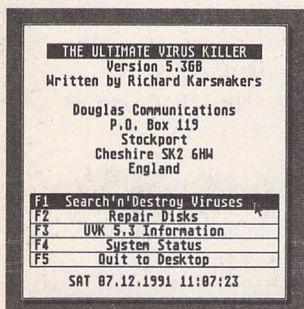
Since then, not a single disk has come into my possession without a Virus check being run on it using FCOPY3, which has this ability as one of its features. However, what I needed was something more specialised, but being no programmer, I didn't really want to hack my way about into Boot sectors, etc. I was aware of a number of Public Domain utilities dealing with detecting and protecting against computer viruses, but had reservations. Could these PD utilities be trusted, could they even spread viruses, how up-to-date were they, and where would you get help if they screwed things up?

The answer seemed to be Richard Karsmakers' Ultimate Virus Killer program. This started life as a PD program, but was then taken up by software company CRL, and was even distributed by The ST Club until recently. The program was known as Atari Virus Killer then. When CRL went bust, this arrangement ceased, and for a time the program had no distributor in the UK.

Enter Douglas Communications, who re-launched UVK by having a special demo version of it on the cover disk of ST FORMAT issue 26, and are now actively supporting and promoting it.

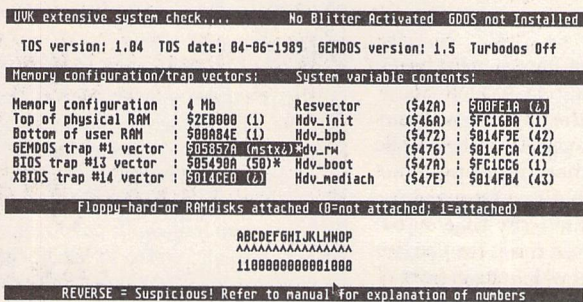
Diskinfectant

UVK comes supplied on a single sided floppy, making it usable on any ST, and although presented in an attractive plastic cased package, the manual is on disk. This makes some sense in that it runs to over 50 pages of A4 if printed out, and because the manual is ever expanding with information on new Viruses with each update of the program. Version 5.3 is the latest version reviewed here, and is simply run like any other application by double clicking on its Icon from the Desktop. It is recommended: 1) that you initially boot up your ST with the UVK disk, as this is guaranteed virus free and immunised; and 2) that you should keep the UVK disk permanently write-protected! (Sliding the little tab on your floppies so that you can see through the hole is the easiest way to prevent them becoming virus infected, assuming of course that they are free of infection to start with!) Reading



UVK's main menu box.

From here you can select any of the options by clicking on them with the mouse, or using the function keys.



No reset-proof programs in memory!

No Virus in Keyboard Processor!

Suspicious memory-resident applications are highlighted in reverse video, and your ST system gets a general once-over when you run UVK.



Hundreds of boot sectors from all manner of programs and disks are available within UVK, so that you can fix damaged ones after killing any viruses!

At-a-Glance Features of Ultimate Virus Killer v5.3

- ✓ Recognition of virtually all software that uses the disk bootsector
- ✓ Recognition of ALL known ST viruses - Bootsector and Link viruses
- ✓ Option to repair previously damaged boot sector software
- ✓ All harmless data on your disks remains 100% intact
- ✓ Immunizing of disks/files against bootsector and link viruses
- ✓ Option to repair damaged or destroyed Bios Parameter Blocks
- ✓ Automatic recognition of hard, floppy and RAMdisks attached
- ✓ Automatic recognition of any known viruses already system-resident
- ✓ Direct on-line, context-sensitive help screens accessible
- ✓ Automatic calculation of a "Virus Probability Factor"
- ✓ Fast scanning of a whole drive or partition for link viruses
- ✓ Option to save potential viruses to disk to have them analysed
- ✓ Extensive system check; specifies suspicious system variables
- ✓ Full compatibility with MEGA ST, MEGA STE, ST, STE, any ROM TOS and any known hard disk driver, with a minimum of 220 Kb free memory
- ✓ TT compatibility
- ✓ A 50+ page user manual
- ✓ Metados support

through the on-disk manual is a tiring exercise on-screen, and unless you have a laser printer, obtaining hardcopy will be a lengthy process. I used Mouse Tricks 2 with its excellent Read Text feature to scan through and print out the relevant bits, but what is really needed is a shortened "Quick Guide" to using the program.

Luckily, the software is completely menu driven at all stages, and these menus are fairly well designed (if somewhat liberally sprinkled with the off-beat humour you would expect from an international Virus hunter), so you can get going without reading the manual. The Main Menu screen of UVK gives a choice of five options, these and all subsequent options are selected by either clicking on them with the mouse pointer, using the named Function Key, or by using the cursor arrows and the Enter keys. Leaving aside the option which allows you to Quit the program, and the one which displays info on the Version number, etc., let's take a look at the other three main features.

System Status

This is a most useful feature, whereby UVK runs a check on your ST's system variables and memory contents. In fact the system check is automatically carried out first of all every time UVK is

run. This not only ascertains whether any bootsector virus is already present and detects any reset proof programs, but gives you a rundown of other information: TOS version, memory size, etc. Any "suspicious" system variables are shown highlighted in reverse video against their memory location addresses. UVK can recognise over seventy known applications which may show up on the System Status screen, programs such as Universal Item Selector, Maxidisk, DC Showit, etc. This will result in a Number (in brackets) appearing next to the relevant memory location on screen, the number corresponding to the application as listed in an Appendix in the manual. Each new application when "discovered" by UVK's author is added to those which can be detected as legitimate programs by UVK. There is a request that programmers send copies of their work to Richard Karsmakers for this purpose - he must have a wonderful collection of software! As you can see from the screen grab of the System Status check on my ST, a few highlighted lines show suspect system variables, resulting from starting up with my usual Boot disk. These are actually quite safe, but very new, "kosher" programs which are not as yet recognised. Details of these have been sent to Douglas Communications for future inclusion.

Search'n'Destroy Viruses

This invokes a search for viruses on any disk. You can specify which floppy drive to use and if you want to look for Boot sector or Link viruses, all via the Menu driven selection system. UVK "knows" 57 Boot viruses and 5 Link viruses, which are claimed to be all the known ones in existence. Searching for a Boot virus is very fast, and having made the check, a variety of messages is displayed on screen depending on the outcome. This can range from a "100% Safe" to an "ALERT" with the options to either write unknown Boot sectors to disk (so that Richard Karsmakers can examine them), or to destroy them. Searching for Link viruses can take a little longer as the program scans through each File on your disk, telling you what it's doing as it whizzes through. Before you destroy a virus there are plenty of warnings and chances to back-out at all stages of the process. "Destroying" a virus actually means deleting part of the Boot sector. The "virus" might just be a quite legitimate section of code from a program that UVK does not "know". If you destroy a harmless Boot sector, you may find that you have ruined your program and that the disk will not work! You will then need the next feature of UVK!

Repair Disks

This option enables you to repair the boot sectors of disks that may have been accidentally damaged

by trying to deal with viruses using UVK or other similar utilities. The boot sector repair data for 466 programs is supplied with UVK, and this is added to with each update. If the data you want is not present (boot sectors available are listed in the manual), a service is offered whereby you send in your program disk with as much information as possible regarding its source, and Richard will attempt to acquire the data and effect a repair for you. The cost of this service is the upgrade fee (currently £5.00) plus return postage costs for your disk. Apparently, software houses are quite co-operative in providing Boot sectors, as UVK is now well known and considered the "industry standard" ST virus utility. If no repair is possible, you get your money back, which seems fair enough. And there is no need to write to Holland any more, as all correspondence is handled by Douglas Communications.

Medical opinion

Does UVK live up to its name? The answer has to be a qualified Yes. It certainly detects and kills more Viruses than any other similar products available. To be quite unreasonably pernickety, "Ultimate" denotes a thing incapable of further improvement, and no software ever reaches that peak. However, it's a great name from a marketing point of view, and I wouldn't change it! To be fair to Richard Karsmakers, he is even now working on the next major update, which will allow the pro-

Vacuuming up those Goblins

The viruses that UVK can detect are all described in the Manual. Just out of interest here is the entry for the Green Goblins!

Virus #19

Name: Goblin Virus

Discovery date: April 3rd 1989 (Clive Duberley).

Virus can copy to drive(s): A or B (drive used by disk access call). Virus attaches itself to: Hdv_bpb and resvector; also non-documented reset-resistant.

Disks can be immunized against it: Yes (1A2.L \$27182818)

Immunizable with UVK: Yes.

What can happen: It puts the message "The Green Goblins Strike Again" on the screen; it can also mess up the display.

When does that happen? The message appears after 128 copies of itself have been made; the messing up of the display is done after 16 copies of itself have been made.

Resetproof: Yes.

Can copy to hard disk: No.

Remark: Probably made in England

gram to run as a Desk Accessory. And no doubt with its new distribution, UVK will get proper support and continue to develop.

In an ideal world, Richard would get together with Mike Mee, the programmer of Floppy-Shop's Professional Virus Killer, and George Woodside of Public Domain VKILL fame. Both are already graciously acknowledged in the manual's credits section. These and other Virus killing programs have some excellent aspects not found in UVK, e.g. the ability to examine and display disk data such as the number of tracks, sectors, etc., or alter the disk serial number. And wouldn't it be nice to be able to format a disk, or catalogue its contents from within UVK, without having to Quit to Desktop as at present! If professional pride could be swallowed, and the best ideas from other similar programs (and other users)

incorporated into UVK, it would benefit. An added "Disk Doctor" choice on the Main Menu could perhaps be an optional extra feature for those users who want to delve deeper.

My only other criticism is that such a good utility lacks a decent manual. The on-disk text is too long and detailed: leave it there but also provide an easy-to-digest set of instructions, please! The article by Neil Jackson in ST FORMAT issue 26 would make a good basis for this, as it includes an excellent step-by-step guide detailing how to physically check, disinfect and keep clean your disk collection. Such basic and commonsense advice is strangely completely lacking in the documentation of any of the programs mentioned here, not only UVK!

See ST APPLICATIONS issue 9 for a discussion of PVK and VKILL.

Points for:

- ✓ Easy to use, menu-driven user interface
- ✓ No technical knowledge assumed or needed
- ✓ Recognises more viruses than any other utility
- ✓ Regular updates will be available, good support

Points against:

- ✗ No printed manual supplied
- ✗ Could offer more for the technically minded

Conclusion

A Virus detecting and killing program should be in everybody's collection: you know it makes sense! The cheaper commercial and PD offerings have their good points, but UVK scores on the sheer number of virus it recognises and the good support it promises users. At £9.99 it's money well spent. The program could be even better though, and I look forward to seeing it develop and include more options for analysing and doctoring disks, and a "Beginners' Guide" manual.

Product:.....Ultimate Virus Killer
 Version:.....5.3
 Supplier:.....Douglas Communications
 PO Box 119
 Stockport
 Cheshire SK2 6HW
 United Kingdom
 Tel:.....061 456 9587
 Price:.....£9.99
 Manifest:.....s/s disk
 System:.....Any ST, Medium and High resolution

Note: Owners of CRL's "Atari Virus Killer" can upgrade to UVK 5.3 by returning their original program disk with £7.50. Upgrades of UVK will be produced every three months, and owners mailed with an upgrade option which will cost £5.00.

Micro Organisms

Computer Viruses are nothing more than small rogue programs hidden away on floppy disks by mischievous programmers with twisted minds. There are two main types of Virus, and things known as Anti-viruses!

- ✓ Boot Sector Viruses are hidden within the first place on disk that your ST looks, the "Boot" sector. They can create all kinds of problems, possibly wreaking havoc by destroying data or causing odd effects. They are destroyed by "zeroing" the boot sector, but this may also erase necessary data such as the Bios Parameter Block in software that legally uses this sector. Many innocent programs, especially games, do use the boot sector; UVK can recognise 917 of them.
- ✓ Link Viruses are more insidious, and like Boot sector viruses, once loaded into your computer Link viruses may reproduce themselves onto your other disks if these are not write protected. Sometimes link viruses will lie dormant until certain conditions are satisfied, e.g. a certain system date is reached, or the program has been run or reproduced a certain number of times, before they spring into action.
- ✓ Anti-Viruses are small programs that work just like "normal" viruses except they are supposed to cause no damage. Their purpose is to warn of the presence of an "executable" disk in the disk drive by flashing the screen or beeping etc. These are handy first aid measures; some are self copying onto other disks, some are not. Unless you put one onto your system yourself, you may not like the idea of these uncontrolled self-cloning virus-like programs; UVK can detect 32 of them.

Viruses are easily spread when users swap or distribute program disks. Although all reputable PD libraries and software houses do their own checks, unless you personally examine all new disks that come into your possession, you cannot be sure they are virus free. In fact no virus checking program can be absolutely foolproof - they can only detect known viruses, and a brand new one might not cause an alert. In practise, you can only take as much care as possible, and with large numbers of people using and therefore keeping UVK up-to-date, it is probably the best form of defence available.

RED ALERT DIAGNOSIS:

This disk is infected!
 It suffers from the
 Goblin Virus....
 You should repair it immediately!

F1 REPAIR!!

TUE 26.11.1991 20:47:55

Arrgh!! A virus! Quick, kill the blighter! This disk has been in a high security isolation area ever since detection - well, on the shelf, in fact...

File	Page	Parameter	Line	Text	Symbol	Din.	Hatch
NEW... ^N	Activate Layer @A	Fillet Radius... @R	✓ Solid @V	Text Height... @V	Load... @S	Point Dimension	Copy Outline
Load... ^L	Show Layer @E	Chamfer Width... @E	Long Dash @L	Text Angle... @L	Normal Definition	Manual Dimension	Hatching
Merge... ^M	Hide Layer @U	Chamfer Angle... @U	Short Dash @K	Line Spacing... @K	Fixed Definition	✓ Associative Dim.	Edit Outline
Save ^S	Delete Layer	✓ Both Elements	Point Dash @T	Underline	Rename... @R	Tolerance	Finish Editing
Save as... ^AS	Greyed Layer	First Element	2 Point Dash @Z	Italics	Delete... @D	✓ Leader Lines	Delete Outline
Plot File ^C	Page Information...	No Element	Point @P	Left Justified	Create Lib... ^E	Options...	Hatching Angle...
Autosave	Active Grid @R	Scaling... @M	Pen 1 @1	Centre Justified	Activate Lib... ^A		Hatching Spacing...
Save Settings	Visible Grid @I	2 - dimensional	Pen 2 @2	Right Justified	Optimize Lib...		Cross Hatching
Output Program ^O	Line Grid	Isometric	Pen 3 @3	✓ Single Line Text			
Metafile ^F	Grid Spacing...	Dimetric	Pen 4 @4	Multiple Line Text			
Ext. Program... ^P	Snap @F	X-Y-Z Axis...	Pen 5 @5	Text under Text			
Quit ^Q	Snap Radius...	Units...	Pen 6 @6	Change Font... ^Z			
			Pen 7 @7				
			Pen 8 @8				
			Thickness Visible				

Technobox Drafter/2

Joe Connor examines this mid-priced drafting package, the successor to the highly acclaimed Campus CAD originally released in 1988.

WHEN I first got involved with Atari-based CAD in 1988 it was a review of Campus CAD (in ST World, the good old days) that prompted me to buy a complete system. I loved the icons, and the output using a Star NB24/15 was excellent.

I quickly built up a wish list which was fulfilled with the release of DynaCADD in 1989 and I defected. Apparently, since then, Technobox has released CAD/1 and Drafter but I didn't even notice.

Anyway, Drafter V2.1 is now available in the UK and is a cut down version of Technobox CAD/2. (Only available in Germany for the ST/TT and IBM compatibles running Windows.)

During the last three years features have been added, revised and removed and the result is... Campus CAD, oops, I mean Drafter.

Open the box

Drafter is lavishly packaged and easy to get up and running. Hard disk owners can simply file copy the three disks in turn into a folder called TBDRAFT and then double click on TBDRAFT.PRG. A registration dialog box requesting personal data and serial number must be completed and then you're in: no dogle.

Closer inspection revealed the real improvements. Campus originally had 94 icons, many hidden away in sub icon menus. Drafter provides the same range of functions, without sub menus, in only 62 icons. This has been achieved by moving the symbol commands into a drop down menu and combining some copy, move and delete icons.

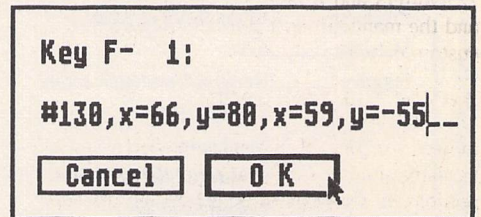
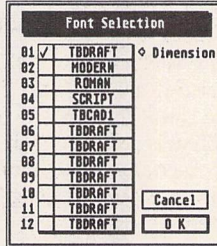
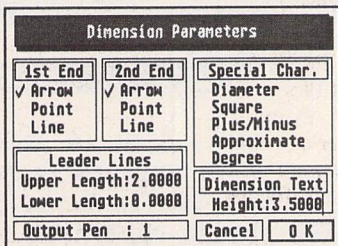
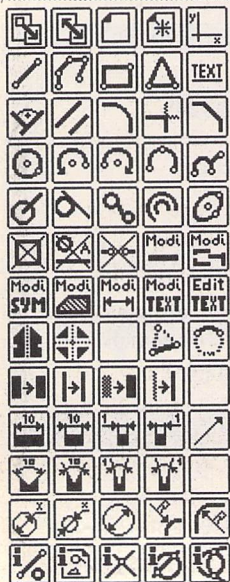
Extensive use is made of pop-up menus. Coordinates, parameters and commands can be entered directly from the keyboard by

typing the appropriate data into a pop-up command line. In fact the whole character of Drafter can be completely changed by turning the icon toolbox off and working directly from the keyboard, thus catering for iconophobes. A quick reference guide to the command numbers would be a useful addition as I was frequently thumbing the manual for the command numbers.

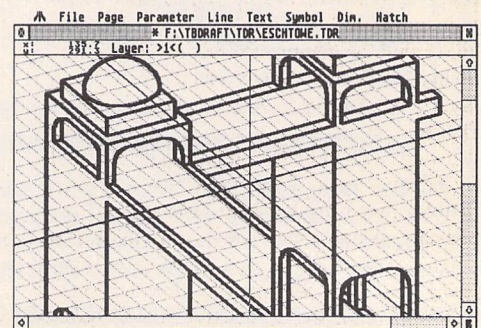
Drafter is the first Atari CAD package to provide associative dimensioning. This powerful option automatically updates the text of dimension elements that are rescaled using the move, copy or symbol commands. See figs 1-5.

Large screen colour and monochrome support has been provided, and Drafter performed perfectly in monochrome, at 1280x960 resolution on my MGEII/Eizo 6500 set-up.

Font handling is flexible: up to twelve fonts can be held in memory and mixed freely on



Left: no sub icons - what you see is what you get.
 Above left: no pretty icons to be found in the dialog boxes - serviceable but dull.
 Above right: the tick denotes the active font, the five fonts provided have all been loaded. It's a pity the text style is not previewed in this dialog box.
 Top right: the function keys can be assigned with frequently used command combinations; this example defines a part view of a drawing which can subsequently be accessed using the F1 key.
 Right: this Escher tower drawing shown could be constructed using the new user-defined grid with X and Y set at 15 & 140 degree lines.



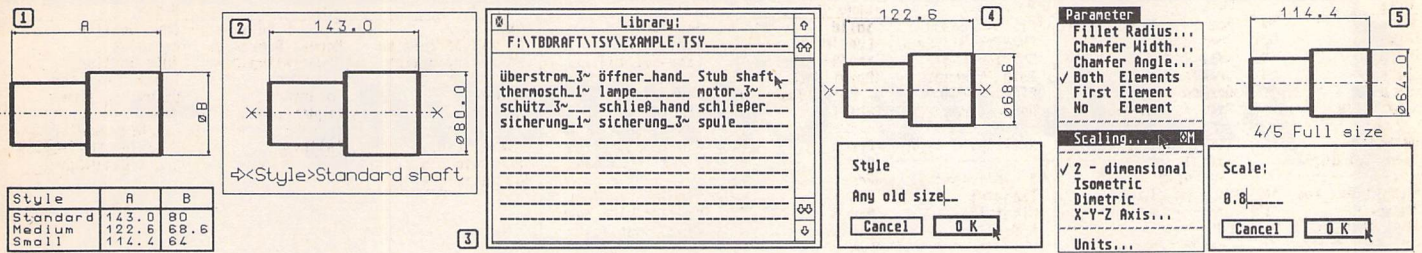


Fig 1: the power of the Symbol & Associative dimensioning functions in Drafter can be combined to replace the traditional form of tabulated drawing with individual drawings, involving very little extra effort.

Fig 2: the component is defined as a "normal" symbol by the rectangular frame, fixed and insert points (shown as Xs) and saved to disk called Stub shaft. The \rightarrow symbol and text between the $\langle \rangle$ marks denotes a special variable text label which can be edited next time the symbol is

inserted.

Fig 3: selecting Load from the Symbol drop down menu presents this Symbol dialog box enabling the desired Symbol to be located.

Fig 4: after selecting Stub shaft the fixed and insert points are located using the mouse or keyboard and the variable text edited as desired.

Fig 5: alternatively, an exact scale can be entered in the Scaling pop-up menu called from the Parameter drop down menu.

screen. A thoughtful 'text under text' option, in the text drop down menu, enables extra lines of text to be accurately positioned beneath existing text.

My favourite enhancement are the new snap grids. In addition to the usual X,Y grid the crosshairs and grid lines can be set at any angle, making the drawing of Isometric, Dimetric and other projections easier. It's an eerie feeling until your mind adjusts to the new axes; sadly the illusion is destroyed by the zoom, move and copy window which function as before.

Drafter joins the exclusive club of software able to take advantage of a maths coprocessor, if fitted. My excitement at the display "Floating point unit found", was quickly tempered by the sluggishness of the screen redraw. Tests confirmed the maths coprocessor only gives around 14% improvement on screen redraw and a maximum improvement of around 40% using some functions. (DynaCADD achieves across the board improvements of between 300 and 400%.)

Printing, plotting GEM Metafile, HPGL and Postscript output are performed from output modules which can run from within Drafter or from the desktop. Drivers for 27 printers, 12 plotters and 8 laser printers are included and the manual fully covers the creation of a custom driver.

Layer management

Layers are one of the most powerful tools available in any CAD package. They enable sections of drawings to be selectively turned on/off and assemblies of components to be built up within the same drawing. A workable range of commands should include the ability to freely move elements between layers, and in this area Drafter disappoints. Drafter treats each layer as a separate drawing, with only the active layer affected by edit functions. The level status line even doubles up to display help prompts and coordinate data; it cannot adequately manage a potential 9999 layers and easily overflows losing data. This arrangement does not compare well with the interactive dialog boxes

provided by any of its rivals. In contrast, options to grey out non-active layers and show line thicknesses on screen are both excellent.

Autosave functions are a dangerous tool in my hands. Murphy's law ensures that seconds after I make a stupid change to the design, autosave will back up the file and seconds before I realise my error the next autosave will consign the back up to 'never never land'. This does not happen with Drafter! The autosave uses a different file extension so that you can always revert to the last manually backed up version: I like it. Intervals up to 999 minutes can be set.

Growing pains

Campus had an excellent pan window function but Drafter omits this function.

Remember the intersection Info commands in Campus? After intersections are calculated and displayed in the status line they still have to be manually re-entered to use them. There was no circle/circle intersection command, but at least this has been added to Drafter.

According to the manual, ranges of Layers can be shown or hidden using the hyphen (-); this does not seem to work and makes layer management even more tedious.

An unfriendly utility, DXFTOTDR.TTP, is provided to convert .DXF format files to the native .TDR format. No option to export .DXF files is provided. This is a serious omission, especially when other software producers are encouraging a multi-format approach.

Running on a 1MB machine you must be careful not to delete too many elements as you will run out of memory earlier than you expect. A database sort function to free up wasted memory would cure this...

Summary

Points for:

- ✓ friendly GUI, associative dimensioning, autosave, no dangle, 1216 symbols in 6 libraries included.

Points against:

- ✗ limited snap tool only finds end and outline points, inflexible layering system, no .DXF export.

Conclusion:

Suitable for general drafting and educational use. The improved text handling capabilities should particularly please architectural drafters. Drafter does not attempt to directly compete with DynaCADD, presumably saving this challenge for its big brother CAD/2. Drafter should appeal to users who have outgrown their first CAD package and could fulfil the needs of many professional drafters.

Alternatives:

Read the CAD review in STA 14, which covers the alternatives in more detail.

These are: CADja (£199), DynaCADD (£650+VAT), GFA Draftplus 3 (£79.95), BeckerCAD (£99).

Product: Technobox Drafter
 Version: 2.1
 Distributor: ... Silica Systems
 Telephone: 081 309 1111
 Price: £199 including VAT and delivery.
 Manifest: 470-page, wide A5 ring-bound manual. 3 double-sided disks.
 System: 1 MB RAM minimum, mono monitor (or emulator). Large screen monochrome and colour support at 640x400 (or greater) resolution. Maths coprocessor support.

pLeisure Computing —

What is it?

Graham McMaster

What Does Atari Say?

A recent letter in Forum (Colin Kerr, STA 11) contained, in essence, the following plea: "I have an ST, I am not in business and I don't want to play games; what can I do with it?" The answer requires more than a sentence and is difficult to encapsulate in an advertising slogan. Perhaps that is why Atari were not too worried about giving the simple answer: "Play games"; and more recently: "Use it as an educational aid". The first is aimed at the very young (I assume) while the second seeks to involve parents via their anxiety about their children's education - a well known ploy adopted by generations of encyclopaedia salespersons. Neither really addresses the issue of serious (not to be confused with sober) pleasure use. Yet there is a large, affluent leisure group in the age range 40 - 60, who have never been exposed to computing as part of their education and who need to be attracted to it - both by manufacturers and enthusiasts like ourselves - by a clear set of interesting activities and welcoming organizations. That particular population will decrease with time because all who follow will have 'done' computing, in one form or another, at school, and in the process, if we are to believe Patrick Moore, they will have been disenchanted. (Patrick reckons that one of the most important factors that ensures a continuous supply of fresh, eager enthusiasts to Astronomy is the fact that Astronomy has never been taught in schools.)

Amateur and Professional Users

Question: what does the leisure/amateur astronomer do? Answer: the same as professional astronomers but with less expensive equipment. Just as we don't expect a Jodrell Bank in the back garden of an amateur astronomer, we don't expect to find a Cray on the kitchen table of a computing enthusiast. If you think the ST is a bit too humble to qualify even as "less expensive equipment", consider that as recently as 25 years ago a one megabyte computer would have cost a fortune and occupied a suite of air-conditioned rooms where it would have served the needs of a very large company or a university and the thought that any one individual should have exclusive use of it was so ridiculous it was never entertained. The only real difference between that machine and a 1040 ST is that the former was optimized for throughput, while the ST is optimized for ease of use. Viewed from that perspective and against the background of a comparison with Astronomy, perhaps the challenges and choices open to the enthusiast are becoming clearer.

I see no fundamental difference between the professional user and the pLeisure user with respect to the skills they deploy or the tools they use when they get to the computer. What the professional user brings to computing is a background knowledge of his/her own trade, business or profession and a set of problems that s/he has identified and for which s/he has developed solution methods that can be implemented only, or most conveniently, on a computer. Problems, in this context, can be relatively simple e.g. needing to write a report or prepare invoices, or very complex e.g. running a model of the British economy to predict the values of the main economic indicators twelve months ahead: no don't laugh, that really is what these poor souls

do for a living. Professional users are therefore driven to the computer, perhaps reluctantly, by the need to solve a problem. What novice enthusiasts bring to computing is a fresh curiosity and interest in what can be done with a computer and a desire to acquire the skills needed to use it, together with, and this is important, a belief or hope that while learning these skills, an interesting niche will be found in which the new skills can be applied. Pleasure users are therefore attracted to the computer with the hope of finding interesting problems to solve.

How To Become A pLeisure User

1. Attitude

It is important to come to terms with the fact that the time and effort involved bears no relation to the modest (relative) cost of the equipment. This is a fact that many find difficult to accept (just as it is difficult to accept that a printer may be more expensive than the computer), feeling intuitively that effort and cost should be commensurate. I would estimate that you are embarking on a one or possibly two year initial learning process. At the end of that period you should feel comfortable in all the main areas of microcomputing.

2. Equipment

Getting the right system from the beginning can greatly ease the learning process. In this respect many manufacturers do themselves a disservice by specifying minimum entry systems that are more likely to put you off computing rather than encourage you to take it further. For example, I would not describe a 520 ST with a single disc drive, a TV for a monitor and no printer, as a useful system. Television screens are designed to be viewed from across a room whereas a computer monitor is seldom more than two feet

away; the frustration of disc swapping with a single disc drive is a positive deterrent to doing anything that involves more than one disc; and without a printer there is little to show for an evening spent at the computer. I believe that a minimum useful system consists of a 1040 ST with twin floppy drives, a high resolution monochrome monitor (if you want to experiment with colour you can always plug in a TV) and a dot matrix printer (or any other that can also reproduce graphics). If you have any change from £1000, you probably bought too cheap a printer. That cost cannot be justified in terms of writing letters to friends and family or maintaining a database of friends' telephone numbers but it is justified by the overall programme being discussed.

3. Software

The four main applications areas in micro-computing are word processing, database management, graphics design and programming. Some might want to extend the list to include spreadsheets, desktop publishing and communications, but I believe the initial four are more fundamental and, in addition, whatever Atari may say in their advertising, most of their systems have always been supplied with software in those areas.

Working alone and learning to use these packages can be daunting and the question of what one actually does during this learning phase is still present. For example, what do you do with a word processor while learning to use it? Does one have to create endless screeds of nonsense in order to practise formatting documents? The answer, of course, is no. The learning process itself can be used positively. Document your progress. Write about what you are learning from the books and articles that you are reading. Import P.D. document files to practise on. Set up a database of useful references e.g. magazine articles that contain useful information that you may want to return to. Set up a database, and this is more difficult for reasons you will need to discover, of the contents of your discs. Initially this may seem silly but there will quickly come a time when your disc collection is so large that you will be thankful that you acquired the habit of keeping a catalogue.

With a graphics package, start by designing your own Christmas, birthday and party invitation cards. This is a useful strategy for convincing your partner, if you have one, that the money you spent on buying your computer is actually saving money. However, don't overdo the graphics artist bit or you could be asked to do

boring things such as designing knitting, lace and dress patterns and writing laser cutter drivers for shaping material.

There are two extreme attitudes to programming. There are those who shy away from any consideration of the subject, believing that it will be either too intellectually demanding or require a knowledge of complex mathematics. At the other extreme, and equally confused, are those who eagerly want to program in the belief that they will then automatically be endowed with an ability to solve problems or become mathematicians. Delimiting a problem area and deriving solutions is a difficult art: writing a program to implement a known (or given) solution method is relatively trivial and mechanical and does not require a knowledge of the original problem area. What programming requires is a certain discipline of thought and a certain attention to detail. Unless you specifically want to write a program that will implement some mathematical procedure, the only mathematics required is elementary arithmetic and an understanding that one number may be less than, equal to or greater than another number (not all at the same time).

Could This Be You?

Harry H was approaching 50 and had reached the top of his profession. There were no more challenges and he was bored. On the strength of an article he had read on pLeisure computing backed up by the recommendation of a friend who was a member of the British Computer Society (pLeisure section), he bought an Atari in order to discover how to use it and what could be done with it. The pLeisure section of the BCS had been set up in recognition of the contribution made to computing by the vast number of pLeisure users who had been enticed into the subject following Atari's assault on that market by selling an optional correspondence course with their systems.

While learning to use standard packages in the four main applications areas - a process made much easier by the magazine STA, which had started in the early nineties and was now the leading activity-based journal in microcomputing - he had become interested, as many have, in print quality and the fonts responsible for it. Consequently he returned to that area and bought a font editor and a book on typography. Having mastered the standard graphics package, he found the editor easy to use and quickly created his own character set which so pleased him that he sent it to a number of P.D. libraries where it created quite a stir and resulted in a deluge of letters.

Some of the correspondents were enquiring about more fonts while others were requesting some for their particular word processor. Harry set up a database of those who indicated a willingness to pay and enjoyed using his own font to reply to some of the more flattering letters. He had an idea for an entirely new typeface which he intended to create in normal, bold and italic forms and in a range of point sizes. The inspiration for the design had come from a book of knitting patterns which his wife had bought after he had neatly side-stepped her request to have some designed on the computer.

While working on the new face he also set out to discover the font file formats of other word processors and was surprised to find that they differed little and could easily be converted by a simple program. Harry completed his typeface, a universal file conversion program and a user guide describing the program and specifying the different file formats. The fonts and program he launched as shareware and held back the user guide for those who registered their use and sent a contribution. Soon he was spending up to two hours per evening just adding new names to his database of users. Their contributions enabled him to invest in more memory, a DTP package and a laser printer, all of which he would use to produce future user guides. So highly acclaimed was the typeface that Harry was elected a member of the BCS (pLeisure section), an honour which almost overwhelmed him because it had been earned.

The success of his first program prompted consideration of other file conversions: images and documents seemed prime candidates. The former proved easy but the latter were intractable. However, Harry hit on the idea that perhaps what was needed was a protocol which, if adhered to, would enable all applications to call each other's document and data files. He decided to float the idea in an article for STA to which he now contributed regular articles on font design and file conversion programs. The article provoked an immediate response from Atari who were in the process of setting up a working group to consider that very problem.

For six months Harry was a part-time member of the group and at the end of that time a protocol was published and eagerly adopted by all software developers. For this work Harry was elected to the Computing Standards section of the BCS, an event which finally persuaded him to give up his day job as Prime Minister and become a full-time professional computer user.

Sampling the Delights



Although the ST is *the* computer for the serious musician, its own internal sound is - how can I put this kindly? - crap. To get around this limitation, many games programmers started by-passing the ST's own sound generator by using samples. This is memory hungry and slows down the machine, but the results are well worth it. The sampling technology progressed over the years so that the ST now has full 16-bit samplers which can give CD quality sound. But only in mono.

Ta daaaaah! Please welcome the first of the new generation (no, not Star Trek), the Stereo Replay cartridge and software from Microdeal.

The package consists of both

hardware, which plugs into the ST's cartridge port, and software which comprises the sampling/editing software and a basic but workable song-making package.

The hardware is made up of 2 digital/analogue and 2 analogue/digital converters, basically devices which translate a continually changing audio signal into fixed and discrete computer-friendly bytes and back again. Two of each are necessary to get separate right and left channels for a stereo sample. The sound output can go directly to your monitor, but to get the highest resolutions, you need to connect the ST up to a hi-fi. Those of you with STEs, Mega STEs (both of you) and TTs get to use the phono outputs on your machines.

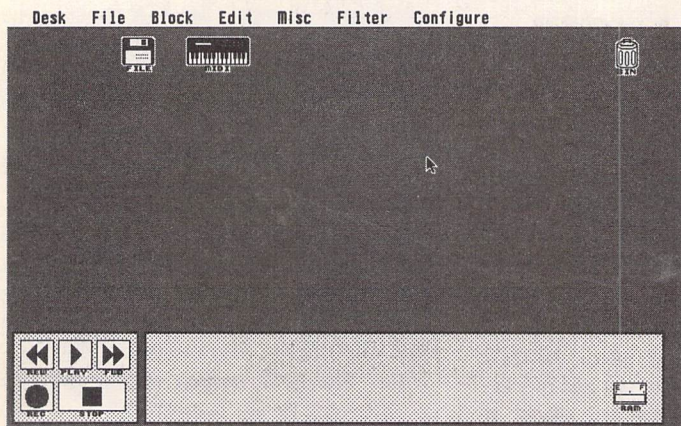
The hardware does not look even vaguely impressive, an L of grey plastic with four phone sockets (left and right audio in and out) and an edge connector. Sceptically, I plugged it in and proceeded to load the editor software.

A pleasantly laid out desktop appeared with three icons (a keyboard, a disc and a bin) along the top, tape controls at bottom left, a RAM gauge at bottom right (to show how much RAM you've got left) and between these two a series of editing icons. Uncluttered and fairly self-explanatory.

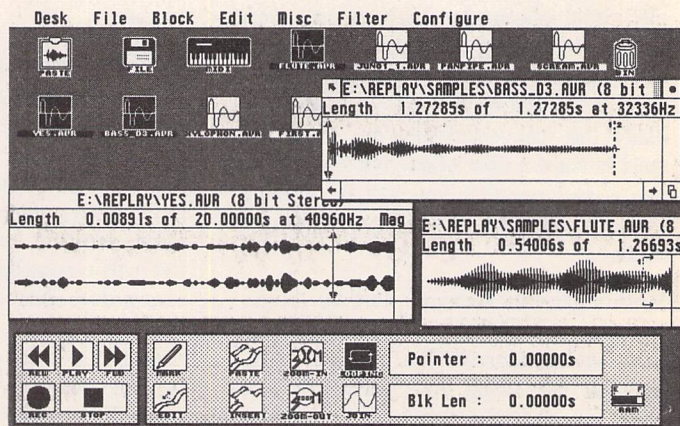
The disc icon allows you to load up any previously saved samples. These can be in a number of formats, 16-bit, 8-bit, mono or stereo. The package comes with a fair number of examples of 8-bit

mono sounds, most of which sound fairly naff on their own. Rather than judge the package on these, I thought that the best way forward would be to do some sampling of my own. Enter the CD player.

Somehow it seemed just to use a Yes CD to try out the capabilities of the program: their orchestral stabs are classics in the art of sample making. First, NEW SAMPLE was selected from the file menu, creating a new icon on the desktop for that sample; then the sampling frequency was set to 44Khz, the recording icon was pressed to set the sound levels, and a full 20 seconds of CD were captured on the ST. The length of sample is limited by the amount of memory you have and the type of sample you're making. A stereo



In the beginning...



...and about ten minutes later

sample will take up twice as much memory as a mono one, for instance.

Playback time. A true "is it real or is it Memorex?" moment. I hadn't been expecting much, particularly after listening to a couple of the demo samples, but Hallelujah! praise the Lord! I was converted. By listening closely, you could tell which was the sample, but a casual listener wouldn't know which was which when played back through an average quality amplifier.

Okay, I thought, the hardware's not bad, but surely the editing has to be like wrestling a greased ox into a submissive pose. Our audience said Errn Errrrrrn! This is some of the easiest software I've used for editing (and being an ex-pro musician, I've used a fair bit). The sample is shown in a normal GEM window, which can be resized and moved around however you want. The waveform can be shown either in outline, filled in or as an envelope. You can zoom in or out of specific areas, cut, copy and paste, mark, loop or join, all without getting into the advanced features available to this package. All you do is point and click.

To give some idea: if you want to cut out an area of the sample, you just highlight it with the mouse, click on the CUT icon and the selected area is removed. A new icon will appear on the desktop, a clipboard called "Paste". This will contain the area of the sample that you've just cut, and you can treat this just as if it were a normal file, with the exception that cutting is not allowed (since the clipboard's already full).

The desktop icons are a joy to use: if you want to save a sample to disc, you can just click on the

sample and drag it over the disc icon. Alternatively, you can use the menu or the keyboard shortcuts (of which there are many). Deleting the sample from memory is just a case of dragging its icon over the bin, all very simple, as it should be.

Markers can be put in at any point on the sample, and any two markers can be used for looping, where the section of the sample between the two selected marks is played endlessly until it's actually told to stop. When used properly, this gives a sample three distinct stages, attack, sustain (the looped portion) and decay. The art of the sustain loop is getting the start point and end point so well matched that you can't hear the join, a difficult procedure. The Replay software makes life easier for you by examining the start and end points you've marked and making small adjustments to get the best possible match. It will even allow for fading in of the beginning of the loop at the end of the loop, to make the join seamless.

And then there's the advanced stuff. A MIDI keyboard can be used to play back the samples. Effects such as pan, cross fade, echo, reverb and flange can be added (though not in real time), or you can completely reverse the sample so it plays backwards! Filters can be used to eliminate hiss or rumble, and the severity of their effects can be adjusted. To give some idea of how the sound is distributed across the audio spectrum, there's a 3D style graph which, if nothing else, can be very pretty.

For playing back the samples you've made up on the editor, there's Stereo beat, a three channel drum machine type sequencer

package which, despite its name and the fact that it comes with a Stereo sampler, does not play back stereo samples. What it does do is play back three channels of samples, one to the left, one to the right and one in the centre. This won't play back through a monitor, so you need the Stereo Replay cartridge to be connected in order to get any sound.

The overall effect is good. The demo song which comes with the program is reasonable and shows how samples which sound unimpressive when played on their own can have a reasonable presence in the context of a song.

Each song is made up of patterns, each pattern relying on using samples from the kit defined for that song. Editing patterns and changing kits is very simple, though not as user affectionate as the editor software.

So the software's good, the hardware seems to do the job, but I can't see exactly who this is aimed at. Not musicians, surely, since the average poor musician won't be able to afford to have two STs, one for sampling and one for sequencing, and the richer ones will go for industry standards like

the Akai series. How about the other end, the games programmer who just wants to be able to put some half-way decent sounds into their game? Yes, could be. There are modules with the package which show how to incorporate the samples with GFA, Hisoft and STOS BASICS. But you can't use the highest sampling resolutions through the monitor, so for that it's a bit of overkill.

The price is pretty good, though, at under £100, and at the moment there's no competition, so if you want to play around with stereo samples, this is currently your only option. If you can find some way of putting its features to work, it's a good, well thought out and well designed package that's a pleasure to use. Enjoy.

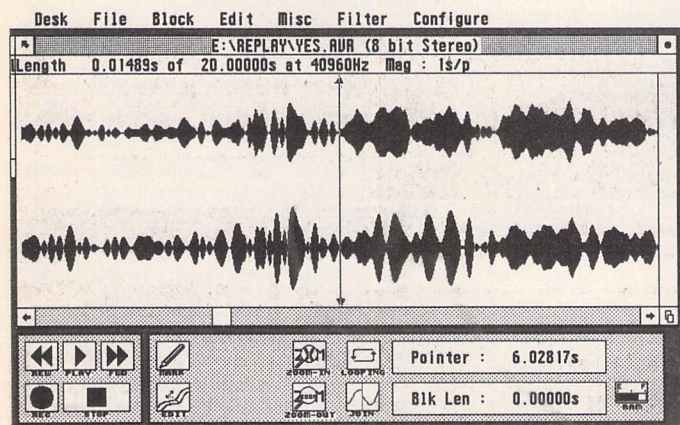
Pros:

- ✓ Good results, easy software, reasonable manual and price

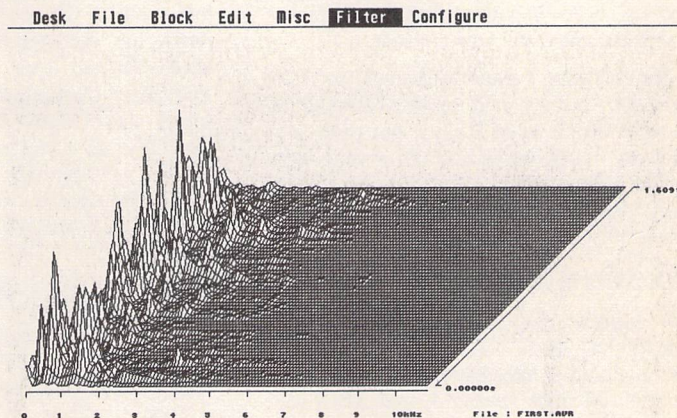
Cons:

- ✗ Cheap and flimsy looking cartridge, effects not in real time, can't use highest sampling frequencies without cartridge

Product:.....Stereo Replay
 Price:.....£89.95
 Supplier:.....Microdeal
 PO Box 68
 St. Austell
 Cornwall
 PL25 4YB
 Tel:.....0726 - 68020



Can anyone name this tune?



An FFT display or a well known ski resort?

HARD DISC LOCK-OUT:

A Case for **SUPERBOOT**

Graham McMaster looks at ways of solving the dreaded hard disc lock-out problem.

Auto-Booting Discs

If you have a hard disc drive, the chances are that, like me, you will have installed it to auto-boot, i.e. SHDRIVER.SYS (the Atari hard disc driver) will have been installed in the root directory of partition C, together with an AUTO folder, your set of Desk Accessories, an ASSIGN.SYS file (if you use GDOS) and a DESKTOP.INF. When the computer is switched on it now boots from the hard disc and the process is so much faster than booting from a floppy drive that it seems the obvious choice to make.

Have you ever wondered what would happen if one of those auto-loading programs should become corrupted (hard disc sectors do go bad from time to time) or if you added a new one the loading of which disrupted TOS? (The latter was my experience.) More important, have you considered how you would recover from the resultant 'freeze-reset-freeze' cycle? Do I hear you say "Boot from a floppy disc"? Would that be the disc you prepared for such an eventuality when the hard disc was first installed and which contains AHDI.PRG - the Atari Hard Disc Identification program? You do have such a disc, do you not? I press the point because having that disc to hand is the only item in this saga about which I can feel virtuous. However, as you will see, having a floppy boot disc is less important than knowing what it should contain and how to use it.

In the following I refer exclusively to Atari hard disc utilities and to the Megafile 60 because that is what I have, but discs supplied by other manufacturers should have similar utilities and it is even possible that all hard drive software can be used interchangeably with all hard discs.

Recovery The 'Easy' Way

The essential utility is AHDI.PRG which recognizes the existence of a hard drive; and the essential item of information that was missing from my Megafile manual is that AHDI can, and in this situation MUST, be run from the Desktop. Here is the procedure -

1. Switch everything off and wait a minute

or so. If you normally park the heads before switching off the hard disc, that will not be possible on this occasion.

2. With the exception of the hard drive, switch the system on in the usual sequence, booting from any floppy that does NOT have AHDI in an AUTO folder.
3. Turn the hard disc on and let it settle.
4. Run AHDI from the Desktop.
5. Install drive C manually and remove or disable the offending file(s).
6. Reboot the system.

I Did It My Way

I discovered that I had configured my floppy disc as a replica of the root directory of the hard disc with two exceptions: AHDI had been added to the AUTO folder and there was no hard disc driver (SHDRIVER.SYS). To boot from this disc, place it in drive A and reset the computer (or switch off and on as above but don't leave the hard disc switched off) and when the floppy drive busy light first comes on hold down the [ALTERNATE] key until it is clear that files are being loaded from it. What happens is that the system starts to boot from the floppy disc by running the programs in the AUTO folder but at the end of that phase, because AHDI has executed, TOS is aware of the hard disc and 'sees' the accessories on it. Thereafter the floppy is ignored and accessories are loaded from drive C. Consequently, since my rogue program was an accessory, I was back where I started. Booting in this way is only useful if the rogue program is in the AUTO folder of the hard disc.

Enter SUPERBOOT

In the midst of mentally composing scathing phrases to include in a letter to Atari and establishing that the ultimate fall-back position would be to re-format the drive, I remembered reading a comparison of Xboot and Superboot (STA 9), programs which are part of the boot process and allow

you to select the files to be loaded. By chance I had a copy of Superboot, but I had never used it.

Superboot consists of three programs, only two of which interact with the user. The configuration program need only be run once from the Desktop to create a data file that tells Superboot on which drives the various files (AUTO folder programs, accessories, *.INF, *.SYS and any others) are located. Superboot itself runs from the AUTO folder of the initial boot disc (e.g. drive A in the present situation) where it should be as close as possible to being the first program to run (AUTO folder programs run in the order in which they were placed there).

When Superboot executes it displays all files of the specified types on the specified drives and allows you manually to select individual programs to be disabled or enabled. At this stage it must 'see' the accessories on drive C which means that AHDI must run before Superboot. Consequently the order of programs in the AUTO folder should be - any fixes to the operating system, then AHDI, then Superboot followed by the other auto-programs. Booting the system with that configuration allowed me to disable the rogue accessory and to regain control of the hard disc without any loss of data.

Conclusion

Rare events such as installing a hard drive or recovering from lock-out should be either clearly documented or a natural extension of daily procedures. The Megafile manual deals well with installation, but with all references to AHDI locating it in an AUTO folder it is positively misleading with respect to lock-out which is not mentioned. By installing Superboot on the hard disc enabling and disabling autoprograms and accessories becomes part of the normal boot process and recovery from this type of lock-out is then quite painless. For that reason alone I would suggest that Superboot should be bundled with every hard disc drive.

SuperBoot is on ST Club disc UTI.156.

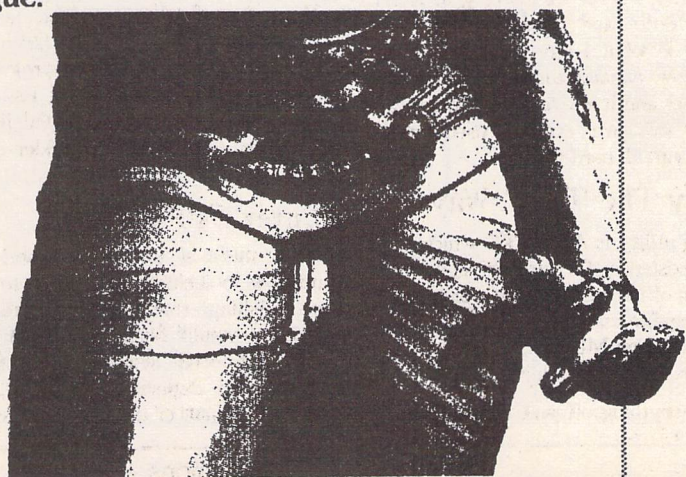
New fonts you can afford

Albanian Afrikaans
 Amharic Armenian
 Arabic Assamese
 Azerbaijani Bihari Byelorussian
 Chinese Chuangmiao Czech Danish
 Dzongkha
 English Esperanto
 Estonian Farsi Finnish French German
 Georgian Greek Gujarati
 Hebrew Hindi Hiragana
 Hungarian Icelandic Irish
 Italian Kanji Kashmiri
 Katekana Kazakh Khasi
 Kirghiz Kurdish Ladakhi
 Latvian Lithuanian
 Malaysian Manipuri Marathi
 Mizo Moldavian Mongolian
 Naga Nepali Norwegian Old Cyrillic
 Polish Portuguese Punjabi Pushto
 Rajasthani Russian Sanskrit Serbian
 Serbo-Croat Sindhi Slovene
 Slovak Spanish Swedish Tajik
 Tamil Tibetan Tigrinia Turkmen
 Uighur Ukrainian Urdu Uzbek
 Vedic Vietnamese

অবদ্যেগত ডিকম্পাগনসমূহ
 তথ্যসমূহ
 প্রাপ্য
 বিনামূল্যে
 প্রাপ্য
 প্রাপ্য

EFF Albert £7-50 EFF ARCADIA £7-50
 EFF Arcot Script £7-50 EFF Ben Set £9-95
 Ben Ben Bold £7-50 EFF Church £7-50
 EFF English Set 1 £19-95 English English Oblique
 English Bold English Bold Oblique
 EFF English Set 2 £19-95 English Light English Light Oblique
 English Ultra English Ultra Oblique
 EFF Euronarrow Set 1 £19-95 Euronarrow Euronarrow Oblique
 Euronarrow Bold Euronarrow Bold Oblique
 EFF Euronarrow Set 2 £19-95 Euronarrow Light Euronarrow Light Oblique
 Euronarrow Ultra Euronarrow Ultra Oblique
 EFF Eve Open £7-50 EFF Liz 7-50
 EFF Calamus Antiqua Set £9-95 Calamus Antiqua Calamus Antiqua Bold

You no longer need to break the bank to get the right text effect. We have these and many more professional quality fonts for Calamus, PageStream, GDOS, Thats Write, Write On, PostScript and Windows 3 together with all hardware and software for DTP and Design on STs and PC compatibles. Prices exclude VAT. Phone for complete catalogue.



Gate Seven Computers

Ltd 6A Gwendwr Road London W14 9BG ☎ 071-602 5186

Baby Brother

After the success of Hewlett Packard and Canon with their inkjet printers, other manufacturers are jumping on to the bandwagon.

Peter Crush looks at the latest arrival in the Brother family:

The Brother HJ-100 Inkjet

When Canon launched their BJ10e BubbleJet printer on an unsuspecting world in 1990, it's not clear whether they realised that it was to become such a winner. However, it now accounts for half of all portable printer sales, and has quickly become a very popular machine.

This is not really surprising in view of its excellent quality print output, a budget price and its almost unbelievable cuteness. Is there anything to rival it? Yes, there is: the HJ-100 printer from Brother!

It ain't heavy

At first sight, the Brother inkjet looks just like the Canon Bubblejet BJ-10e. Apart from the name on it, and the styling of the switches, the HJ-100 is suspiciously similar: even the model name has a 'lookalike' quality about it. I would bet that this machine is made by Canon for Brother, as the similarities are just too great for any other explanation, and the two machines are so compatible that the sheet feeder for a Canon clipped onto and functioned correctly with the Brother. The physical appearance of the Brother HJ-100 is more like a small portable computer than a printer, and having an A4 footprint and being only a couple of inches or so thick, it is easily accommodated on the most cluttered of desks. If you have the optional automatic sheetfeeder clipped on, you can stand the assembly up on its edge, where it will take up even less desk space as well as accommodating up to 30 sheets of paper. The Brother weighs in at only four and a half pounds even with the optional nicad battery pack in place, but is definitely not premature when it comes to performance.

Jet powered

Introductions over, how does the "otherjet" perform? Setting it up is very easy, just a matter of

slotting in the combined ink cartridge/ print head, and plugging in the (not supplied) parallel printer cable to the side of the machine. With the printer flat on its base, opening up the hinged lid provides a paper guide which will feed a sheet of A4 into place. Pressing one of the control buttons on the front panel feeds the paper into the correct starting place, other buttons enable you to select different fonts and character spacing, and go on/off line. Mains power is utilised by a small transformer complete with thirteen amp plug which provides a 9.5 volt direct current supply which connects to the printer via a generous length of cable. Alternatively, a custom nicad rechargeable power pack can be purchased as an optional extra, which fits inside the printer and allows it to be used anywhere. Printed output is superb. The Brother's 360x360 dpi resolution is particularly fine, theoretically beating the 300x300 dpi of the HP DeskJet. In practise there is little to choose between them for print quality, the Brother perhaps just having the edge on the DeskJet. In fact, when comparing the output of pure text only, it is almost impossible to distinguish between the output obtained on the Brother HJ-100 and a

Hewlett Packard LaserJet IIIP, which is probably one of the very best laser printers in terms of output quality, its Resolution Enhancement Technology smoothing all jagged edges. The time taken to print out an A4 page of text using Protex was one minute 23 seconds, timed from clicking on the "Print" button in the software to the finished sheet being ejected from the printer. Not blindingly fast, but silence is golden!

Baby Driver

Software support when the original BubbleJet was launched was very limited, in fact virtually non-existent. However, text output was obtainable from most WPs so long as you didn't want to access changes of font, proportional spacing or bold printing, etc., from within your software, but graphics or DTP programs were unable to output to it as no BubbleJet GDOS driver existed. Fortunately, the virtues of the printer were soon recognised and proper printer drivers are now provided for it in most of the major ST programs, e.g. First Word, Protex/Prodata, Write ON/That's Write, Calligrapher, Timeworks Publisher 2, and PageStream 2, and other software can use the printer in its IBM Proprinter mode. Unfortunately, it is not possible to output Italics when printing text. This option is not implemented on either the Canon or Brother printer, but if you use a graphics based WP or DTP program these will of course produce many styles or size of type, including italic. This omission is rectified in the latest version of Canon's BubbleJet, the BJ-10ex, which has inbuilt Epson emulation as an added feature, enabling Italic printing of characters. It remains to be seen if any subsequent version of the Brother machine will include this extra emulation as well, which ought to be a reasonably easy-to-add feature. Although no mention is made in any of Brother's literature of the compatibility between their machine and the original Bubble-

How the HJ-100 inkjet printer works

In complete contrast to dot matrix or daisywheel printers, which work by the impact of a mechanical print-head hammering through a film or carbon ribbon to produce their characters, inkjet printers squirt minute blobs of ink from their print-heads onto the paper. The print-head on the HJ-100 has sixty-four little nozzles capable of puffing out such blobs, and it does not ever come into direct contact with the paper, therefore producing no impact noise or vibration. The ink is squirted out of the nozzles by its own expansion when it is heated by electrical elements in the print-head, and the print-head and ink reservoir is all contained in one small disposable plastic container. These cost about £15 to £20 depending on the supplier, and the spirit-based ink they contain will print a claimed 450 pages of text before running out. In Draft mode only half of the nozzles are used, resulting in a most acceptable and clear grey-coloured text rather than the startlingly black output of Letter Quality print. There is no increase in speed when you use Draft mode: you just save ink!

Jet, rest assured that any software with a Canon bubblejet driver will work OK with the HJ-100.

Silent Order

One major "plus" for the HJ-100 is its quietness of operation - once you have heard it printing, anything else sounds far too noisy. Dot matrix printers make a terrible racket, and deserve to be pushing up the daisy wheels when it comes to home use. Even laser printers are far from silent with their constant fan noise which is annoying rather than noisy, and the "clear for take off" wind-up of their engines prior to printing puts you in mind of Stansted airport! No such problems with the Brother: after the Hewlett Packard Paintjet colour inkjet printer which is uncannily quiet, the HJ-100 is the most silent printer you could ever wish to hear! You can use it in the same room that your TV is in without spoiling the family's enjoyment of Neighbours. And when it's not actually printing, there is no noise at all, and no heavy power consumption as there is with laser printers when they are in standby mode. Whether or not you coexist with your ST and the rest of the family, or are lucky enough to hide yourself away in a study with your computer, the HJ-100's quiet operation will be a boon, and really is the icing on the cake. The HJ-100 performs

so well in all other respects that it demands your urgent attention if you are in the market for a modern printing machine, and it is already available for much less than the "official" quoted price below.

Conclusion

Points For:

- ✓ Excellent print output
- ✓ quiet
- ✓ extremely compact and portable
- ✓ user friendly and moderately priced

Points Against:

- ✗ Sheetfeeder is an extra £50 or so
- ✗ HJ-100 is perhaps a little light-weight for heavier office or business use

Product:.....Brother HJ-100
Machine:.....All STs
Price:.....£345 plus VAT
From:.....Brother Business
Machines
Contact:.....061 330 6531

Brother HJ-100 Technical Details

Appearance: Creamy grey plastic case tones in well with ST's finish.

Dimensions: 310 x 216 x 48mm approx. Weight 1.8Kg approx.

Interface: Standard Centronics Parallel printer interface.

Print speed: 83 characters per second in both Draft and LQ mode 10cpi.

Print Width: Maximum print width 203mm (eight inches).

Printing Method: Non-impact thermal ink jet, prints onto plain paper.

Paper Handling: 52 to 105 g/m paper in B5, A4, Letter and Legal.

Ink Life: 700,000 characters in LQ mode, 1.4 million chars. in Draft.

Fonts: Inbuilt Courier and Prestige Elite fonts.

Pitch: Total four pitches - 10, 12 & 17cpi and Proportional spacing.

Power Source: Supplied with AC adaptor, optional nicad powerpack.

Printer Emulations: IBM Proprinter X24E, Canon BJ-10e.

Buffer: 37Kb Max. Input data buffer, 34Kb Max. Download buffer.

Paper Handling: Friction feed, optional Automatic sheet feeder.

Graphic Resolution: 60dpi to 360dpi.

ATARI BUSINESS CENTRE

Advice - Backup - Care

SM125 high res monitors.	£99.95
Calligrapher, C-Font & ABC Typestyles.	£229.95
Compo C-Font & ABC Typestyles.	£99.95

C-Font will generate GEM format screen & printer fonts from Calamus font files.

Phone us for details of Calamus SL!

Mega STE now available! Call now for prices.

STacy 4, 4Mb RAM, 40Mb Hard Drive £850.00

Full range of quality hard drives from Protar

ABC Pro-fonts for Calamus.

Please contact us for any details concerning the Atari ST/TT range, associated hardware, and all serious software.

All prices include VAT but exclude carriage.

THE ATARI BUSINESS CENTRE
WELBECK HOUSE - 69 LOUGHBOROUGH ROAD
WEST BRIDGFORD - NOTTINGHAM NG2 7LA
TELEPHONE (0602) 810009



ImageArt
19 BREMBA ROAD
081 767 4761
TOOTING BEC
SW17 7DD

ATARI ST/PC
DTP/GRAPHICS RESOURCE

Extensive PD. Image Library
Over 200 PD. Calamus Fonts
Many PD. Type 1 Postscript Fonts
(for use with Pagestream 2.0)

A Selection of Shareware/PD Software from around the World
Astro DTP Disc inc Calamus and Pagestream Astro Fonts!
Jet Dump 2.03 colour printing utility for Intergrex/Canon Inkjets

FOR FULL CATALOGUE SEND £1.50
(redeemable against purchase)

New London-based Calamus DTP Bureau

- * A4/A3 film/bromide output 600-2540 dpi
- * Complete professionally-run bureau service
- * Typesetting/artwork/scanning also available
- * Fast modem link for rush work
- * Weekend turnaround available

Sumner Type, Unit 19, 80 Sumner Road, London SE15 6LA
Phone: 071-703 4189 Fax: 071-703 5754

Answer Back Junior Quiz

Review by Paul Bocij

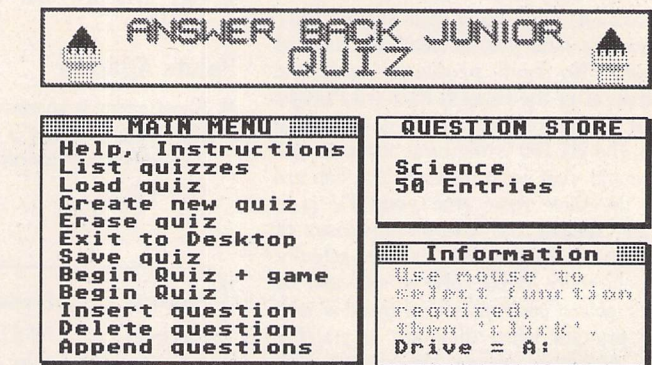
The style of an educational review differs from the conventional format in a number of ways. An educational program has a specific purpose. A review should be hinged on just how well the program fulfills that purpose, not only on how pretty it looks or how well it plays. Gameplay and presentation are important, of course, but these are only peripheral aspects. The review of any educational program should be a critical one, that is, an evaluation of design and implementation. Whenever I review an educational program, I will be taking particular notice of these points in order to give a truer idea of the worth of the program being reviewed.

Answer Back Junior Quiz is an almost flawless example of good design in educational programming. Briefly, the program is aimed at 6 to 11 year-olds and is complete with 15 different sets of questions - a total of 750 - on the disk. The question sets cover a number of specific subjects, ranging from Nature to Spelling, and are pitched at a variety of difficulty levels.

Once a quiz has been loaded from disk, a range of questions may be selected according to individual tastes and requirements. Any range of questions may be specified and the program may be instructed to ask the questions either sequentially or at random. The way in which answers are recorded may also be set in a number of ways: complete the answer, true or false, multiple choice or a random selection of all methods.

All input is performed via the keyboard. As the program is aimed at children above the age of 6, and possibly as old as 11, this is perfectly acceptable. In an average school, a child of 11 would have been working with computers on a regular basis for as long as 5 years. A child with even limited keyboard experience will find the program simple to operate, particularly in view of the higher level of dexterity typically exhibited by children of this age.

If desired, a simple arcade element may be included as part



© Kosmos Software Limited 1989 V1.0

The main game screen displays all of the options currently available. Note that as well as creating a new quiz, the program allows an existing one to be amended at will.

of the quiz. When enabled, the game is activated whenever a child answers a question correctly. The game concerns a Dreadful Dragon (sic) who is intent on devouring a princess. The aim of the game is to manoeuvre a hot air balloon directly above the dragon's nose and then to drop a sandbag on it.

Although the game is very basic, it does have a number of important functions, even though they might not at first be obvious. For example, the hot air balloon is positioned using the mouse and a sandbag is dropped by pressing a mouse button. This helps a child gain experience with the mouse, improves coordination and breaks up the learning activity into a number of short stages.

The program's user interface is entirely menu driven and very easy to use. A number of comprehensive help files are available directly from the main program screen and may also be printed out via the desktop. These files constitute the

majority of the program's documentation - no printed manual accompanies it. Having said that, the program requires little in the way of formal instructions because of the skill which has been used in its design.

One of the most important features of the program is the fact that it is almost infinitely expandable. Not only are further question disks available, but the program also includes the facility to create your own. For parents and teachers, this is an excellent bonus as the quiz may be tailored to suit individual needs in almost any subject area - and all without any extra expense. Other notable features include a simple reporting facility and a child's help function.

I would have preferred to have seen a better report facility and a set of dedicated notes for teachers, but overall Answer Back Junior Quiz is certainly the best in its field and extremely good value for money. A Senior version also exists for older children.

Summary

Points for: Comprehensive, simple to use, easily customised and expanded.

Points against: Poor reporting facilities, no formal manual.

Conclusion: Even though there is little competition in this area, Kosmos has produced a professional program that is suitable for almost any child at any level.

Alternatives: No real commercial competitors. Two PD alternatives are available widely. One of them is "Quiz" (mono, but okay with the Mono Emulator) on the ST Club's disk EDD*03, but this is aimed at more mature students as a study aid.

The other, "Quiz Kit", will shortly be available as shareware and is quite similar in appearance, but it does have its limitations.

```
Brain Strainers
Start at question      1
End at question        1
```

```
RESULTS
Attempt number        1
PASS key used         0
Questions correct     1
Questions incorrect   0
```

Press P to print or Return to continue

Create new quiz Question 1

```
Q How large is the STE palette?
  4,096 Colours
x  512 Colours
x  16 Colours
x  256 Colours
```

```
Information
Enter the next incorrect answer
or Return to leave blank.
F1 F2 F3 F4 F5 F6 F7 F8*
```

Although the program report does not echo incorrectly answered questions to the screen or printer, it does record how many questions have been 'passed'. However, the statistics that are displayed give an overall view of how well the child has performed.

Producing a new quiz from within the program is as easy as typing in a few lines of text. The bottom lines of the screen show which special characters are available via the function keys.

Product:.....Answer Back
Junior Quiz
Version:.....1.0
Publisher:.....Kosmos Software Ltd
1 Pilgrims' Close
Harlington
Dunstable
Bedfordshire
LU5 6LX
Tel:.....(05255) 3942/5406
Price:.....£19.95
Manifest:.....1 disk, instruction card
Accessories:.....14 additional question
disks containing 500
questions (20 topics x
25 questions), priced at
£9.95 each.
System:.....Any ST model, except
for mono-only
systems.

Z-80 CROSS ASSEMBLER

A fully integrated GEM-based development system for the ATARI ST



Full screen editor, macro assembler, linker, and RS232 comms facilities to download Intel Hex or object code.

£ 49.95
incl VAT
incl P&P

❖ Comprehensive manual

This fast, 2-pass, assembler accepts the full range of directives & commands. It features conditional assembly, source file inclusion, and supports extensive error reporting. It produces executable code, linkable code, or Intel Hex.

❖ Full installation details

There is also a stand-alone .TTP command line version that allows assembly of source code modules directly from the GEM desktop or from a MAKE utility such as our MAKEST (£19.95)

❖ Source code examples

The RS232 Comms is fully configurable and can initialise external devices (EPROM programmers) by the use of command strings

ATARI ST

tel: 0908-615104

D&S Software PO Box 908, Newport Pagnell, MK16 8YJ

Only **£2.94** each!

Quillfonts

Professional Designer Fonts

(you can REALLY afford!!)

Our new catalogue of 200 high quality Calamus display fonts can be got by sending £1 to the address below (redeemable against purchase). Min. order 4 fonts.

VIRTUAL IMAGE PUBLISHING

Virtual Image Publishing Services
1 Hillcrest Court Shoot-Up-Hill London NW2 3PG

Megamax Laser DB

Les Kneeling reviews LaserDB, a source level debugger for use with Megamax Laser C. It allows you to step through your source code line by line and see the program executing at the same time. This sounds like a phenomenally easy way to sort out bugs in your programs - but does it do what you want?

Debuggers work by adding extra information into the code being debugged both at the compile and link stages. This information is later used by the debugger to associate the code being executed with the line of source code that generated it.

Obviously the compiler and linker have to be designed to produce this kind of information and LaserDB will only work with version 2.0 or higher of Laser C. This was something of a problem for me because I bought a very early copy of Megamax C in 1986 when it was being imported by a company called AS&T in Southend. They provided support through the upgrade to Laser C version 1, but when I tried to contact them about version 2 they didn't answer the 'phone or my letters. As a last hope I wrote to Megamax direct and they offered to supply me with the necessary upgrade for the princely sum of \$5. At the same time I purchased LaserDB from them at the American price, which as usual was much lower than in the UK.

Incidentally, Version 2 of the development system has a number of improvements. The resource construction program can now cope with RSC files up to 64K long, and can produce C source code for inclusion in the program itself. There is now support for TOS 1.4 and various bugs have been ironed out. (I must confess that I hadn't noticed them.) More importantly, the shell has additional items in the 'Execute' menu to allow the debugger to be called.

In use

The Megamax shell allows a simple program to be compiled, linked and run simply by clicking on the Run item in the Execute menu. Version 2 also has a selection for 'Run/Debug'.

Selecting this option shows the usual STUDIO window for the compile and link stages. The screen clears completely as LaserDB starts to run and a dialog box shows the default settings - the current program name and that of the source code should be used. Hitting return 'starts' the program. The main debugger screen comprises of four windows called Watches, Source, Expressions and Stack - more of these later.

The program being debugged grows considerably. For example, a program I am currently working on compiles to 42817 bytes. Incorporating the debugger information into it increases the size to 131511 bytes. Where the available space becomes a problem there are two solutions. First, the debugger can be run outside the development system. Second, the debugger information need only be included in the sections of the program you are interested in. The compile dialog now has a button marked '-Z LaserDB information'. This means that it is pos-

sible to compile files with and without debugger information. Of course, they have to be linked with the debugger option selected. The program I mentioned earlier is made up from six source files. Debugging just one section reduces the size to as little as 60510 bytes.

LaserDB maintains a configuration file so that it remembers which file you loaded last time you used the program and which directory the source code was stored in - an excellent feature which would be nice to have in the main shell.

Source Window

The source window shows the original C source code. Hitting return steps to the next line of code. Between lines the screen display switches to the program output. This happens almost instantaneously and if there is nothing to slow things down the screen just flickers for a fraction of a second. If something is written to the screen or user interaction is expected the program output screen will be shown until it is finished.

It is also possible to trace through the program - it will execute the statements in turn, switching between the two screens as it goes. This can be quite hard on the eyes. To minimise the amount of flickering that you have to watch it is possible to set breakpoints in the code and execute the program normally until it comes to the part you are interested in.

Watches Window

The debugger can be set to keep an eye on variables and to report when they contain a certain value. This will only be reported when the debugger screen is visible. It is not possible to run the program normally until a variable reaches a certain value and then switch back to the debugger screen: the flickering trace mode has to be used.

Expressions Window

This window can be used to find out what value is contained by a variable at the current point in the program. It is also possible to carry out calculations - hence the name Expressions.

Regs. Window

In fact this window can have one of two functions - either to show the current state of the 68000 registers or to show the Stack. If you are not interested in either it can be switched off to make more room for the other three windows.

To help follow the progress of a program, a journal of the last 100 lines of code executed is kept, and a list of calls to functions is kept, showing the values passed in the calls. In fact there are many more functions in the package than I could possibly mention here.

User interface

Although the windows used by LaserDB look like the normal GEM variety, they are entirely generated by the program leaving the GEM windows for the program being debugged. No desk accessories are available here either, because the menu bar is not produced by GEM.

The debugger also disables other functions and patches which normally run quite happily in the Laser development system - the Quick Mouse

accelerator program that I use is disabled inside the debugger although it resumes operation outside it. The Alt-Help key combination usually used for screen dumps is used for another purpose in the debugger, so these are not available either.

Unfortunately the debugger does not take care of mouse visibility. My programs have a marked tendency to mess up the nesting of calls to graf_mouse() when they go wrong in the debugger. This means that the mouse leaves tracks in the drop down menus until I go back to the desktop and restart Laser.

There are signs of the Unix heritage in the search routines, using ^ to signify the start of a line and \$ for the end as in those ubiquitous programs 'VI' and 'Grep'. Unix is extremely unfriendly and it would be nice to see less of its influence in ST software.

The Manual

I found the Laser C manual to be of reasonable quality and well presented, apart from the fact that it is perfect bound. This is not ideal for manuals - mine has now fallen into about a dozen pieces. It does have the feel of documentation produced by a programmer but this seems to be the norm in ST software. I expected the LaserDB offering to be of the same quality. It is 80 pages long and spiral bound which looked like a promising start. Unfortunately, although it appears on the surface to be well laid out, the contents are less than satisfactory.

A great deal of time is spent explaining what is meant when they say 'click' and how to use the slider in a window. This is also covered at great length in the Laser C manual and since you must already have Laser C to make use of the source-level debugger, why waste space on covering it again?

The basic facilities of the debugger are covered in fairly minimal detail and a sample session with the debugger is detailed. Unfortunately, the sample session runs through a program which works perfectly. There is no guidance on how to use the debugger to find bugs efficiently. Much is made of GEM symbols and predeclared variables, but no explanation is provided to show why these should be of interest. There is no explanation of messages generated by the debugger, for example when a bus error occurs. In this case the debugger moves the cursor to the end of the file and reports the details of the error at the bottom of the screen like this:

```
Bus Error R/W:1 L/N:0 FC:1 at 00000001
[B019]
```

It is not possible to tell which statement caused the error.

Finally

It would seem that I am not the person that Megamax had in mind when they developed LaserDB. All I wanted to do was to be able to run a program until it fell over and then ask the debugger why. Between buying my first copy of Megamax and LaserDB becoming available I had become accustomed to putting diagnostic dialog boxes, printf statements and getchars into my programs to follow their progress. It seems to me that LaserDB allows me to do little more than this - it is even debatable whether it is more convenient than modifying the code because it takes so long to compile, link, load LaserDB and run the tests.

Since LaserDB offers much the same facilities as other debuggers I have tried more recently, it appears that the question you should ask yourself before buying any of them is whether you need one at all. Try one before you buy it.

Megamax Inc.,

Box 851521, Richardson, Texas, U.S.A.

Tel: (214) 699-7400

Geerdes D70 Softworkstation

OVER the last few months I have been looking at Steinberg's MROS multi-tasking MIDI environment. Recently, I have come across a curious concept from Geerdes, a Berlin based software house, claiming to offer MIDI multi-tasking for a 1Mbyte ST, requiring no key expanders or any other hardware add-ons, definitely an idea worth further investigation. Newtronic, the UK distributor, were kind enough to lend me one of their programs for review, and have also provided us with demo versions of many other programs from their catalogue. These should be available from the ST Club by the time this copy of ST Applications reaches you.

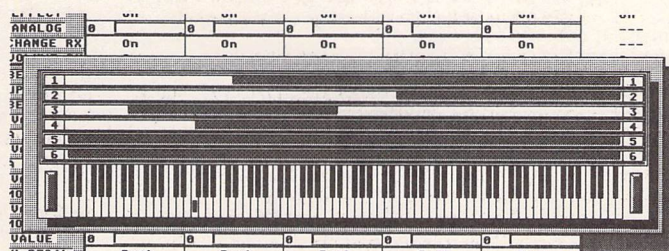
Overview

The preview package consisted of a floppy disk, a 100-page A5 manual, and a copyright protection key which must be inserted into the ST's cartridge slot before powering up.

On the disk are three programs - D70.PRG, the editor and librarian for the Roland D70 synthesizer, D70SWS.PRG, the multi-tasking version of the same, which loads 1ST Track, a 24-track MIDI sequencer on top of the editor, and a small utility program called Pack: more about this later. There are also folders that contain the data files and the default library, a replica of the factory presets of the D70. As the program is in effect two separate programs, written by two different authors, I will dedicate the first part of this review to the editor/librarian which was written by Michael Kahlert.

On loading, the program tries to find the D70's unit number. If it fails you can retry, quit or continue. Then you are given four choices - receive data from D70, load banks from disk and send to D70, initialise both computer and

*Ofir Gal looks at a unique offering from Newtronic
UK: Geerdes MIDI Systems' multi-tasking D70
editor/librarian and MIDI sequencer.*



D70 internal memory or direct entry. The first three options are recommended, as they use what Geerdes call ICH (Intelligent Combination Handling) which makes sure data on computer always corresponds to data on D70.

The Manager Page

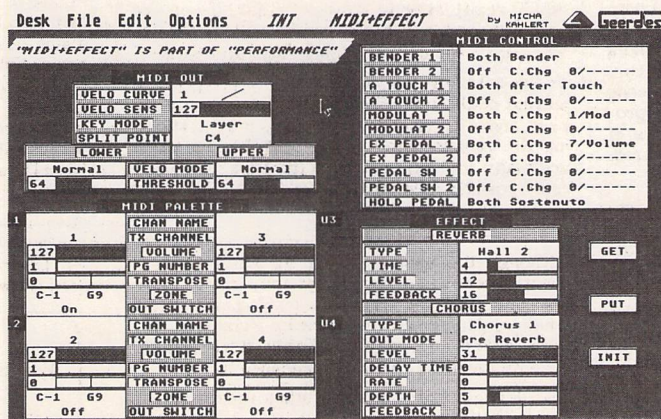
Once data has been loaded you enter the Manager page which can be divided into three main sections - the internal banks, the stack (buffer), and the library.

The Manager can alternatively display performances, patches, tones or rhythm setups. These can be moved around between the three sections, allowing

the creation of customised banks. It is also possible to access RAM cards and waveform ROM cards, if you have any. The ICH makes sure that moving a performance, for example, carries its 'children' - the five patches, and the tones that make up those patches, etc.

There are extensive copying facilities, as well as swapping of items around a bank, renaming and deleting. The results of an editing session are kept in the stack by clicking on the 'Put' button which is available in all editing pages, to be copied later to the library or the bank. The stack can hold a whole D70 bank and 9 additional rhythm setups. I hope Roland are watching - the D70

'Effects' is really a part of 'Performance' but gets a separate page owing to its large number of parameters.



offers extensive editing of drum sounds but only one memory location for a rhythm setup, discouraging users from experimenting with the drum setup. The SY77, for example, does not differentiate drum setups from normal voices, therefore allowing up to 128 drum setups on RAM.

Library items can be coded rather cleverly. The idea is somewhat similar to the ST's folders within folders, but much more flexible, allowing items to reside in more than one folder. A Hammond organ patch can be in a Hammond folder which in turn can be in an Organs folder, which can reside in a Keyboards folder. The library can hold up to 1000 performances, 1000 patches, 2000 tones and 100 rhythm setups. There are several ways to make searches in the library quicker: you can look for items by the use of a string such as 'Ana' for names like 'Analog Pad', 'Analog Drums', similar to 'find' or 'search' in a word processor. It is also possible to search for items that begin with 'B', and software searches are quick. There is also Pack, a library compression utility, which simply removes blank spaces, where deleted library items existed, from the file.

The bank section corresponds to the D70 internal memory, and when operated correctly functions as a monitor of the D70 internal RAM as well as facilitating editing, copying, etc.

Editing

All in all, there are five editing pages for Performance, Patch, Tone, Rhythm, and MIDI & Effects. All relevant D70 parameters are available, and editing a patch within a performance, a tone within a patch, etc., is made easy. The ICH makes sure that when editing a patch its tones are available for editing as well.

The editors are selectable

from the Edit menu.

The Performance editor shows the five patches and the performance parameters such as volume, MIDI channel, and transposition. All parameters can be edited by clicking on the mouse: a left click raises the value and a right click lowers it. There are also sliders which can be moved with the mouse, similar to mixing desk faders. The easy access to parameters - such as how much aftertouch affects the TVF and LFO - is certain to make the D70 more powerful than before.

KB part decides which part is played by the keyboard. A nice feature hides in the keyboard zone value. Clicking on it with the mouse pops up a keyboard where you can determine the keyboard zoning of all five parts.

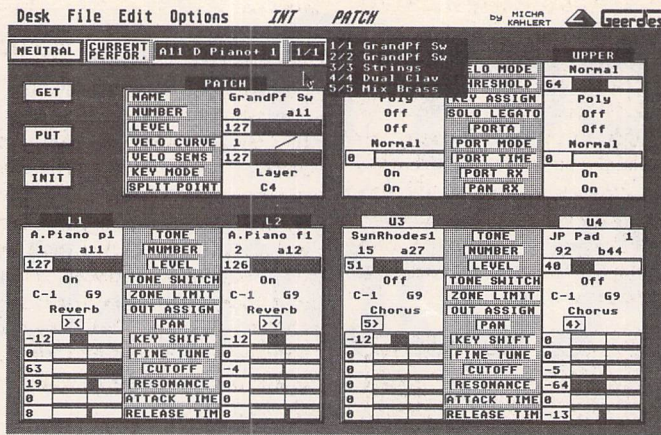
Clicking on a patch name reveals a list containing all the patches in the bank. I was impressed with the performance page - the only fault I could see is the slightly cluttered display, which could be improved, and the fact that you must copy a performance to the stack, and then 'get' it when in the editor, before you can start editing. A performance can of course be renamed, like all other items.

The next page is the Patch Editor, where you can edit the five patches of the current performance, which are available for selection in a useful pop up menu, or any residing in the stack and bank. All patch parameters are available: you can adjust attack, release, cut-off and resonance, and the rest on the tones that make up the patch, all in the same page.

The Tone Editor offers similar features, with quick access to all possible tones in the current performance as well as the bank and the stack. You can use the values and sliders to edit tone parameters, and modify the envelopes directly by dragging the mouse over them. There is a random tone generator as well as a facility to generate variations from existing tones.

Rhythm Editor

The D70 features excellent drum sounds with a multitude of editable parameters such as volume and filter envelopes, velocity sensitivity, and more. The problem lies in the relatively small display when compared to a computer monitor. The SWS offers full control of all rhythm parameters from one page. It has two



In the Patch Editor you can edit the five patches of the current performance or any that are lurking in the stack and bank.

modes: in one you can view and edit six drum parts (samples), and in the other you can edit just three while half the screen is used to display the TVA and TVF. As on the tone page, you can edit parameters directly or by moving the graphics on screen. There are highly flexible copying facilities, allowing moving, swapping and deleting functions.

When using the second mode you can freely jump from one sound's envelopes to another by simply clicking on the envelope icon, even when the envelope window is active and open. A quick session produced some powerful drums, although when using them you always need to save the D70 internal rhythm setup to disk. There is no temporary buffer for the rhythm part in the D70, which means all changes are stored permanently.

MIDI and Effects

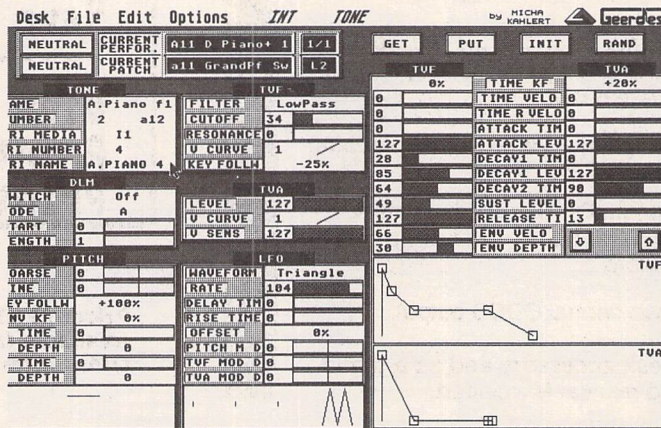
The effects section is really part of the Performance, but because of

its relatively large number of parameters it gets a separate page. Here you can change the reverb time, the chorus rate, etc. There is the facility to quickly change the effect of various MIDI controllers in the performance. It is possible to do the same without the program, but as with many other features of the D70, they are hidden from you and you tend not to use them. That is the case with many of today's synthesizers and samplers with their LCDs. I guess in the future all you will need is a computer with a few expansion slots, where you could plug in the latest synth chip and control software. This idea has been partially implemented with the Mac and the Proteus card that slots into the NuBus port of the Mac.

The Manual

The manual is divided into two main parts, one for the D70 software, the other part for 1st Track, the sequencer, and it seems the two parts were written by different

The Tone Editor offers similar features to the Patch Editor with access to the tones in the current performance as well as the bank and stack.



people. The D70 manual is quite good, suffering only from the odd spelling mistake (funktion) and is obviously a direct translation from German. The sequencer manual on the other hand is confusing and a bit technical for no good reason. The manual is printed with squeezed and stretched versions of the familiar Swiss typeface, which gives it a slightly messy look, but on the whole both parts are useful and helpful once you get used to the style.

1st Track

Included in the package is 1st Track, a simple 24-track sequencer that can be used while editing D70 sounds. It does have some interesting features such as reversible quantizing, pattern looping, and some very useful and easy-to-use copying and editing facilities. 1st Track will sync to tape if used with a SMPTE to MIDI converter, but most importantly it is MIDI file compatible, which means that it can load songs created on other ST sequencers which are compatible with this format (most are), and vice versa.

Compatibility

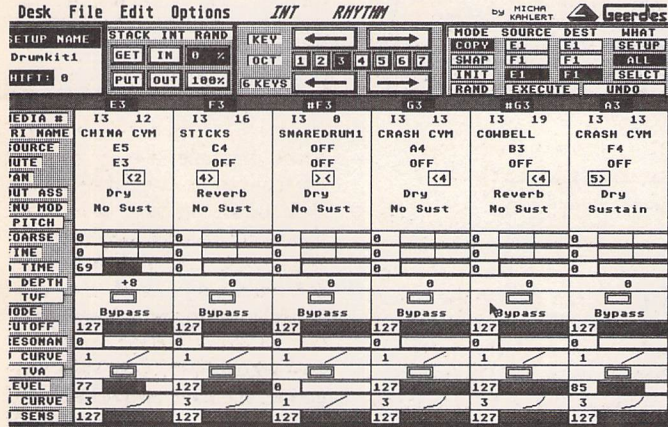
The program seems to work OK with LGSelector and Quick ST installed. The Desk menu is replaced by an Info entry that displays the Geerdes logo, so that you cannot have access to any desk accessories. Despite that, the accessories are still active: you can use a mouse accelerator accessory, but you will not be able to modify its settings once the D70 SWS is loaded.

To my surprise there was no problem loading the program via Steinberg's Switcher/MROS, and Cubase seemed to behave well when the SWS was active. As the program is not MROS compatible, you cannot start and stop Cubase from the numeric key pad, and the D70 gets confused if you try to edit a parameter while Cubase is running. Still, that is better than having to quit Cubase every time you want to edit the D70. I could not try it with C-Lab Softlink but I think it should work with Notator/Creator.

This brings me to the biggest problem I had with the program. I do not own a D70, so I borrowed one from a friend, connected all the necessary MIDI leads and loaded the program which made a successful unit number request to the D70. Then I tried loading the

D70 internal memory into the program, a slow process due to the D70 rather than the program. Then I tried to edit a few parameters and the D70 simply stopped playing, displaying the message 'System Exclusive Error'. After an hour of checking and double checking with the manual, I had to phone Roland as I could not see any reason for this myself. It turns out there were some problems

with the D70 operating system and this has been modified a few times - currently V1.16. My friend's D70 had 1.11 installed, so we had to fork out £20 for the new PROMs. Once the chips were installed the program worked without problem. The D70 is still slow to respond to sysx data, and you need to apply some patience when editing, but otherwise everything seemed to work OK.



Full control of all rhythm parameters from one page, available in two modes: six drum parts or just three with the other half of the screen taken up by the TVA and TVF display.

Conclusion

Anyone who is fed up with his D70 factory presets and wants to get into programming the easy way will find this program very useful. Geerdes are offering a unique range of programs at very reasonable prices. Comparing their products to Steinberg's multi-tasking MROS is unfair when you look at the prices. The Geerdes package includes a MIDI file compatible sequencer and a synth editor for under £130, and the minimum RAM required is 1Mbyte. The cheapest package from Steinberg - Cubeat, synth editor and a key expander - will cost more than three times as much and will require at least a 2Mbyte machine. A C-Lab package will cost a similar amount, although you should look out for PolyFrame, a new generic synth editor that should work with all synthesizers, at least in theory. The choice is yours.

Product:.....Geerdes MIDI
 Softworkstation
 for D70
 Supplier:.....Newtronic UK
 62B Manor Avenue
 London
 SE4 1TE
 Tel:.....081-691 1087
 Price:.....£129

Thanks to Martin Griese from Newtronic for providing the review program and information needed to write this article. Also thanks to Anthony Wade from Reel to Real for use of his D70.

Imagecopy

- Copy images from screen and save them in IMG, Degas or RSC format. Images may be copied by pressing Alternate-Help, allowing you to capture images when the Accessory menu is not available.
- Flexible rubber-banding system which allows images to be selected with a fine degree of accuracy.
- Copies images from both standard and large screens (including virtual large screens such as MonSTer) in any of the normal ST/TT resolutions except TT low resolution.
- Convert images to different formats. Imagecopy reads images in IMG, Degas, NEOchrome, Art Director, and Tiny format, and writes images in IMG or Degas format.
- View images on a monochrome or colour monitor (colour images are dithered on monochrome screens). Up to four images may be displayed simultaneously.
- Print images and screen dumps in a variety of resolutions on a range of different printers, including:
 - 9-pin or 24-pin Epson-compatible dot-matrix printers
 - Bubblejet printers (with IBM or Epson emulation)
 - Deskjet and Laserjet printers
- Print speed is much faster than normal GDOS output.

Imagecopy is supplied as a desk accessory and as a stand-alone program. A fully illustrated manual is included.

Imagecopy	
Information	I
Alt-help keys	A
Image format	F
Image colours	L
Printer type	T
Print options	O
~~~~~	
Copy image	C
Convert image	X
Save image	S
~~~~~	
View image	V
Print image	P
Print screen	D

Price: £9.95
 Available from 14th February 1992
 Order form on page 57

ST Church User

by the Reverend Joe Clemson

The Church is still, despite some decline in the latter half of this century, a significant participant in the shaping of our society and involves around one in ten of all adults and an even greater proportion of children. The potential for using the ST in this situation is considerable and has already been recognised by some. Like any other group of computer users, they benefit from mutual support and the exchange of ideas. For this reason the ST Church User group and its associated disk based magazine has been launched. The intention is to establish a network of Christian users of the ST in the UK, although we have already got two members who work outside these islands.

This is in no sense a commercial operation. It is run by me in my spare (!!?) time. The number of users contacted to date does not quite reach the half-century, but even this is beyond my initial expectations. I had thought everybody using a computer in church work, apart from one or two, had a PC, Amstrad PCW (very popular) or a BBC (early enthusiasts, mainly). How many more ST Church users are lurking out there?



A magazine on disk

The disk-based magazine is intended to be a forum for mutual support. It opens the possibilities for the struggling beginner to contact someone who has trodden the path before them. Not that it is aimed just at the beginner: even seasoned ST users can usefully share ideas, experiences and resources. Being disk-based, it also has the advantage of being a medium for the distribution of public domain and shareware programs. These programs are available free or at very little cost, but sometimes suffer from having little or no supporting documentation. The comments of a fellow user can often help sort out the wheat from the chaff in the plethora of programs available. Other files may also be distributed in this way, such as clip art (again, non-copyright material) and standard text files, such as hymns and creeds, for use in service sheets.

The world of Church computing already has a national Church Computer User Group (CCUG), now numbering members in thousands. Unfortunately, the CCUG policy is to recommend IBM compatibility for any church or minister contemplating buying a computer, which is very sensible in some ways (much software written specifically for church work is in IBM format), but ignores the advantages of the ST, which we do not need to spell out here. Hence the need for support for the relatively few ST Church users.

Good initial response

The initial response to the first issue of the disk magazine has been good. More ST users have been contacted than we ever realised existed in the Church community. Many (but by no means all) are ministers. A growing number of people enquiring are those who have bought the machine for recreation purposes and want to discover how it might be used in the service of God in the Christian Church. I hope that in future issues of the magazine we will explore MIDI in church work and the possibilities of educational programs and games, as well as the more familiar topics of use in administration and D.T.P.

This kind of user group, concentrating on a specific machine and a specific type of user is, I think, quite unusual. I hope what is being done in the ST Church User group will encourage other kinds of users to contemplate a similar approach.

The group is totally non-profitmaking and we only ask for a subscription of £3.50 (payable to 'J.Clemson') to cover the cost of the three magazines which will appear during 1992. Contributions to the magazine come from the members themselves. It is very much a case of mutual support and it has made a good start. The whole thing looks very promising.

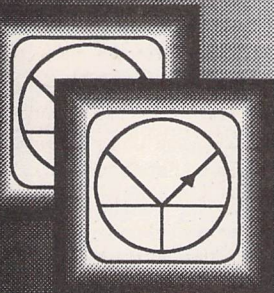
Contact address:

Revd. Joe Clemson
33 Cromer Avenue,
Low Fell,
Gateshead,
Tyne and Wear,
NE9 6UL
Tel. 091-487 6944

Ladbroke Computing International

**33 Ormskirk Road
Preston
Lancashire
PR1 2QP**

**Telephone:
(0772) 203166
Fax:
(0772) 561071**



Ladbroke Computing are the longest established Atari dealer in the UK. We have developed an extensive customer service policy which means that we test all hardware prior to despatch to ensure that goods arrive in working order. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup. This isn't just our opinion, we were voted "Best Dealer 1989" by the readers of ST World magazine, not for "the number of boxes shifted", but for quality service.

All prices are correct at copy date 20/01/92 (while stocks last), and are subject to change without prior notice. Please phone for up to date prices. All prices include VAT & delivery (in mainland UK), there are no hidden extras (WYSIWYG). Next day courier delivery is available for an extra £7 (Mainland UK). All prices available on Mail Order. Shop prices may differ. Shop & Mail order premises: 33 Ormskirk Road, Preston, Lancashire, PR1 2QP. Open Monday to Saturday 9:30am to 5:00pm. Phones answered from 9:00am. Dealer enquiries welcome. Ladbroke Computing International is a trading name of Ladbroke Computing Ltd. All trade marks recognised.

Due to limitations of space we cannot list all our products please phone for Sony branded disks £780 for 10, Bulk disks £5 for 10, Diskboxes from £6.99, Mice from £15, Dustcovers from £3.99, ST Disk drives £59.99. Phone for details of our repair service (ST & Amiga) Repair quote £15. Phone for more details.

Data/Pulse

Quantum™



New Prices

Quantum Mechanics

The cached Quantum Mechanisms used in the Data-Pulse range of Hard Drives are made to very high American Military standard and are covered by a 2 year manufacturers warranty (from date of manufacture). They are all 3.5" mechanisms with a height of just 1 inch and integrated SCSI controllers. They have a typical, effective access time of 9ms utilising a 64K look ahead disk cache.

All Quantum mechanisms used have a Mean Time Between Failures of 60,000 POH (power on hours) and have sophisticated error checking which handles automatic replacement of defective sectors and automatic retry for disk read errors.

All Mechanisms used are Autoparking reducing the risk of damage during transit. They are also very low power which means they can operate without the need for a fan, thus reducing noise.

Ladbroke's Data-Pulse

- ✓ All drives come formatted/ partitioned and tested.
- ✓ DMA device selector and illuminated On/Off switch on front of case.
- ✓ DMA Out port for daisy chaining extra drives/Laser printer.
- ✓ Full metal case providing good shielding, a monitor stand and space for a second mechanism internally.
- ✓ Choice of controller boards (prices differ): ICD board with battery backed clock & the excellent ICD utilities or GEssoft. Both boards have a data transfer rate in excess of 1Mb per second and come with formatting/partitioning software.
- ✓ All drives include Turtle backup software, MCP programme (a shell program that allows the running of programmes from a single key combination or mouse click), Midstudio & Midstudio Master demo's.

Data-Pulse Drives	
Data-Pulse 52Mb GE	£369.99
Data-Pulse 105Mb GE	£479.99
Data-Pulse 52Mb ICD	£389.99
Data-Pulse 105Mb ICD	£499.99

Special Offer Drives	
Special Offer 45Mb GE	£299.99
Special Offer 105Mb GE	£449.99

Special Offer drives are based around an NEC Mechanism which comes with a 2 year replacement warranty.

Aries Upgrades

Our 1/2Mb upgrade board can now be upgraded to 2Mb and then 4Mb

Ladbroke Computing have been active in the field of ST Memory upgrades for a number of years and can offer upgrade advice and solutions for the entire range of ST's. In that time our engineers have gained experience in the field and have used that experience to research and develop our own range of upgrade boards.

We have developed our own 5/2/4Mb upgrade board using an in house designed, Multi layer circuit board which measures just 52mm x 62mm, smaller than a credit card. We have achieved this minitisation by utilising 4 Megabit memory chip technology. The result of this reduction in size is a reduction in cost and more reliable operation, due to the fact that the board resides under the ST's shielding protecting it from interference and reducing Electromagnetic emissions.

The board is manufactured in the UK and hand assembled in our workshops by skilled

technicians. The boards are then thoroughly tested before despatch.

The board now comes in three configurations, 5Mb, 2Mb and 4Mb. By using high density ZIPP RAM chips of different capacities it is possible to start with a 5Mb board and to upgrade it to 2Mb and then 4Mb at a later date.

The boards require some soldering, due to the instability of some plug in devices, but are very easy to fit and come complete with full instructions to fit ANY ST including Mega's (except STE's which use SIMM boards). If your shifter chip is not socketed, you will have to desolder it and install a socket which is supplied.

To check your board has been installed correctly we supply you with a disk which has a memory check program. If for any reason your upgrade should refuse to work we have skilled technicians on hand to offer technical support.

Aries Upgrades (Any ST(F)(M))

512K Upgrade Board	£39.99
2/2.5Mb Upgrade Board	£99.99
4Mb Upgrade Board	£169.99

Our skilled technicians can install the above upgrade boards for £20 including VAT and return delivery.

Aries Upgrades STE

512K SIMM's upgrade	£24.99
2Mb SIMM's upgrade	£79.99
4Mb Simm's upgrade	£159.99

Please check configuration of your machine with our staff before ordering SIMM's upgrades.

16/4 chip upgrade STFM £29.99

Please check the configuration of your machine before ordering. These chips are not surface mount.

Monitors

Atari SM144 Mono	£ 139.99
Atari SC1435 Colour	£ 249.99
The new colour Atari monitor comes with cable and tilt monitor stand.	
Philips 8833MKII Colour	£ 229.99
The 8833MKII comes complete with cable.	
Philips 15" Cube TV	£ 269.99
A 60 channel, FST, Fastext scart input TV which gives near monitor quality. Includes scart cable.	

Midstudio Master	£99.99
Midstudio Junior	£29.99

Atari STE's

520 STE	£279
1Mb STE (1024K)	£299
2Mb STE (2048K)	£339
1040STE Curriculum (1024K)	£369
2Mb STE Curriculum (2048K)	£399

ST Secure

ST Secure is a security device which uses a combination of hardware and software to prevent unauthorised use of your ST. The "TimeLock" hardware can be installed in your ST in approx 30 minutes with no soldering involved. Then when you switch on your ST you must enter the correct password using the "Key disk" or your ST will reset after 45 seconds. Only £25 inc VAT & Delivery

Printers

Star SJ48 Bubblejet	£239.99
Star LC-20	£149.99
Star LC-200 colour	£199.99
Star LC-24/10	£189.99
Star LC-24/200	£229.99
Star LC-24/200 colour	£289.99

All Star printers include 12 months on site warranty. All printers include ST/Amiga/PC compatible Centronics cable.

Roctec ST 3.5" Drive	£59.99
ST Internal drive	£53.49

Golden Image

Golden Image External 3.5" Drive	£64.99
Includes through port and LED track counter.	
Golden Image Hand Scanner	£149.99
Includes Touch Up and Deluxe Paint Software.	
Golden Image Optical Mouse	£34.99
250 Dpi mouse with mat(ST/Amiga)	
Jintech Mouse	£12.98
New Golden Image Brush Mouse	£19.99
The Natural way to draw(ST/Amiga)	
New Golden Image Brush Mouse + Deluxe Paint	£24.99

Emulators

PC Speed(XT)	£ 99.99
Please state STFM or STE version.	
AT Speed	£ 150
Includes DR DOS	
AT Speed C16	£ 249.99
Includes DR DOS 5, Socket for 80C287 Co-Processor, Norton factor of 8.2	
AT Speed-STE Adaptor	£24.99
AT Speed-Mega Adaptor	£24.99
Spectre GCR including ROMs	£ 409.99

Signum Font Collection

New! 30-disk collection of Signum fonts. Over 400 fonts, most with 9-pin, 24-pin and Laser/Deskjet (300-dpi) printer fonts.

FON.72: Altdeut1; Altgrie; Anna; AntikÜ5; Antikro; Antikr-g; Antimikr; Antiqua; Anti-cap; Antro-7; Arabia-b; Arabia-o; Astron-1; Atari-gr; Atari-np.

FON.73: Athen; Agugel; Agugtab; Alt-russ; Alpine; Altdtsch; Amber; Antikfrz; Antikro2; Artdeco; Artdeco9.

FON.74: Amelia; Abc; Antik-np; Anti-cap; Apl-1; Apl-2; Aqua-17; Aqua-18; A-exp-1; A-exp-2; A-exp-3.

FON.75: Ascho; Avantgar; Babyteet; Baskvill; Bauhfett; Blackwit; Block; Blockup; Block-04; Block-1; Block-2; Block-3; Block-4; Block-gr; Bubble.

FON.76: Brazzi; Brazzi-d; Broddy; Bulantik; Bulgaria; Burling; Bauhaus; Brett-1; Broadway; Brutus.

FON.77: Carpica2; Carpica3; Caslon; Celtic; Chemie; Chemie-1; Chemie-2; Chrismkr; Compacta; Compu-ft; Compu-lt; Courfe; Court.

FON.78: Califfa; Caligraf; Carelit1; Cargo; Chantal; Chemie; Chikago; Chin; China-1; Chinck; Chrismkr; Christ1b; Circum-3; Como; Comochar.

FON.79: Compacta; Computer; Cooper-b; Countdwn; Courielt; Data70; Deco; Design; De-ville; Digital1; Ecko-1; Egyptien; Eigen.

FON.80: Elegance; Elfera; Emillon; Engola; Etikett; Eurocir1; Eurocir2; Euro-ant; Euro-grf; Extr; Extr-ho; Farsis; Feder.

FON.81: Fino; Fox; Frakgro; Fraktur1; Fraktur; Franzgrf; Fuchs; Fut; Futur; Futurbig; Futuris; Futur-bo; Futur-ou.

FON.82: Gilli12p; Gill-09p; Gill-12p; Gill-15p; Graph1; Graph3; Griech; Grobig-f; Grot-cap; Garamont; Gothic; Graph2.

FON.83: Graf-24; Graph6; Graphik; Grotfere; Grotgros; Grotshad; Giraffo; Grande; Graph-1; Grobig-f; Grofte.

FON.84: Grot3d; Grotfe90; Grotgrs; Grotinde; Grotlt; Grotmikr; Grotmit; Grotmit2; Grot-sup.

FON.85: Halrun; Hand; Hand2; Harringt; Igrofte; Indeks1; Indeks2; Index; Inverna2; Invernal; Invers-2.

FON.86: Japs; Japshohl; Jugend-2; Kantus; Karin; Kastl; Keltic; Kiste-1; Klaro-1; Klaro-2; Klaro-3.

FON.87: Katakana; Klotz-2a; Klotz-3; Klotz-d; Knalko; Knick-ei; Koppic; Krakel; Labig; Lady; Lady-3; Lanorm; Latein; Lcd; Liniehor.

FON.88: Maja-2; Mininomi; Modena-1; Modena-2; Mops-1; Mosaik-1; Mosaik-2; Mosaik-3; Minusket; Modern; Moderne.

FON.89: Marcus; Mathem; Mathem1; Mathem2; Mathphys; Melodie1; Music; Netza; Netzo; Nominus.

FON.90: Nimina-k; Nominal1; Nominal2; Norgo; Normand2; Normanli; Normgros; Normout; Norm-vs1; Norm-vs2; Natso; Neon; Normande.

FON.91: New-york; Norm-16; Noutline; Ocr-a; Oldeng; Omni-1; Opop; Oratorfe; Oratorit; Oxford; Pinsel; Pisana.

FON.92: Rokwel07; Rokwel08; Rokwel11; Rokwel13; Rokwel15; Rokwel-b; Rokwel-i; Roma; Rund-07; Rund-09; Rund-11; Rund-13; Rund-out; Rund-sh; Rusanik; Russisch.

FON.93: Schatte2; Schatten; Scribere; Serifa; Skuril; Spezial; Spitzing; Staket-1; Staket-2; Stymiecs; Scola.

FON.94: Schablon; Schwab; Script; Stando-1; Stop; Strukt-2.

FON.95: Russ-1-d; Russ-2dd; Russ-2-d; Russ-2-m; Russ-3-g; R-grotef; R-grot-4; R-mikro; R-outlin; R-pinsel; R-quad-g; R-quad-m.

FON.96: Signets; Signets2; Starahm1; Strizi; Supastar; SÜtt24; SÜtt9; Times-it; Triline; Trio.

FON.97: Times; Times-11; Times-15; Times-5; Times-9; Ultra; Uniform-1; Uniform-2; Unirombi; Uniromme; Univer11; Univer14; Univer; Vabig.

FON.98: Vektoren; Viza; Weightnd; Werner; Wormnorm; Xerox; Yuppie; Zs-12; Zs-30; Zs-32; Zs-33; Zs-37; Zs-41; Zs-44; Zs-47.

FON.99: Zapf; Zierat1; Zs-10; Zs-31; Antik4Ü5; Liniehor; Peking; Primus; Pumpligh; Pumpmed; Quadrato; Rahmen; KÜnstler; Rund; Stymiepl; Roco; Artdeco.

FON.100: Klotz-2a; Klotz-3; Klotz-d; Knalko; Knick-ei; Koppic; Krakel; Kyrillgr; KÜnstler; Kantus; Kapital; Karin; Kastl; Katakana; Keltic; Kinder; Kiste-1.

FON.101: Halrun-1; Harringt; Hebrae; Hebraish; Hirakana; Hirogl-h; Hirogl-m; Hirogl-p; Hitech26; Horizon; Horizon3; Klaro-2; Klaro-3; Klaro.

FON.102: Zapf; Zierat1; Zs-10; Zs-31; Antik4Ü5; Liniehor; Peking; Primus; Pumpligh; Pumpmed; Quadrato; Rahmen; KÜnstler; Rund; Stymiepl; Roco; Artdeco. No laser fonts for the fonts on this disk.

Signum Font Sets
10-disks in a Slimpak disk box @ £8.50
SGP-01: Disks FON.72 to FON.81
SGP-02: Disks FON.82 to FON.91
SGP-03: Disks FON.92 to FON.102

All disks are double sided. Most fonts have German keyboard mapping (and no £ signs) so some work with a font editor will be required to make the best of these fonts. (UK keyboard versions and a printed catalogue will be available in due course.) With the exception of FON.102, all fonts are supplied at 9-pin, 24-pin, laser (300-dpi) and screen resolutions. Disk prices and ordering as per our order form on page 57.

'FontPac Plus' Gem Fonts

Derwent Set

The latest set in the FontPac Plus series is now available: the calligraphic typeface "Derwent", based on the 'Foundational' hand.

This set of fonts comes in three different printer resolutions:

- ☞ 180dpi - standard resolution 24-pin (12 fonts from 10 to 45 point)
- ☞ 360dpi - high resolution 24-pin (10 fonts from 7 to 23 point)
- ☞ 300dpi - laser or inkjet (12 fonts from 6 to 28 point)

3D Effect

Each set has associated screen fonts in both high and medium resolution, and there are at least two 'special effects' fonts.

To order, please use the following codes:

- ☞ 180dpi - Q1 : B
- ☞ 360dpi - Q2 : B
- ☞ 300dpi - L2 : B

Price: £9.95

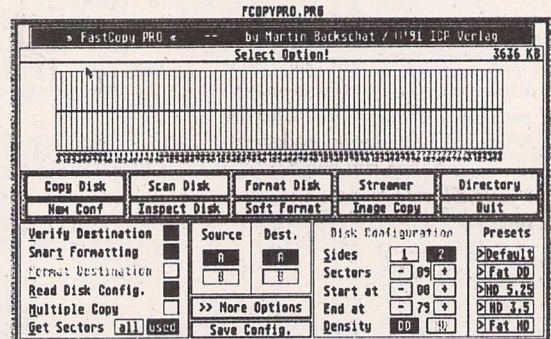
from the ST Club

The fonts are supplied in GST compressed format, compatible with *Font Expander*; a utility to un-compress them is also supplied.

Contour **PATTERN**

FastCopy Professional

Lightning fast copy program and disk utility



The latest version of the number one ST disk duplicating software takes the concepts and features of FastCopy 3 and pushes them to the limits.

Features include:

- Copy disks: Only formats when required, Only reads those parts of a disk that contain data, Full verification, Intelligent handling of read/write errors.
- Format disks: Format up to 86 tracks and 11 sectors per track; MS DOS compatible disks.
- Save default settings.
- Pre-configure up to 5 default sets of parameters.
- Convert a disk into a file for archiving and comms applications.
- Fast hard disk backup with data-compression.
- Fully fledged disk editor built-in.
- Virus Detector, Killer and Immunisation.
- Support for High Density 3.5" and 5.25" drives.
- Works at 8MHz, 16MHz or 32MHz on ST, STE and TT.

Supplied with a 80-page ring-bound manual, FastCopy PRO is the ultimate disk tool for all ST users. FastCopy PRO is copyrighted and --not-- PD!

- ☞ Available from 21/2/92 ☞ RRP: £24.95
- ☞ Launch price (until 23/3/92) ☞ just £18.50
- ☞ Order form on page 57.

New

In The Public Domain

PD Software reviewed by Sandra Vogel

FONECOST: SW Software Library 1864

This shareware programme helps you to keep a weather eye on telephone bills. By logging the length and type of your calls as they are made, the programme allows you to keep a running total of your expenditure.

The programme runs on any ST, and in all resolutions. It is very easy to use. All you do is select, from a menu box, the call type and rate. The call types available are local, zone A, zone B, zone B1, Mobile, 0898, and Eire. The rates available are peak, standard and cheap. Fonecost will even keep track of modem calls on any combination of the above types and rates, and in this case will not begin to calculate the cost till the modem has connected.

For real Scrooges, it is possible to select an option which shows the cost accumulating on screen. This could be harrowing indeed as you see the cost of a call mounting rapidly.

Fonecost runs either as a programme or as a desk accessory. Registered users get an additional programme which allows you to alter the charge rates and also provides access to Mercury rates. Registered users will also get a hardcopy manual and a couple of features for customising the on screen display.

MAXIDISK: Softville ACC 122

With Maxidisc you can store around 750k of data in a 500k ramdisc. You have to preconfigure the size of ramdisc you want, and run it from your Auto folder. This could be a real pain if it were not for the fact that the auto file information also tells the ramdisc to load specified files into itself, and then run one. So, you can switch on your ST safe in the knowledge that the next time you press a key, it will be to do something within the programme you want to run. With several boot discs, you may never again need to click on the programme icon to run it.

ICONDESK: Softville ACC 122

If you have ever looked at your ST and thought that the desktop is dull, or wished that it could be just that little bit different from everyone else's, but don't want a fully fledged desktop replacement, try taking a look at Icondesk. This utility is a suite of three programmes which between them allow you to load, edit and save file icons.

The first programme in the suite runs from your Auto folder, and loads the current icon set into memory. This short routine will need to be autorun every time you want to pretty up your desktop, and is a darn sight quicker than

running Neodesk, or any of the other desktop alternatives around. Of course, you do not get any of the advanced features of a full blown desktop replacement with Icondesk, but if aesthetics are all you want, then this programme is fine.

The second programme is the icon editor. This programme only runs in high res, though the icons themselves work in all resolutions. Editing is a simple enough process with the mouse. No problems here. Once you have created your icons, they need to be matched to filenames. Iconsort, the third programme in the suite, does this, also only in high res. It matches up to ten filenames to 256 icons.

Once icons have been edited and assigned (a sample set is provided with the programme for you to try), loading them on boot up is a very quick and easy process.

ORIGAMI: SW Software Libr. 1868

Origami, the ancient Japanese art of paper folding, is quite probably the most unlikely thing to be the subject of a computer programme. But here it is, the definitive, (well, the only), demo of how to do origami. Your £8 registration fee will replace the single disc Public Domain version with a two-disc enhanced Shareware version. The version on the public domain disc only

provides you with a single paper model to make - the famous bird. The demos are animations of the paper being folded, and are done very well indeed. You click on an icon to go forwards to the next step, or back to previous ones to check your work, and a progress marker (which resembles an 'energy remaining' display in a game) indicates how far you have to go before the paper project is completed.

Origami is not a subject I would have recommended for a computerised tutorial, but in the end, all credit goes to the programmer, who has come up with the goods. The whole thing works very well.

COLOURSPACE: Softville ART 13

Colourspace is almost as old as the ST itself. It first appeared in 1986, and until now has been commercial. It has just recently been released as shareware. Registration is a snip at a fiver, especially if you consider that you get a printed manual and a pretty wallet for the whole caboodle in return for your cash. But many STers are asking, as much as they ever did, 'What is Colourspace all about?'

Well, it does not really fall into any genre - unless it is a special one for this programme and Trip-a-Tron, the later and vastly improved commercial follow-up to Colourspace. Colourspace is referred to as a 'light synth' by its author Jeff Minter. You use it to generate pretty, evocative patterns on screen, using various combinations of colours and shapes, which are triggered by keypresses. Colour palettes, and even whole routines, can be pre-defined and saved for easy call up later on. In fact, you can end up 'playing' the ST rather as if it were a musical instrument. The whole thing works best when the lights are turned low and to musical accompaniment. The author suggests Pink Floyd, but it just so happened that I was playing Bach's Brandenburg Concerto No 3 when reviewing the programme, and it worked very well with that!

If all of this sounds just a bit crazy, well it probably is, but don't let that put you off. If you have never seen Colourspace (or Trip a Tron) in action before, go to the next computer show and seek out Jeff Minter for a chat and a demo. You will be converted. Or just get the programme - it is out of this world!

11		JAMES.ACC
12		NOTEPAD.ACC
13		HDX.*
14		CALENDAR.PRG
15		STIMESET.PRG
16		CALENDAR.ACC
17		1990.DAT
18		DISKDOC.PRG
19		SPOOLER2.PRG
20		AIM*.PRG



Software for these reviews was supplied by:

Softville PD Service, Unit 5, Stratfield Park, Elettra Avenue, Waterlooville, Hants, PO7 7XN

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

The software in this article is also available on ST Club discs:

- Fonecost..... UTI.184
- Maxidisk..... UTI.16
- Icondesk..... UTI.183
- Origami..... UTI.184
- Colourspace..... GRA.141

Calligrapher

ROAD TESTED

by Roger Derry

If you are new to the ST scene you may well think that Calligrapher Professional is a brand new program,

but in fact it is the latest version of a program first seen four years ago. Roger Derry has been using it since its first appearance and now says why he is still using it.

When in 1987 Computer Concepts advertised what they called a document processor for the Atari ST, it seemed to provide just what I wanted - something that was cleverer than a conventional word processor and could handle graphics but without sacrificing the ease of writing. The first version was very buggy. The second version which followed was quite usable but would still crash on you occasionally. Then Computer Concepts left the Atari scene and Calligrapher seemed doomed not to be supported. I liked the programme. It did do what I wanted but I resigned myself to having to find a replacement. 1991 was about to arrive and I had still not found anything better - I just learned not to press TAB at the bottom of the screen which seemed the most common way to crash the program. Then, last Christmas, I did find something better. It was, of course, Calligrapher Professional. I parted with my money with joy especially as there was a lower price for an upgrade.

Now why am I writing this article using Calligrapher Professional? Rationally there is no reason to as the editor wants a plain ASCII version on disk. Another magazine I regularly write for



Degas/Neo Import window showing the mouse rubber-banding a cropping area. The image is of an Alt-Help screen dump to disk using the snapshot program provided. The screen is showing the result of clicking the "About Calligrapher" menu item. Note that, as this is a registered version, the registered user's name is embedded in the program.

likes IBM WordStar format. I have WordStar, which I can run on AT-Speed, yet I write the article in Calligrapher and then export to WordStar. If I were a world-renowned author any editor would probably be grateful for a handwritten scrawl, but as all he is getting is me I think I had better make my article look as good as possible. So I give him a nice print out with diagrams in place hoping that he thinks 'That looks worth reading'. The other advantage of using Calligrapher rather than a boring ASCII text editor is just that: they are boring. With a WYSIWYG program I feel positively encouraged by seeing my tarnished prose glinting like new on the screen and print out.

Then, of course, there is the spell checking and the Thesaurus. Well, I do have "Thunder" which happily checks ASCII files. But Calligrapher's spell checker is English, not American. I could even add dictionaries in other languages. The optional extra

Thesaurus is fine although I still prefer the excellent KRoget for browsing. For everyday writing it is possibly too comprehensive and takes up extra memory. Calligrapher can dump its Thesaurus from memory when it needs it for printing.

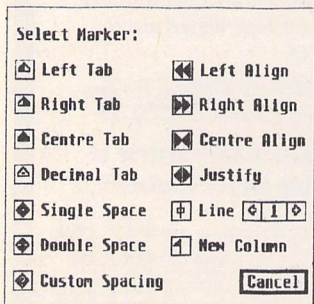
What is the difference between a document processor and a desk top publishing program? There are many definitions but, to me, the essential difference is that with DTP graphics and layout are king. With a document processor text is king. With DTP you set frames in position on the page and the text has to fit itself into them. With Calligrapher you place graphics within the text and the graphics move to make way when the text changes.

As part of my work as an Audio & Broadcast Consultant I am maintaining a technical glossary. Inevitably, as time passes, definitions are added or modified. Many definitions have associated illustrations using graphics. With FSP3 it was quite a major job to

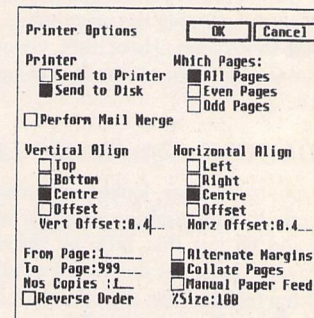
move the diagrams to match the text. With Calligrapher it is done automatically. Quite a number of illustrations are also used in other training material I produce. Here Calligrapher also is ideal because its files do not contain the graphics but only a note as to where to find them when it needs them. So I have many Calligrapher files all pointing to common graphics files containing standard logos, etc. Now if any of those logos or illustrations need to be changed I can rescan image files or redraw Gem files and ALL my Calligrapher files using them will automatically be updated!

Taking this a stage further, sometimes individual captions are required, or maybe an arrow pointing at a feature. Here Calligrapher's basic GEM drawing capabilities allow these to be set within the Calligrapher file.

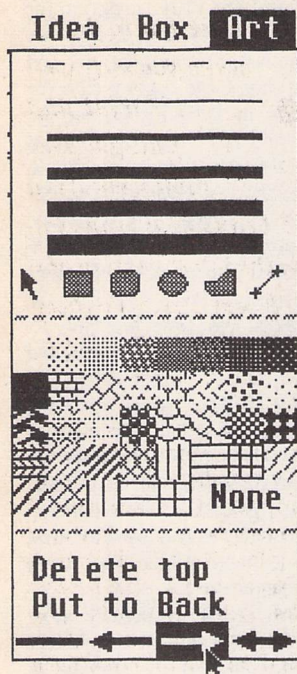
Like FSP3, Calligrapher allows you to link files in the same folder into a common document. FSP3 has separate files for each page. With Calligrapher each file can be a normal multi-page document. Calligrapher calls them chapters. Their filenames can be anything. FSP3 demands the page number to end the file



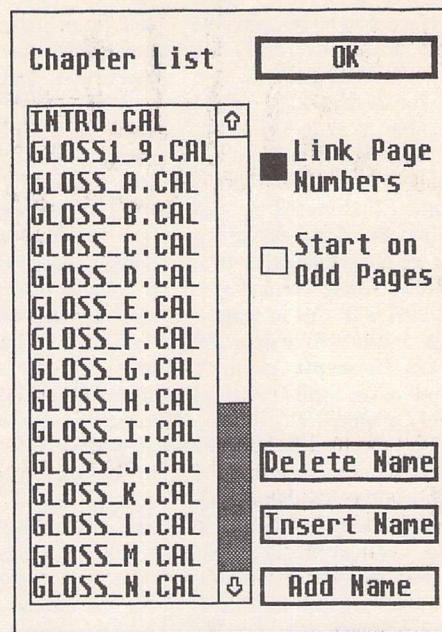
Calligrapher's rulers set text width, margins, justification, leading (line spacing) and vertical rules.



Calligrapher has a comprehensive range of options at the printing stage. Pressing Shift or Control when clicking on OK will cause the alternative printer driver to be used (GDOS 22 rather than 21).



Chapter Info	
Chapter	Page
INTRO.CAL	1-2
GLOSS1_9.CAL	3
GLOSS_A.CAL	4-5
GLOSS_B.CAL	6-8
GLOSS_C.CAL	9-11
GLOSS_D.CAL	12-14
GLOSS_E.CAL	15-16
GLOSS_F.CAL	17-18
Total Pages: 47	



Above: Chapter information from Calligrapher which shows how the articles (or chapters) are linked. Clicking on entries will take you there.

Right: This dialogue is used to select the order of chapters.

Calligrapher's Art menu has most of the options available in full-scale GEM drawing programs such as Easy Draw, including the ability to place text on the graphic. Editing is virtually non-existent, apart from being able to correct mistakes you have just made.

name. With my glossary each letter is now a separate chapter. I have chosen to carry the pagination through the document and I can print out the whole document as if it were one file.

So I am about to start writing an article for ST Applications: what do I do? First, I click on CAL.PRG on my NeoDesktop and then wait 10 seconds while it loads and then loads fonts, etc., from my hard disk. I am then faced with a 'blank piece of paper' in a Gem window labelled "untitled".

I could open an existing file to carry on working on that. It might be a standard layout that I use for articles. In fact, Calligrapher goes one better. I type 'article' and then control/a. Two seconds later I am looking at my layout for articles. HOME takes me to the top of the article blank and I am faced with my line of text for the heading, which says "<Variable phrase:9> Page 1 <Variable phrase:7> for <Variable phrase:8>". I use my mouse to select "Substitutes..." from the "Misc" menu heading. A dialogue form appears which includes four editable lines with the text "Vari-

able phrase:N>" in them, N being 7, 8, 9 and 0. I change these to "Calligrapher Road Tested", "ST Applications", "Draft" and "Roger Derry". The last appears under the main title.

This has now set up all my headers and footers which were also loaded with that single control/a key stroke. Abbreviations can be short or long. It could be that I write "Cal" and control/a writes out "Calligrapher" complete with Italics-on at the front and Italics-off at the end. It could be that an abbreviation calls up an Image or Gem file of a logo already sized to my normal requirements. "addr" + control/a might produce my name and telephone number.

So I am ready to type. I am already heartened by headers and footers proclaiming that an article will exist. So now I set about writing it. It was while I wrote the last paragraph that I was able to take advantage of Calligrapher's ability to handle as many documents as there are Gem windows available (up to seven in practice). I was able to size the two windows so that I could see what my blank article looked like while I wrote about it in the window underneath. I could switch between them by clicking the mouse, using the F1 and F2 function keys, or ALT/W as a toggle.

If I were writing something more ambitious that was going to be printed using Calligrapher I could have loaded a preprepared file with tags stored in it. Or I

could create tags in this file. What are tags? These are pre-programmed styles and rulers. So, for example, Dr Henderson in his review in STA4 criticised Calligrapher for not having direct keyboard shortcuts for subscripts and superscripts. In fact, with tags, you set up a subscript using the menu options so that it appears as you want it and, with the cursor on this style, select "add tag" from the tags menu. You give the style a name (such as "subscript") and, optionally, select a function or a control key combination for the keyboard short cut and that becomes your subscript key which will also *change the point size* if you have set it to be different. You should also set up a key for "normal". The tags can include style only, ruler only, or both. This means that you can use the facility for changing the ruler at sub-headings.

The real value of doing this is that I can waste an awful lot of time deciding on the layout style to use when really I just want to get on writing. So I can set these styles arbitrarily while I write. Using the subscript example: say I decide at a later stage that the subscripts ought to be a different point size. All I have to do is to place the cursor onto any one of the tagged subscripts in my text and change the point size using the menu option (Calligrapher uses outline fonts that can be set in 1 point increments from 6pt to 128pt). Calligrapher asks if I want to change all the tags called

"subscript" (or whatever I have called the style tag). If I click "yes" then every one of my subscripts will be changed to the new style!

Graphics are loaded using "Insert graphic" from the menu. Calligrapher automatically recognises a Gem or Img file. To load Neochrome or Degas files you call an import pak from the menu and select "Import Degas /Neo". You load the required file and are taken to a window that allows you to crop the picture using the mouse and a rubber band box. When you are happy it is saved as an Img file. You are then asked if you want to import the new Img file into your present document and, as with all graphics imports, whether you want it to be in-line or column-wide. An In-line graphic is one that becomes a 'character' in the line of text. When you first import it it is likely to be quite large. But as with all graphics imports you can scale the drawing to size. Column-wide graphics are centred in the column with text above and below.

An oddity is with GEM files from Easy-Draw. When you load them you find that you only get the top left quarter of the drawing. This is because Calligrapher makes use of cropping information available in the GEM file and Easy Draw sets it wrong (or so the manual implies). A separate program called CROP-META is used to correct this. This is invaluable as you can set cropping precisely to include all

the picture or just a part. I would have preferred to have been able to set the crop differently for each time the GEM file is used (maybe for a detail). It would also be nice to crop IMG files without altering the file. This is the trouble with Calligrapher: every time I find myself criticising it I find that I am asking for facilities not offered on other programs either! Image cropping is not provided with this package - although I am still using the Computer Concepts cropper provided with the original version of Calligrapher!

OK, so is this really the bees knees of word processors? I admit to being an unashamed fan but I have to recognise that there are faults - nothing, though, that negates the value of the program to me. There are the little irritations. The keyboard shortcut ALT/S gives you Save As... not Save (which doesn't bother with the file selector). Both options are on the menu but it is so much easier to save your document from time to time with a single key combination. What I have done is to program a Harlekin Macro to make control/alt/S send Alt/S return. As the Harlekin file selector does not clear the keyboard buffer this works

with the file selector appearing and immediately clearing. You can change the many keyboard shortcuts to your own preference but only "Save As" is alterable. "save" is not available. Similarly, there is no keyboard short cut for Print.

There is a neat auto quote feature where control/2 gives a double quotation mark. The first is a begin-quote mark and the second is an end of quote mark. Calligrapher manufactures these using the up and down single quotes (ASCII 39 and 96). Unfortunately, in the fonts provided they have different widths and produce unmatched double quotes. Now I have been able partially to fix this by using FontKit but this only works for Gem fonts. For point sizes which use the outline fonts the quotes remain unmatched. Calligrapher will use any Gem fonts you have provided either from the same set as the provided outline fonts or it will generate its own if not. So it is still possible to add special characters such as y circumflex which is used in Welsh.

The major problem is that Calligrapher is still unhappy about tabs which can be a little unpredictable at times giving different results on the screen to

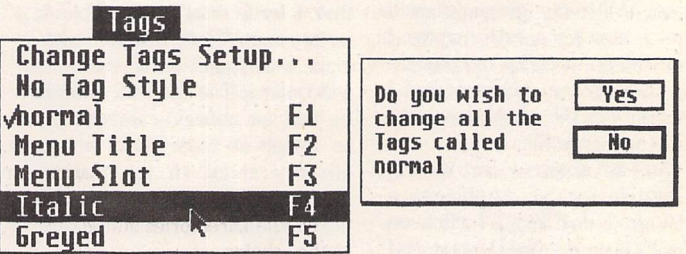
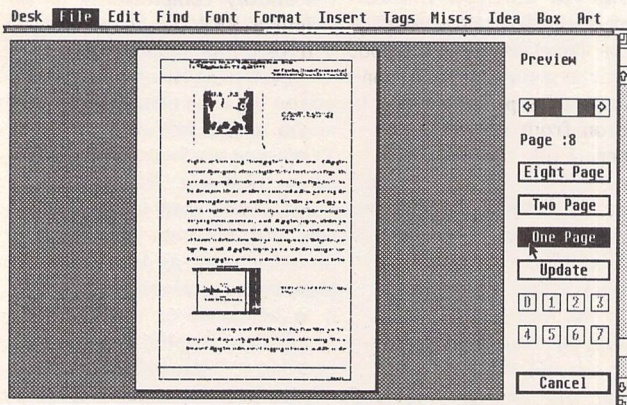
that which appears when printed out. Fortunately, you can pick this up from the excellent preview facility.

The tabs offered are left, right, centred and decimal. The right and centred tabs interact with the ruler's justification setting and can cause new lines rather than tabs. ALT/Z gives an indent until the next carriage return but this can get confused at the page break when using multi columns. The sparse screen redraw can occasionally become so sparse that it forgets to redraw the text you are working on. (However clicking the slider box will redraw the page). Sometimes the cursor gets a little confused and writes everything at the right hand end of the column only placing it in the right place when you stop typing long enough for it to reformat the text.

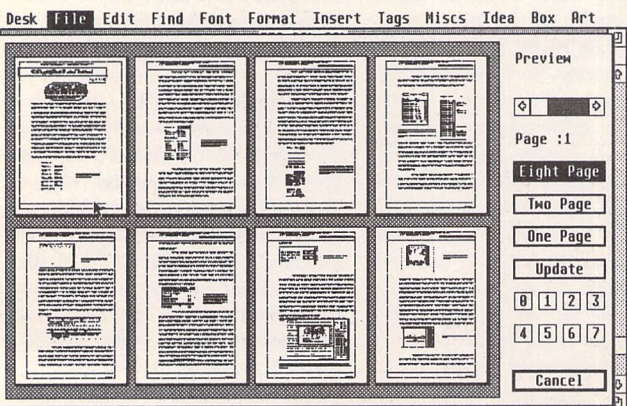
Despite having a 4Mbyte Mega machine I found that, using the Atari Laser printer, I could not print long files with lots of graphics without the dreaded black vortex. This is when Calligrapher runs out of memory or disk space and the printed text stops suddenly with a black-filled triangle drawn up to the top left of the page. The answer was to print to disk and then use the

separate DISKPRNT program for the printout. In fact, I often do this anyway because at the end of the day I can list my files for printing in DISKPRNT and go away and have something to eat while the Atari gets on with it. However, I accidentally solved the problem when I re-organised my hard disk on getting TOS 1.4. I reduced the number of partitions from 5 fullish ones to 3 (as 1.4 takes less time working its way through FAT Tables) and consequently increased the amount of free space on each remaining partition. The manual says to allow 100k free space for the intermediate file that Calligrapher produces when printing directly. It would appear that more is needed for the Atari Laser printer.

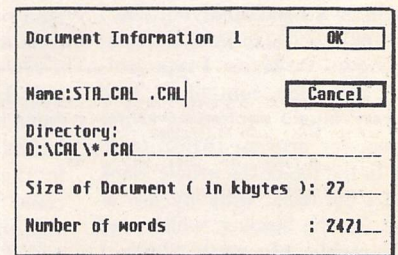
This article is already very long yet I feel as though I have not even grazed the surface of this sophisticated yet easy to use program. All in all I am an unashamed fan. I am sure that the author, Nigel Johnstone, will soon have the buglets ironed out, and every month seems to bring news of add-on paks (overlays to you and me) giving extra facilities. What with that and the promise of lots more outline fonts, it gets even better.



I was writing some instructions for a program I have written. So I set up tags for the headings. It was only later that I actually decided what effects to use for the different styles. Calligrapher's Tag facility allowed me to change them all in moments - though there is the option (right) not to change all the tags if you prefer.



Previewing one page (above left) gives enough detail to pick out quite small layout problems. Previewing eight pages at a time (left) gives a good feel for the final look of the document, as it will clearly show headings and illustrations in place.



The Information dialogue: you can use this to change the file name, but its main use is the word count in the bottom right hand corner.

Going On-Line

Part Four: Saving Time

MaxiMiser is a Shareware program written by Shawn Smith in Ontario, Canada, and is unique to the ST Bulletin Board System (BBS) scene, although several do exist on the PC. MaxiMiser is QMail/QWK compatible, which means that it can be used on nearly all PC-based BBS as well.

An off-line reader is a program separate from your terminal software that allows you to read and reply to messages downloaded from your BBS off-line. Your replies are uploaded as one file packet. The savings on time are enormous as the messages received and sent back are compressed with LHARC, ARC or ZIP and then transferred with, say, Zmodem. This, of course, saves you money with the additional benefit of spending less time hogging a BBS so allowing others and yourself easier access with a subsequent increase in the number of users. More importantly, replying to messages can be done at leisure and with consideration without the pressure of being on-line and using a strange text editor. Consequently, the appearance of MaxiMiser has seen a great increase in traffic which is good for the network.

The use of an external configuration program tells MaxiMiser which compression program to use by default, its location and

commands necessary to get it to work and the location of MaxiMiser's files. You can set up the use of an external text editor and DOS shell program from within MaxiMiser and edit Tag Lines - the little one line messages which can be inserted at the bottom of MaxiMiser replies.

Downloading your messages

You can't run MaxiMiser without a packet of messages to read. This compressed file is called a QWK file and is obtained by logging on to your BBS with your normal terminal program and going through a QWK compatible door such as MaxiDoor (key 'X' from the Main Menu on InterNet BBS). MaxiDoor is also written by Shawn Smith. This is an externally run program at the BBS end and obtains your messages for you from all your selected conferences, compresses and downloads them all in one go. It can also collect information on any new files that are available in the File Directories and gives you the choice of downloading any ConfMail files attached to messages in a conference, such as ST Report magazine. MaxiDoor needs to be configured first so that it knows what compression technique and transfer protocol to use and the maximum amount of

Last month it was mentioned that greater savings in on-line time could be made with the use of an off-line reader. Mark Baines has been using



messages you are willing to accept. Look for the help files or ask your sysop, if necessary.

Off-line, you can now run MaxiMiser and it will decompress your QWK file. The Main Menu gives access to the configuration program as well as the Desktop accessories and your DOS shell program. The BBS introduction screen, bulletins and new files can also be shown. Messages can be read using one of three methods. You can ask for a Quick Scan list of each conference or personal messages and select an individual message to read or you can search the message contents for a text string. The usual method, though, is to read each conference in turn, pressing a key to move on from one message to another. Each message can be printed or saved to disk separately for future reference and replied to using MaxiMiser's editor or your external editor, such as Tempus.

although it is a vast improvement on what it first was. There is the facility to include quotes from the message being replied to and the receiver of the message and its title are automatically dealt with. When the reply is completed it is saved with the option of a Tag Line. Messages need not be replies to others, of course. You can initiate messages to named individuals or to 'ALL'. Your replies can be read through, re-edited, printed, saved to disk or deleted at a later stage.

Quitting MaxiMiser automatically compresses your mail into a REP file which contains data on which conferences the messages should go to. You can then log back on to your BBS and upload this REP file to MaxiDoor which then de-compresses the file and puts each message into the relevant conference. Simple, quick and efficient!

The present version of MaxiMiser is v1.20 and is available from most FNet BBS and the ST Club. Registration after a 30 day trial period is only £11.50 (sent to a UK address) where you receive a key file which optimises MaxiMiser's performance. This is a mature piece of software which is continually updated and supported with a full GEM version in the pipe-line. The importance of MaxiMiser and MaxiDoor on the ST BBS scene is not to be underestimated. The fact that it can be used to access messages on PC-based FidoNet Boards and its increasing availability on a spreading number of Boards throughout the FNet network has bought a maturity to ST BBS communications the computer badly needed.

Don't hesitate to use it and don't forget to register.

```
Date: 11-09-91 (00:26)      Message Number: 10430 (21 of 81)
To: MARK BAINES           Ref #:
From: ROV FLORENTINE      Read: Public
Subject: NEH STAPP        Conference: EUROTECH
```

Left: Reading a message about ST Applications

```
> ST APPLICATIONS is a monthly magazine, 1.50 quid an issue or
> pounds a year subscription for 60 well produced A4 pages. We a
> currently on issue 12 (December)
```

Don't forget to tell them about the Disk Mag.

--- MaxiMiser*ST 1.20 @: 23

Originated from Micro-Mola BBS (UK*1010) (Fnet 1010)

EUROTECH: [R]eply, [O]ut, [+]Next, [-]Previous, [P]rinter [/]Again [O

Left House Button = Back Right House Button = Forward Both

Pos	Hsp	To	Not Avail From	Subject
1	1274	MARK BAINES	ROB DANSKIN	MULTIEM
2	1275	MARK BAINES	ROB DANSKIN	MAXIMISER
3	1277	MARK BAINES	SERGE MARELLI	MULTITASKING
4	1278	MARK BAINES	SERGE MARELLI	REP FILE
5	1279	MARK BAINES	SERGE MARELLI	PROXY
6	1280	MARK BAINES	SERGE MARELLI	VIRUS
7	1285	MARK BAINES	LASSE ELORUP	HIGH DENSITY DRIVE
8	1287	MARK BAINES	JEFF HARTSHORNE	MULTIEM
9	1289	MARK BAINES	JEFF HARTSHORNE	MULTIEM
10	1290	MARK BAINES	STUART LOCKEY	VIRUS
11	1291	MARK BAINES	STUART LOCKEY	MULTITASKING
12	10781	MARK BAINES	CLIVE STRUDWICK	ADDRESS
13	10746	MARK BAINES	ROB DANSKIN	OPUS 'N' CHIPS
14	10754	MARK BAINES	RICHARD CONWAY	OPUS 'N' CHIPS
15	10750	MARK BAINES	LASSE ELORUP	RIFTY COMMS PRG
16	10759	MARK BAINES	COLIN CAMPBELL	PC-SPEEDY
17	10770	MARK BAINES	COLIN CAMPBELL	OPUS 'N' CHIPS
18	10771	MARK BAINES	COLIN CAMPBELL	VER DAD'S PAPER

Select Pos to read or return for more (0 to Abort) ? |

Right: The Quick Scan List of Personal Messages

Jeremiah's Journal



Splinterbone

Jeremiah sets out to explore the final frontier, and finds himself very much at the sharp end as he attempts to successfully command a squad of battle-scarred space marines in...

The game comes in the usual large box which contains two A5-size manuals and two disks, as well as an official software registration card and some Impressions advertising material.

The first manual is a fairly brief affair containing just six pages in English, and a similar number of pages in three other European languages. This is the Breach 2 Tutorial Guide which will take you through a specific scenario, called "Hostage Shield", as your introduction to the concepts and mechanics of the game. Unfortunately, the tutorial is not as comprehensive as you might suppose since the six pages of instructions actually contain the same guide twice - once using keyboard commands and once using mouse commands - so you only really get three pages of information.

The second manual is a much different affair, comprising 60 pages (all in English) discussing in depth the wealth of background detail and data which have gone into the game.

The basic plot behind the game is that, following several decades of intergalactic expansion, the colonists in a cluster of stars known as the Local Group lost contact with the home planet, Earth. This was almost disastrous as the colonists were dependent on Earth for construction support and technological updates. From out of the years of turmoil and chaos which followed, two separate governments emerged - the Federated Worlds (FW) and the United Democratic Planets (UDP). As too often proves to be the case, these two bodies adopted mutually hostile attitudes and declarations of war between them did not take long to materialise. This is where you come in.

The Federated Worlds are mounting a major campaign against the UDP forces, and you take the part of a squad leader in charge of a specialist combat unit of space marines chosen to undertake any one of a series of "surgical strike" missions in support of the main offensive. These missions, of course, comprise the various scenarios which are included in the game.

As well as this basic plot detail, the main game manual also contains full descriptions of the game controls and features. The various screens and icons are fully discussed, the characteristics and attributes of your marines and all of the ten possible types of opponent whom they may face in battle are comprehensively explained, and the function and uses of the various weapons and other items of equipment which are available to you are extensively detailed.

All of this serves to demonstrate that the game has been put together using some soundly worked out principles and some minutely detailed ideas, and that the designer has taken great pains to remain as realistic and consistent as he possibly can within the context of the game world that he has created. When someone goes to that much trouble, and devotes that much attention in the design process, you can't help but expect a very decent game to emerge at the other end.

Starting off

The two disks in the box comprise the main game program on one and the various scenarios on the other. The scenario disk also contains the Scenario Builder program which allows you to design and implement your own Breach 2 scenarios, or edit those that are provided. Both disks can be freely copied and it is recommended that you do play from copies as the program writes to the scenario disk during the game.

Once the game has loaded, you will need to go through the copy protection routine which is of the acceptable "page/line/word" type. The only point to bear in mind is that you must type the word in as it is spelt in the manual - Americanisms included - as this is what the game expects.

Once past this stage, the first important screen of the game is displayed - the Assignment



Screen. This screen consists of three windows and a number of buttons. The full length window on the left contains a list of all the available scenarios. The topmost half-length window on the right contains the names of all the squad leaders available to you, and the bottom righthand window contains the names of those scenarios currently in play.

The first thing to do is to actually create your first squad leader as none are supplied with the game. This is a very simple exercise. You just need to click on the create button below the squad leader window, whereupon you will be prompted to enter a name for the leader, and then the program does the rest. Each squad leader appears to be created with the same basic attributes but these will change with experience so that as you play through the scenarios, probably adopting different tactics each time, each squad leader will develop into a distinctly individual personality.

Once you've created your squad leader, you then need to create a playable scenario to put him in. This is done by highlighting a scenario to play, then highlighting the squad leader to play it, and then clicking on the create button below the Scenarios In Play window. You will be prompted to give the newly created scenario a name of your own, and then you are free to enter the game world and begin to play the game proper. Each squad leader can only be involved in one scenario at a time. Therefore, if you wish to take on more than one scenario at the same time, you will need to create different squad leaders to command your forces on each occasion.

The final selection you will need to make is whether to play at the beginner or the

experienced level. The main difference between the two is that in the beginner game you are able to see as much of the surrounding terrain as can actually fit in the map window, whilst in the experienced game your view is limited to just a few map squares around your current location because the game will recognise that you are unable to see through walls or around corners.

Playing a Mission

The selected mission is commanded from the main game screen. This screen consists of a large map window which occupies about two thirds of the full screen area. This window is bordered on two sides by a number of icons and a smaller statistics window.

The icons are used to instruct your marines to carry out a variety of actions, such as examining objects, picking up and dropping objects, arming weapons, using weapons, opening doors, using liftshafts and actually moving about the terrain. As well as these, there are also icons to enable you to access your mission orders, save a position or load a saved position, move to the next round, and examine the equipment carried and abilities possessed by your whole squad. This particular icon allows you to move items around between the members of the squad in order to spread the load of equipment evenly and to place specialist items into the hands of those marines best able to use them.

The weapons available in the game cover the expected range of laser pistols and rifles, smoke and fragmentation grenades, and rockets and proximity charges. As well as these there are some more exotic items available such as neutron bombs, electronic shields and chronokleptic tablets (which speed up movement ability). Some of the specialist equipment available includes a camouflage suit which renders the wearer virtually invisible, detectors which can sense the presence of opponents as well as the presence of booby traps, and crack units which can be used to access enemy computer installations and gain valuable data.

The statistics window gives you a breakdown of the abilities of the currently selected marine. These abilities are classified as movement points, vitality, health, encumbrance, accuracy, detection, cracking, and rounds of

ammo remaining. Vitality represents a marine's energy level, and when it reaches zero he is considered stunned. Health is fairly self explanatory, and when it reaches zero the marine has died. Encumbrance represents the load that the marine is expected to carry. Accuracy tells you of the marine's ability with shooting weapons, detection represents ability with detecting devices, and cracking represents the same abilities with cracking devices. However, the most important attribute is probably the available movement points as all actions carried out in the game cost movement points and therefore the more points a marine has the more flexible and complex the commands which can be given him.

Gameplay is based on a "turns" system. You issue orders to each of your marines individually until all available movement points are exhausted. Think carefully before you act however as all your commands will be executed as soon as you issue them, so that if you wish to retract an instruction you will still lose the movement points expended. Once you have finished making your decisions, you click on the Next Round icon and your opponents takes their turn. And so it continues, until either you successfully complete the mission or your squad gets wiped out.

Your opponents come in a variety of guises including wild beasts, marauders, alien soldiers, tanks, robots and the mysterious seekers. Each enemy group has its own distinct characteristics and attack patterns, as well as a reasonably efficient AI, which makes them challenging opponents and demands the adoption of different tactics by your marines in order to cope with the changing shape of their assaults.

Adding Variety

The player interface is very easy to understand and that makes it just as easy to get into the game very quickly. However, there is a huge difference between being able to play the game and being able to win at it. This is a game of complex skills and tactics and one crucial decision can make the difference between disaster and triumph. Learning how to deploy your squad properly and utilise their abilities and equipment efficiently will take a great deal of time and experimentation. In this respect

the tutorial will, I'm afraid, be of little use to you. Although it adequately, if briefly, covers the mechanics of the game, the tutorial doesn't really give you any insight into how you should actually use the information you've been given. It will only be through practice, and probably repeated failure, that you will begin to grasp the essentials that will lead to victory. However, this time will be well rewarded when you

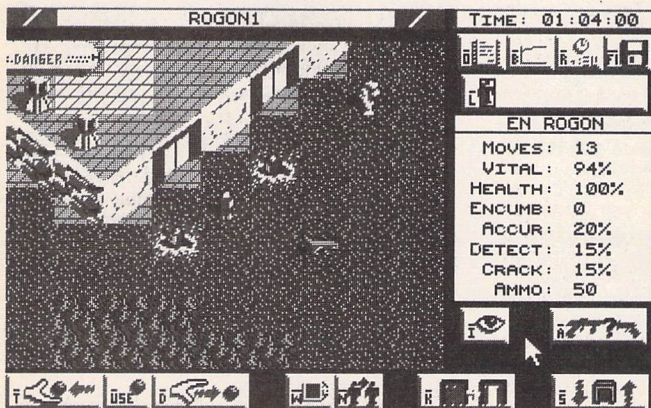
find yourself successfully negotiating the easier scenarios and advancing into the more demanding and juicier missions.

The scenarios vary greatly and you'll soon find yourself busily engaged in such activities as rescuing captives, crossing rivers, taking hill positions, clearing buildings and destroying enemy gun emplacements. The difficulty levels run from the easy to the very hard, but if you don't feel satisfied with the missions provided, you can use the scenario builder program to create your own, or to change the existing ones so that they are more to your taste. The features and operation of the scenario builder are fully explained in the manual and just about every detail of the game can be modified to your requirements. You can also "chain" individual scenarios together in order to form larger, longer and even more difficult missions, or to create an entire campaign of your own.

If this still proves to be insufficient for your purposes, then Impressions have released a Campaign Disk 1 for the game which contains 24 new scenarios ranging from planetary invasions to spacecraft boardings. This disk costs £14.99 direct from Impressions and further campaign disks are promised in the future.

Breach 2 has been designed as part of *Omnitrend Software's Interlocking Game System (IGS)*. This means that you will be able to use the game in conjunction with other IGS products. At the moment there is only one other title published (but not yet available for the Atari ST), called *Rules Of Engagement*. This is basically a game of interstellar spacefleet warfare and the simple concept of IGS would be to attack and disable an enemy vessel in *Rules Of Engagement*, and then use *Breach 2* to transfer boarding parties to the stricken ship to carry out deck-by-deck mopping up operations. The idea of constructing software packages so that they complement, support and expand on the capabilities of each other in this fashion is a unique development and one that has an extremely rich potential. We can only hope that the potential will be fully realised.

Breach 2 is a game which is not likely to appeal to a mass audience. Its graphics are functional rather than spectacular, and its sound effects are fairly sparse. On top of this, much thought and effort are required in order to get properly to grips with it. The "whizz, bang, wallop" brigade are unlikely to find much to interest them here. However, if you're the kind of games player who enjoyed the classic *Rebelstar Raiders*, or the more recent *Laser Squad*, then you will find *Breach 2* to be exactly your cup of tea!



The large map window is where all the action happens. You use the icons around the edges to make it happen.

Product:.....Breach 2
 Designed and
 written by:.....Thomas R. Carbone
 (Omnitrend Software Inc)
 Published by:.....Impressions Software
 Price:.....£25.99

The **A to Z** of the ST

Compiled by Mark Baines

Part Seven: M

M Machine: Synonymous with computer.

Machine code: Synonymous with assembly code and the code compiled or assembled for a particular computer.

Machine independent: Language, technique or peripheral capable of being used with or on different types of computer.

Machine instruction: Machine code instruction.

Machine language: The binary 'language' the computer understands.

Machine readable: A form that can be translated by machine into computer bit patterns, such as magnetic media and MICR documents.

Macro: In a language or some applications, a word or key sequence that generates a string of instructions that perform a particular task.

Magnetic tape: Storage medium consisting of plastic tape with a magnetizable coating, rarely used now except for cheap backup storage.

Mailbox: Storage location on multi-user systems for passing messages and data from one user to another.

Main entry point: The place where execution begins in a program.

Main processor unit: The CPU.

Mainframe: A large general-purpose computer with extensive processing, I/O and storage capabilities as distinct from a mini or microcomputer, although that distinction is increasingly ambiguous.

Maintenance: The activity of altering programs and data to reflect changing procedures and needs and of documenting those changes. Also, keeping hardware in an operational condition.

Manipulate: To change the form of data or to perform operations on it.

Map: To establish a one-to-one relationship between the entities of different sets. Also, a list of data units and their locations in storage, as in a 'file or memory map'.

Mark: A representation of data in an optically detectable non-character form, such as a pencil line in a box. Also, a 1-bit used in transmission of data.

Mask: A pattern of bits that is used to control which bits of input are to be included in output. Typically, a string with a 1-bit in each bit position where the input is to be moved to output and a 0-bit where it is not. This principle determines what foreground object is displayed against a background on a graphics screen such as the Desktop icons.

Masked: Sometimes synonymous with disabled.

Mass storage: Any large storage, typically hard disks and tape over 200 megabytes, directly accessible to the computer.

Master file: That file that is the most up-to-date and authoritative in a system where multiple copies and generations of files exist. Also, the original, purchased software disks rather than their copies.

Matrix: Arrangement of items in rows and columns and, possibly, planes, each being identified by its co-ordinates.

Matrix character: A dot matrix character or character constructed of line segments, as in an LED display.

Media conversion: Transcription of data from one storage medium to another.

Medium: A physical means used to represent data for storage or transfer, such as the magnetizable surface of a disk.

Medium Scale Integration - MSI: Semiconductor

devices with 10 to 100 gates per chip.

Medium Resolution: ST's four colour display of 640 x 200 pixels.

Medium speed: A data transmission speed of between 600 and 4800 bits per second.

Mega - M: Prefix meaning one million (10⁶).

Megabyte - MB, Mb, Mbyte: A 'computer million' (2²⁰) or 1,048,576 bytes.

Megahertz - MHz: Frequency of one million (10⁶) cycles per second.

Mega ST: 'Three-box' version of ST with separate keyboard and expansion capability.

Member: A unit that makes up a group. In a hierarchy an element that is lower than or controlled by another, as in databases where records are members of files.

Memory: Medium or device capable of receiving, retaining and outputting data in binary form, often used to refer to semiconductor memory.

Memory cell: A single bit-sized storage cell.

Memory Form Definition Block - MFDB: ST programming data structure concerned with VDI raster operations (screen graphics).

Menu: In an interactive system, a hierarchical list of items with identifiers by which they may be selected by keys or mouse.

Menu bar: GEM application's primary menu consisting of a horizontal list on the screen top row from which vertical lists of items can be pulled for selection.

Merge: To combine two sets of data to form a single set, often by re-sorting the order of the items.

Message: In data communications, a unit of data with addressing and control characters transmitted between computers. Also, a communication from the computer to a user.

Metafile: GEM vector graphics file format with .GEM extender.

MFM: *Modified Frequency Modulation*. Outdated method of encoding data onto a magnetizable surface, such as floppies and some hard disks.

MFP 68901: *Multi-Function Peripheral 68901*. ST chip that controls RS232 I/O and provides four universal system timers and 16 interrupt sources, including monochrome monitor detect and Centronics port busy signals.

MICR: *Magnetic Ink Character Recognition*. Technique of machine reading characters printed in magnetic ink and generating their bit patterns for computer input. Commonly used for sorting bank cheques.

Micro: A microprocessor or a microcomputer.

Micro - μ : Prefix meaning one millionth (10⁻⁶). Also meaning 'very small'.

Microcomputer: Small, often personal, computer with a microprocessor. Typically, a desktop unit with floppy and small hard disk storage.

Microfloppy: Originally used to describe 3 $\frac{1}{2}$ " floppy disks.

Microprocessor - MPU: Single integrated circuit that performs instruction execution, monitor and control functions for an intelligent device such as a computer. The CPU of a microcomputer.

MIDI: *Musical Instrument Digital Interface*. High speed multi-channel, serial data link with up to 16 devices, usually musical instruments or controllers. The ST/TT has MIDI-in and MIDI-out ports.

Milli - m, M: Prefix meaning one thousandth.

Mini: Not as small as micro. Also a minicomputer.

Minicomputer: Computer between a mainframe and microcomputer in size, capability and cost, the latter being the main differentiating feature.

MIPS: *Million Instructions Per Second*. A measurement of the processing power of a CPU.

MMU: *Memory Management Unit*. Atari custom chip controlling the 68000's interface with the RAM and memory refreshing. Also, stores DMA's registers and helps to produce the video signal.

Mnemonic: Something that aids human memory. Also, applied to elements of a programming language, especially assembly code; e.g. RTS - Return from Subroutine.

MNP: *Microcom Networking Protocol*. Standard data error-correcting system found in most modern modems.

Mode: An operating condition that is one of two or more such conditions, i.e. command mode and edit mode. GUI/WIMP applications tend to be non-modal, one of their main advantages.

Modem: *MODulator/DEModulator*. Device that modulates and demodulates a carrier wave in order to represent data on a telephone line.

Modulation: The process of changing a carrier wave in order for it to carry significant data.

Modulator: Device that converts the computer's RGB colour signals into an RF (Radio Frequency) television signal.

Module: A part of a whole that is capable of separate consideration or use.

Modula-2: High level language developed from and a successor to Pascal with a modular structure.

Monitor: To check an operation as it is being performed and often applied to a program carrying out this function, especially low level debuggers. Also, applied to operating system routines that perform physical operations. Also, a visual display device.

Monochrome: Displays and print consisting of one colour on another.

Monospaced: Characters of equal width, such as the ST system fonts.

Most Significant Bit - MSB: In a bit group, the leftmost and highest weighted bit and transmitted last.

Motherboard: The main printed circuit board to which other removable boards connect.

Motorola: US company that produces the 680x0 series of processors.

Mouse: Device with one or more buttons used for controlling a special cursor for manipulation of screen items in GUI/WIMP environments.

Move bar: Shaded top border of GEM window which allows window to be moved to another position.

MS-DOS: *MicroSoft Disk Operating System*. Standard operating system for IBM PCs and compatibles. TOS works in a very similar way to MS-DOS.

MTBE: *Mean Time Between Errors*. Average time that a computer operates without a system software error.

Multi: Prefix meaning 'more than one'.

Multi-access: Synonymous with multi-user.

Multiprocessor: Computer system with two or more processors under control of a single operating system. The system may be carrying out parallel processing or may consist of a main computer with one or more specialized auxiliary computers.

Multiprogramming: Method of computer operation in which two or more application programs are being executed simultaneously by the interleaved allocation of a single set of computer resources. Most systems are interrupt (event) driven.

Multisync monitor: Display monitor operating at any line and frame frequencies, thereby being compatible with all the ST/TT's resolutions.

Multitasking: Operation of simultaneously executing a main task and subtasks that are either interleaved (by a single processor) or executed concurrently (by a multiprocessor).

Multi-user: Computer system that allows simultaneous use by more than one person, often at remote terminals.

STICKS AND STONES

"Atari basher? Me?" Günter Minnerup dons his most respectable cap as a constructive critic to suggest where the Fuji boys ought to get a grip on the needs of serious users.

For most people, the year 1992 has a special ring about it because it is supposed to be the year in which the internal EC market is completed. I am not quite sure why this year was chosen to highlight "the challenge of Europe" since the internal market does not actually come into effect until January 1st, 1993 - maybe the PR company that devised the campaign is the one Atari use for their hardware launch announcements. Come to think of it, Atari have more reason than most to be anxious about 1992: it could well be their make-or-break year. Following the financial turbulences caused by the ill-fated venture into the US retail market, Atari may well be poised to recover a lot of lost ground during the coming twelve months: the product range looks in better shape than for a long time, offering a seamless upgrade path from the basic 520STe via the Mega STe to the UNIX TT workstation, and the excellent portable ST Book to match; Atari Germany's Alwin Stumpf appears to have breathed some new life into the previously stagnant (to put it mildly) US marketing effort; support for software developers and serious niche markets such as DTP has markedly improved.

On the other hand, it may all just be too late. Good hardware alone is no guarantee of success, after all. There are just as many warning signs there as there are encouraging ones: over Christmas, which traditionally for me is a time to read even more computer magazines than normally, I examined the general, not machine-specific computer press for their Atari coverage - and drew almost a total blank. To the general public reading, say, *Personal Computer World* or *Computer Shopper*, Atari may as well not exist. The scene has changed quite fundamentally compared to about five or six years ago when there was still a fairly distinct line between the business and the home sectors: today they have all but merged into one unified PC/Mac territory, with the likes of Atari, Commodore and Acorn being squeezed downwards into the games department, or sideways into small niches (low-end DTP and video graphics, education).

So the end of 1992 may see Atari either emerging from the tunnel of the last two or

three years, with a thriving new image on the back of the Mega STe, TT and ST Book, or it may have sunk further into the games consoled quagmire, its top-spec machines relegated to neglected curiosities for die-hard Atari fans upgrading from their STs. Either way, it will not be a routine year. I know which outcome I favour, but then my views and desires are not going to affect the outcome one little bit. One thing I am sure about, though, and that is that if this is going to be the year of the great Atari comeback, Atari's own efforts are going to be decisive - sitting back and waiting for the punters to adopt the new range of off-white or grey plastic is just not going to work anymore.

With this in mind, I thought I'd forsake my usual monthly bout of Atari bashing and adopt a constructive stance. In fact, I do think that the guys in Slough, even those in Sunnyvale, are frequently criticised unfairly, given the legacy of the Pong and Warner past. It is not entirely Atari's fault that the ST has only been a hit among "serious" users in continental Europe, especially Germany: given the already established strength of IBM and Apple in the States when the ST was launched, its chances of runaway success in the US were always extremely slim. In the UK, Amstrad (with their well-oiled marketing machine honed on years of expansion in the consumer electronics business) and Acorn (with their unfair advantage by grace of the BBC and DES) were barring the way. Against that background, the astonishing success of the ST, with millions of machines sold worldwide, is a telling tribute to the quality of the design concept: cheap, fast, friendly and versatile.

So it is important to be clear about what we serious ST and TT users are criticising Atari for, and what we want to see in the way of improvements this year. We could all come up with an endless list, ranging from price cuts to decent hardware manuals, but for such suggestions to have any effect they need to be few, based on clear priorities, and preferably cheap(ish) to implement. With this in mind, here are my nominations for the three single most important measures if the ST/TT range is to have a sporting chance of making 1992 a good year for Atari:

1. Sort out the confusions surrounding the

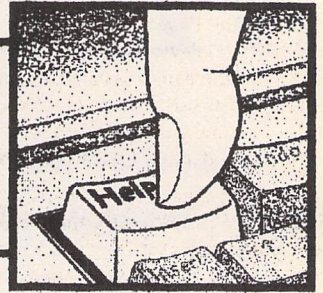
operating system. Having TOS in ROM may have advantages for a cheap, low-end games system, but has clearly not helped in the serious market. An operating system and user interface need constant bug-fixing and development (next steps: multitasking, cut-and-paste clipboard? Please...) and hence an efficient distribution system for upgrades. At the very least, new TOS versions should be made available on ROMs through dealers, and as disk-based versions or patch programs: in these days of multi-megabyte machines, a memory-resident TOS is less of a problem than it was for the 260/520STs of 1985. All ST owners should be able to install, say, the new 3.06 easily and cheaply, by plugging in a ROM themselves, going to a dealer, or buying a disk.

2. If DTP and related, graphics-based applications (CAD, document processing) are going to be Atari's salvation in the serious market, there needs to be an agreed standard format for vector fonts and graphics, with a standard output system. GDOS is a dog, and FSMGDOS, if it ever sees the light of day, will have an enormous struggle becoming such a standard. GDOS should be scrapped without further ado, and replaced with something based on the Calamus font and vector format, as the most widely accepted among the present user base, and/or PostScript, the undisputed (despite Apple's TrueType) industry standard. Why can't we have an ST version of the Adobe Type Manager?

3. The reorganisation of Atari's entire marketing, PR and support (developers, dealers, users) operations so that the serious business is separate from the leisure branch - even if that means the creation of some new identity such as the ABC used in the PC market. The much-publicised determination to crack the serious market needs a visible new beginning and public image-building exercise, such is the damaging legacy of years of games-driven mismanagement. The people who are good at flogging Lynx and 520ST supermarket packs simply aren't the right people to push the TT in higher education, the UNIX workstation scene or the prepress sector.

Is anybody listening out there in Slough and Sunnyvale? I fear not. But hope springs eternal, especially in Atariland.

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 considerable use to other readers!

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

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

PageStream 2.1

Andrew Wight - STA11
Wendy Durham - Forum STA12
Andrew Harvey - Forum STA13
Geoff Caplan - Forum STA13

I I have had a very similar experience to Andrew Harvey's (STA 13) where PageStream 2.1 is concerned. My initial delight at the capabilities and the general overall feel of the programme soon turned to despair as time after time it bombed, corrupted the fonts on screen or printed them incorrectly. Odd dashes or lines would appear, spacing would go berserk or letters just not print. I was tearing my hair in frustration and I think my ST began to fear for its life as I restrained myself from dashing it against the wall.

I'm using an STE, initially with 1MB of memory, and a second disc drive. I feel that the majority of these problems may well be peculiar to running with a second drive rather than a hard disc. This could explain these problems not being highlighted in reviews, assuming that most reviews will be done using a hard drive setup. After much trial and error I found that if I changed the file paths so that all loading and saving of documents, text and images was redirected to the second drive and if I put the relevant CG fonts disc into drive A *before* opening any document, thereby anticipating the file request box, nearly all the problems vanished instantaneously. In other words, dedicate Drive A to the CG fonts and use Drive B for everything else.

My feeling is that there is some kind of bug in the drive selection paths and that changing the use of drive A from fonts to other functions and back triggers this off. Both Times and Triumvirate now co-exist quite happily on the same page, which they would not do before. I think Andrew Harvey's problem with large fonts could well be related, as large fonts always activate the drive. Though how large is large? Mine works fine up to the 600 point specified in the handbook, although it still sometimes takes exception if I change the font style at this large size.

"Running out of memory - create temporary file" I have only had when going to print a document. I couldn't find anything in the

manual either, but I've found that saving the document to disc and reloading the programme will usually clear the way to print the document. It seems that the more you've done to a document in a single sitting the less memory space there is, even though the document itself may be no larger.

Since buying PageStream I have upgraded to 2MB. This has cut out most of the "Save to temporary file" messages, but I also think it helps reliability because the programme will then cache the initial font you are using, which once again means less disc drive access.

I'm no expert on computers, being the equivalent of a motorist who never lifts the bonnet, so I can give no technical explanation, but it certainly has worked. I can now run PageStream for hours with no problems at all, and hope that this experience will prove helpful to anyone else who is having a similar molar-grinding time with this otherwise wonderful programme.

Chub Pearson

● Apart from its tediously slow screen redraws, PageStream has two major bugs crying out to be fixed. The corruption on larger point sizes of Compugraphic fonts ('the dashes') is blamed on Compugraphic and many months on there is still no fix. The second problem is the erratic disappearance of fonts: on a hard drive system it is possible to recover from this by updating a few font-folders in the Font Manager. On a floppy system PageStream rapidly loses track of what disk is where and gives up the ghost. (This may be related to, or just compounded by, the erratic nature of TOS 1.4 in detecting disk swaps.)

You can reduce the size of PageStream documents by importing all illustrations as IMG files. The inability of PageStream to spool files is indicative of the fact that PageStream 2.1 was developed on and for the TT; whereas Publisher was designed to run on all STs.

I I was interested to read Andrew Harvey's points in STA 12 on PageStream 2.1. I too have experienced a few problems recently. My system is as follows: STFM 2.5 meg, 48Meg HD, mono monitor, DeskJet 500 with CYMK colour cartridges, thus giving full colour printing (more on this later).

The biggest problem encountered so far is the memory-eating abilities of PageStream. I recently converted a Mono brochure from Timeworks to PageStream and was amazed to find that the PageStream file was double the size of the Timeworks file. This wouldn't be so bad if PageStream was capable of slaving files while printing, as Timeworks does, but this is not so and the only solution is to save two or three pages at a time - hardly state of the art!

Apart from the lack of inter-paragraph spacing mentioned by Geoff Caplan in STA 12, the only other major problem I have encountered concerns the Colour Separation within PageStream. The problem is that mono IMG's can only be printed in black and cannot be colour separated. Where's the problem? I hear you ask. Well, the problem arises when printing a four colour separation. PageStream insists on printing the mono image in all four colours, thus leading to a very messy IMG. This fault can be easily rectified on single sheet documents by putting all IMG's on the Master page and printing this first in Black and then printing the page with the Show Master off and the colour separation on. (If you've got PageStream you'll know what I mean.)

The DeskJet cartridges can be refilled with the four CMYK colours (Cyan, Magenta, Yellow, Black) available from System Insight (tel. 0707 276913).

Care should be taken in cleaning the old cartridges before refilling with the new ink, especially yellow! System Insight supply the necessary cleaning fluid which should be used. If refilling new cartridges then most of the existing ink can be removed by using the concertina bottles supplied to suck out the unwanted colour before cleaning.

Impressive results can be gained from PageStream but care needs to be taken when inserting the Colour Cartridges because PageStream cannot be paused between Colour Separation printing. The following method has to be employed:

Insert the Cyan cartridge into the DeskJet and switch on the system. Select Colour Separation when printing. After Cyan has printed, PageStream pauses to create the next separation, which gives you enough time to switch the printer off-line, remove the Cyan cartridge and insert the Magenta, return the paper to the sheet feeder and switch the printer back on-line to continue printing. This process then needs to be repeated for Yellow and Black.

If you've put the cartridges in properly everything will be Hunky Dory, otherwise some of the colours can be a bit streaky. In an ideal world PageStream would allow you to print colour separations one at a time, in what ever order you wished, and thus give you a chance to test colour cartridges before committing yourself to paper.

A tip for DeskJet users with PageStream: when editing colour values try and keep the percentages below 80-90%. This restricts the ink flow and thus colours will not run or bleed as they can when 100% is selected. The PageStream manual suggests buying a pantone col-

our guide, which costs over £150. A cheaper alternative is to buy Computer Color by Michael and Pat Rogondino, Published by Angus and Robertson, ISBN 0 207 16822 9, £16.95. It contains 10,000 computer-generated colours complete with the colour separation percentages, and is well worth the money.

PageStream isn't brilliant by any means but good colour printouts are possible with time and patience, and presently it is the only colour DTP for the ST.

Andrew Lee

Q I'm running PageStream 2.1 with a DeskJet 500 printer. According to an information disc a program called FPRINT.PRG can increase printing speed by a factor of four. Where do I get it?

H D Smith

I I notice within your Forum pages a letter from Bob Almond concerning PageStream 2.1 and the use of public domain Adobe postscript fonts. imageArt now has a large selection of these fonts available for use with PageStream.

Terry Willimott

imageArt, 081-767-4761

Timeworks Publisher 2

I I have just received my upgraded copy of Timeworks Publisher 2 from GST and would like to share a few findings with others who may also have received this and been rather frustrated - I know I was!

The new Timeworks is a very fussy program; indeed I feel that its memory management routines need a great deal of attention. To begin: my system is a 2.5Mb STFM, TOS 1.4, 105Mb SupraDrive with HP DeskJet 500.

On the first occasion that I attempted to install the program for a mono monitor and DeskJet @ 300dpi into a 16Mb partition with approximately 8Mb free, I was greeted by a succession of error messages, namely "Problem reading product master disk" and finally an "Insufficient memory for this installation".

Attempting the same for a mono monitor with DeskJet @ 150dpi gave no errors and FONTWID ran properly, so I wondered if Master Disk 6 was actually corrupt. I was able to extract all the files by re-writing INSTALL.TXT to extract only files which had previously reported the error.

(I later learned, having spoken with Softline, that the "Problem reading..." was really an "out of memory" error.)

Next, FONTWID - more problems; the Zapf Dingbats were installed for screen use but not for the printer and so there were no bullets available. Everything else appeared to be there, however. Upon examination of the font files with Fontkit Plus 3 I discovered that the screen fonts were complete, but that the printer font only contained 11 or so characters. Was this a file corruption, and did this cause

the installation failure?

The clue to all these riddles is given above; namely the "out of memory" errors.

I was attempting the installation after a normal booting of my system. My auto folder contained the following: Poolfix3, Tos14fix, Supboot, Supclkrd, Uis_III, Quickste, Neoload and a 256K Multidesk loaded with Djreset, Neocntrl, Trashcan, Rat_Trap, Uis_call and, in addition, Neo_queue was there, too. When using a GDOS application, G+PLUS finds its way into the auto folder as well.

The presence of so many memory-resident extensions was causing problems, even with 2.5Mb of memory. The *only* way I was able to correctly install the program and run Fontwid was to boot the system with only Supboot and GDOS/G+PLUS and *no* accessories.

The only combination of memory-resident programs and accessories that I have found, so far, that will allow the "Testcard" to be printed correctly is: Poolfix3, Tos14fix, Supboot, Supclkrd, G+Plus, Neoload with G+Plus and Neocntrl as accessories. Naturally, Neodesk must be unloaded when Publisher is executed.

All in all, considering the "advantages" over Version 1, I cannot see why all this should be so - it smacks, to me, of sloppy programming, brought about by the conversion from PC-compatible to the ST. This is hinted at by the fact that the screen fonts have either a ".cga" or ".vga" extension, rather than ".fnt".

However, if anyone else has run into any or all of the above, perhaps this will have been of assistance.

Ian Braby MRPharmS

● The Publisher 2 installation program would be greatly improved if it offered the option to install only the fonts required by the user and if it was able to calculate the RAM and disk space required for the installation requested. When installed for a 300dpi printer a GEMSYS folder of around 4MBytes is created, and some of the printer font files are over 300K! Trimfont makes the whole set-up more usable and vastly reduces the amount of disk space used.

To be fair to GST, the problem has arisen because they have answered criticisms over the Publisher 1 fonts by including a greater variety of typefaces and more smooth, large display fonts with Publishers 2.

UIS III

Kevin Busby - STA14

I I think that Kevin Busby has missed a point in his otherwise excellent review of UIS III (must get it soon...). While it does seem that the programmers have failed to account for the slightly different layout of the UK ST keyboard, I think it is only fair to point out that Control-[N] is just as awkward for Americans as Control-[#] is for us. Maybe configurable short cuts next time?

Les Bessant

Spurious Spaces?

COMPO Hotline - STA10

Anthony G Curwen - Forum STA14

I Much informed debate exists about the 'full stop - space - space' convention. Traditional teachings for typists using monospaced typewriters has been to put two spaces between sentences within a paragraph. Convention in typesetting, however, is to put only one.

With word processors, the original metaphor for their existence was as replacements for the monospaced typewriter. However, this metaphor has become outmoded by the move towards using multiple proportionally spaced fonts in a document - the result is word processors now produce documents designed to look typeset, not designed to look typewritten.

Notable comment is made in one of the standard texts on the matter - R Rubenstein, *Digital Typography* 1988, Addison Wesley 1988, ISBN 0-201-17633-5. Eubenstein says: "Here are some general principles and guidelines that apply to document layout... don't impose Typewriter habits". And later: "Do not double space or add extra space after periods or other punctuation... adding spaces after punctuation encourages the formation of rivers of white within the text."

In answer to Anthony Curwen's question: for many good reasons we don't always update product release disks as soon as we have a minor software change, but - as previously discussed - a version of *That's Write* is available free of charge to any registered user who wants 'full stop - space - space'.

To each his own, I think - here I must admit that I too am afflicted by the 'stop space space' habit.

The reformatting problem on 1st Word Plus is not confined to putting a space after a full stop at the end of a paragraph. The paragraph must in fact end with a full stop. Thus constructions such as ":-" followed by an indented list will also cause reformatting problems.

Neal O'Nions

COMPO Software.

Compo Hotline

Q I'm very grateful for the tip in the February Hotline on how to reset hyphenation using a macro - this has been a nuisance for a long time.

What I want to know next is how to avoid getting a paragraph type of "A1" (standard settings) everytime I open a NEW.WO. What is more annoying is that "A1" always shows up as the default, so my first action has to be to delete it under the "Paragraph Layout" option. I don't think a Macro will help much and I can't edit the Writeon.Lay file (not using Write ON, anyway).

My third point picks up an old correspondence with Neal O'Nions on the "That's Snap" acces-

sory, which doesn't activate as it should when a desktop isn't available or a dialog is open (I was trying to Snap within Neochrome). I was asked to try just within Write ON as a benchmark, but with a dialog open I get no result.

Lastly, there seems to be a problem with reading a second floppy loaded into drive A. The root directory is read, but no folders can be opened. I get round this now by selecting drive B next time I change a disk, and then back to A and so on. Is this a Write On problem or a TOS problem? (I think I've had the same problem with Easytext Plus.)

Just out of curiosity, what will happen if automatic saving is on and two different versions of the same document are held in the two work windows, i.e. if an earlier saved version is recalled and held as (say) D2 with a more complete version as D1? What gets saved? (I've just turned autosave off to avoid finding out the hard way.)

John M Shaw

ST Logo and TOS 1.4+

Jan Willamowius - Forum STA12

Q I have Logo which my children run on our STE. We have the same problem with loading files as Jan Willamowius did and so I was pleased to read his patch in ST Applications 12. I applied it using Monomon2 but found that this led to two bombs when attempting to load Logo subsequently. I found too that two of the figures in his original, the third: \$2fca and the ninth: \$2fba, differ in my original where they read respectively 29f8 and 29co. I tried using the complete patch and also leaving the two differences in my original unaltered, but on both occasions loading the program produced two bombs.

Once again may I say how much I enjoy and profit from ST Applications which provides such good information and unbiased reviews.

Veronica Tatton-Brown

• It seems that there are a number of subtly different versions of Logo and the fix printed in issue 12 is only applicable to one version. An alternative (and much simpler) fix to the problem of running Logo on the STE is to use it in conjunction with a replacement Item Selector. UIS III does the job, as does the Shareware Little Green Selector on disk UTI.156.

Atari Planetarium

E A Symons - Forum STA14

I Atari Planetarium was written by Deltron Ltd. and issued by Atari for their 8-bit machines. A conversion was made by Deltron for the ST computers, but this was not issued as a commercial program. As a consequence it seems to have been released into the public domain.

I have a copy which I obtained from Software PD Service as their disk MISC 21. It is in the South West Software Library catalogue as

Disk 1405.

I In the version of Planetarium that I was sent by Softville the credit screen states that it was published by Deltron and is copyright to them and Atari. It is on several PD library lists in this country and is not mentioned on the recent Atari "black list".

Ian Petty

• I find it difficult to believe that the Deltron software was ever on sale at £90 (the price Mr Symons remembers paying for 'Planetarium'). There again, if our guess that it was Robtek (aka Club 68000, RIP) is right, then the story becomes more credible. The wags at Robtek pulled a number of un-funny stunts on their customers.

We have been holding back for a couple of years from adding the Deltron/Atari version of Planetarium to the PD Library. There is no 'This is PD' style statement in the software or accompanying documentation. On a related point, there are no PD versions of FastCopy Professional. We will be grateful for information on PD services supplying this program.

Sage Accounts

Mike Hill - Forum STA14

A I have been using Sage Businesswise Accountant Plus for two years now on my ST with twin disc drives with no problems whatsoever (apart from the odd user failure!). Initially I had a 520 STFM with single sided drive, and later this became a 520 STE, since upgraded to 1MB and now (since buying Page-Stream) up to 2MB. The Accountant Plus ran perfectly through all these setups.

If Mike Hill has any specific problems outside of his general query I'll be happy to give him any assistance I can.

Chub Pearson

Powered Up Scanner

Anon - Forum STA14

A When I bought my Scanner I left it plugged in and powered up but after only a couple of months a fault developed which proved to be the transformer. This was replaced by Golden Image. Since then I have noticed that the transformer will get quite warm if left plugged in when the computer is used for long periods.

Therefore I have taken to leaving it unplugged until I want to scan something, but I leave the cartridge permanently installed. So far this has caused no problems.

Jock Grant

STOS

John Megson - Forum STA13

A I had exactly the same problem. It turned out to be caused by GDOS. As I use a hard disk, GDOS is always loaded when I boot. It

appears that STOS has problems in that it crashes on exiting. Occasionally it exists OK, but if re-run it produces strange errors. Now I rename GDOS and reboot if I want to use STOS.

Iain Laskey

TOS 1.4+ Bugs

Peter T Wilson - Forum STA5

Martin Walsh - Forum STA8

Andrew Watson, Chris Richardson, Henry Moring - Forum STA12

John Watkins - Forum STA13

A The new version of Multidesk Deluxe has an option to remove the 1.4 double-click problem. I run it with Neodesk 3.01, and it can now load accessories on the fly from within Neodesk. The one very important point to watch out for is that the Neodesk accessories must not be in the non-resident directory or Neodesk will hang! I have found no other problems yet.

40 Folder bug: I have found the same problem as Henry Moring with TOS 1.4, and had to re-instate the ICD 40-folder fix.

Anon

DeskJet Matters

Keith Baines - Forum STA1

Andrew Barclay - Forum STA3

David A. Jones, HHPaterson - Forum STA5

Will Mowatt, John G Frazier - Forum STA6

David J Lindsay - Forum STA7

Paul Bates, John Wilkinson, N Linett, J I Logan and Jeremy Hughes - Forum STA11

Mathew Carey, Dave Henniker - Forum STA12

J C Ingate, Tony Brown - Forum STA13

Martin Dryden, D Maydew - Forum STA14

A With reference to the difficulty D. Maydew is having with Protex and the HP DJ500, I have been using the same combination (Protex version 5) for some months now, with only the odd hiccup caused by using proportional text in headers, footers and footnotes. Printing has never been a problem, so I can assure you that the Protex printer driver is fine.

I presume that D. Maydew is aware that the DJ500 must be "kick-started" by either switching it on before the ST, or making use of a suitable piece of software to fool the DJ into thinking that you have just switched on the ST. It may well be that Calamus has this built in, since I note that Protex works correctly if Calamus is run first.

A neater solution than running Calamus is to install the accessory DJ Reset, (which is available on disk PTR.11 from the ST Club). This can be run from within Protex by clicking on the "PROTEXT" at the top left of the menu bar, clicking on the accessory, and then on "Quit" to return to the normal Protex screen.

Patrick Huston

Module Manager

Q I have a copy of Lattice C v3.4. I generate relocatable binary files in GST format and successfully link them into executable programs. I have accumulated a large number of "utility" binary modules and I would like to place them into a library for easier use and maintenance. No such library management is supplied with Lattice C v3.4. Do you or any of your readers know of a utility which will serve this purpose?

Peter Walker

Colour IMG

I To correct the News item in Issue 14, Seurat is not the first graphics programme that can save/load colour .IMG files. Atari's Hyperpaint (now upgraded to Hyperpaint 2) has had the capability for two years now.

Q Is it possible to save a colour IMG file from the ST and load it directly into a PC? It's possible to do this with mono IMG files, but are there any wrinkles with colour files?

John Weller

• There should not be a problem, but we have heard that some PC software vertically squashes IMG files saved in ST medium resolution.

Technical Information

P. Chamberlain, L. Dewhurst - Forum STA3

Iain Laskey - Forum STA6 & 9

Alan R Cooper, Dr DM Weber - Forum STA10

Marcus Bointon - Forum STA11

Keith Baines - Forum STA12

David Gray - Forum STA13

Thomasz Kasperkiewicz, Chris Marland - Forum STA14

Q Having had a quick look through ST Format, before deciding not to buy it, I note that Atari are finally releasing the developers' documentation. Unfortunately, the price seems rather high - around £100 for the full set. The question is: how much of this information is new? An old version of the Hitch-hiker's Guide to the BIOS is readily available, and the Computes! reference books cover the OS functions up to TOS 1.2. Is Atari's documentation worth the price? A review in ST Applications would help. How about it?

Les Bessant

• Jon Ellis has prepared a full review of the Atari DocSupport package. It will appear in issue 16.

DIY Hard Disk

Q I have been given (free and gratis!) what I believe to be a 20 meg Rodime Hard Drive. It is full height and has a black plastic fascia for fitting into a desktop machine. The model

number is LR 50240 and it has a Logo of letters CSA on the side with the numbers '12v 4a, 5v .75a'. It is uncased and has no power supply but appears to have standard interface and power supply connectors. What I would like to know is this: is it what I think it is? Is it possible to interface this hard disc to my 1987 Atari ST(M) with 2.5 Meg memory? If so, what do I need, where do I get it from, how much will it cost, can I do it myself and - most importantly - is it worth it?

I appreciate this is a lot of information to ask for, but I am sure many Atari owners may find themselves in similar positions and would appreciate some helpful advice on how to proceed. I would like to handle the project myself as I have 'tinkered' with computers ever since upgrading my Dragon 32 and building a Disc Drive Interface, so I feel reasonably confident to tackle a fairly straightforward task.

G P Coxhead

• I can't find any data on a Rodime LR 50240 drive, but it probably is possible to connect this drive to your ST. Whether it is worthwhile is another matter. If you are lucky and the Rodime drive is a SCSI device then you will need a host adaptor plus software and cable (around £90), a case and a power supply (£50+). Suitable kits of parts are available from companies such as Power Computing, Evesham Micros, Gasteiner and Ladbroke Computing. These companies will also be able to advise on the suitability of your Rodime mechanism. But when you can get a new guaranteed 40MB drive for under £300 it is debatable whether it is worth buying the DIY parts for a free 20MB mechanism.

ICD Software

Q I currently own a Powerdrive 900 series which I purchased last year. I will shortly be upgrading my computer to a Mega STE, when they finally arrive in the U.K. - not long now, I hope! I have tried to obtain a software upgrade from Power Computing, but they have proved to be un-coöperative. The only other way to obtain the Software is via the ICD BBS (010-1-815-968-2229), but unfortunately I do not possess a modem. I would be grateful if someone would be willing to download the software for me and let me know the cost of this service?

David Blenkinsopp

Olivetti JP-350

Q I was hoping that you may be able to give me some advice on Inkjet printers. I am considering purchasing either the HP DeskJet 500 or the Olivetti JP-350, but I don't know anyone who has one to ask about their hands-on experience.

The HP is well supported with drivers but I am not sure about the Olivetti. Can it use the HP drivers? There are slight differences between the models but I am not sure if they are important or how easy it is to use these facilities with

the ST.

I saw and was most impressed with the new HP DeskJet Colour printer. Has the ST any drivers to use this new printer?

Once again I must thank you for producing the only decent ST magazine available in this country. Apart from the programing and music sections, I find the rest very interesting. How about more on DTP, especially hands-on experience highlighting the strengths and weaknesses of programs?

John Shill

● Sorry, no information to hand on the Olivetti JP-350. If it is a badged version of the HP DeskJet 500 (or Plus) then there should be no problems with using DeskJet drivers. Ideally, get something in writing from the retailer offering the Olivetti printer.

In its monochrome mode the colour DeskJet should work with current DeskJet drivers. A driver for PageStream should be available, but we do not know of any other software which will support colour printing with this printer. A GDOS driver would be a good idea.

Indexing programs

Q I am aware that many WP programs include an "index" option whereby marked keywords in a text may be extracted (along with the numbers of the pages on which they occur), sorted, and presented as an index.

Any index - well, almost any index - is better than no index at all, but such modules may serve to encourage the production of indexes of this nature:

Ruritania 15, 16, 17, 23, 25, 33, 108, 109,
113, 121, 142, 144, 146, 150, 151, 166,
203, 344, 362, 377, 378, 380, 381, 382,
404, 405, 421, 424, 427 ...

and so on, indefinitely, which is third-rate indexing practice, at best. What is wanted is something more like:

Ruritania

Agriculture 113, 404-405

Archaeology 108-109

see also subheading Prehistory

Geology 15-17

etc....

Have any readers of STA had experience of making full, informative indexes to the contents of long runs of periodicals, or to lengthy texts (e.g. major theses), perhaps using the simple technique described initially to do some of the basic clerical donkey-work, but going on to create a formatted end-product with useful headings and subheadings (plus inversions and cross-references as required)? What programs are best suited to this kind of work?

Anthony G Curwen

MasterCAD

Q I have owned and used Mastercad on a two-floppy system for a couple of years, but

recently acquired a hard disk and installed Mastercad on it. (On Disk C:\ as set out in the manual though it runs fine from F:\ also.) When I come to print using OUTPUT.PRG, however, the system locks up as soon as the print icon is selected. If I run OUTPUT.PRG from drive A:\ instead I can print without difficulty.

I phoned Michtron and spoke to John Symes who was unable to help, principally because Michtron were not sold the source code when they bought Mastercad from Indi.

Obviously I have a workaround, but has anyone else come across this one, and is there a cure?

John M Shaw

Magic Sac - Spectre

I When I received various "INI" Disks from you there was one document which detailed disks containing info on the Magic Sac - Spectre History (the disk was from the ACE Australian Disk Mag). The docs were:

- a) Majic 87.Doc by Jeff Greenblatt.
- b) Majic 88.Doc by Jeff Greenblatt.
- c) Tipps 8990.Doc by Douglas D Hodson.

Are these available anywhere?

D J Richardson

● Sorry, no information on these files. I suspect that they are available for download on one of the major US on-line systems (Genie or Compuserve?) but cannot find any information about them.

Overscan

Q I have recently installed an 'Overscan' (disc INF.29) on my Atari STFM, which uses the border area to get more visible pixels - I am now using 816x280 in medium resolution.

I have noticed that the editors built into many Hisoft languages are incompatible with this. I use Lattice C v5 and Devpac 1, and on both of these the screen is messed up when something causes a line to be inserted or removed, for example pressing return or deleting a return.

I suspect this is because they blit parts of the screen around instead of redrawing the text, for speed, but are not checking the actual screen size used. Is there a way of getting round this?

Incidentally, First Word Plus is working beautifully, and is much nicer with the extra screen area.

Windows AT Once

Q Anyone out there using Windows 3.0 in protected mode on the Vortex ATOnce PC-AT emulator (software version 3.5)? If so, then I need some help.

I have successfully installed Windows using the 'setup/i' command and it runs quite happily in 'Real Mode'. However, when I try to

run it in 'Protected Mode' the startup screen appears and then the system 'locks up'.

Windows is installed as follows:

```
MS-DOS or PC-DOS system
VGA with Monochrome Display
AT type keyboard
English (International)
British Keyboard
No network
```

I'm using MSDOS 3.3 and my config.sys file is:

```
DEVICE=himem.sys /M:1 (version 2.60)
DEVICE=smartdrv.sys 256 256
FILES=30
BUFFERS=10
```

The autoexec.bat contains 'Path' info.

A couple of things to note:

a) PC-TOOLS (ver 6) reports only 640K available with 'himem.sys' loaded (i.e reports no extended memory) but without 'himem.sys' all the extended memory (1408K) is available.

b) 'smartdrv.sys' loads and reports the cache is located in extended memory, so it seems the extra memory is available via 'himem.sys'.

Any thoughts?

Garry V Rawlins

Wish Lists

I I was interested to read Britt Johnstone's "wish list", but have a few comments:

Quixx - if this is what I think it is (simple game involving dividing a rectangle to cut off a randomly moving alien thing), I may be able to help. The January 1990 Atari ST User cover disk included a PD game called Alien Blockade, written by David Scantlebury. It runs in low resolution only and is controlled by a joystick. It looks much the same as Qix on the Gameboy (not mine, I hasten to add!). I've included a copy with this letter, so perhaps it could be added to the library if you haven't already got it.

Outliners - yes please. I've used PC Outline at work, and found it quite useful (and it's shareware).

My own list would include (in no particular order):

1) A cheap all-modes monitor (doesn't have to be colour, I can live with grey!)

2) An auto folder program to set printer, palette and RS-232 configuration, thus eliminating the need to use DAs when memory is tight. I've been working on this myself, and so far I can set the printer, but as soon as Desktop loads, my colour setting is lost. I'll let you know if I can persuade it to work.

3) A graphic mode banner printing program. I've seen a PC program called Banner Mania, which produces enormous banners in numerous fonts, and even in colour. I've seen a program called "Let's Make Signs and Banners" advertised. Does anyone know how much this can do?

Les Bessant

Coping with Compression

Part II

DESKTOP DISCUSSIONS

Having dealt with the theoretical aspects of data compression two issues ago, it's time to look at the file compressors available on the ST. Readers of my old Saved Desktop column in Floppyshop News may regard this as going over old ground as I reviewed Arc, Zoo and LHarc during the summer of 1990. However, since then Zoo and LHarc have been upgraded and there is also a new product, an ST version of PKZip, to consider.

The file compressors under review all operate in a similar fashion. They take groups of files and store them in compressed format in a single file, usually referred to as an archive. Every file in a hierarchy of folders can be compressed, and the directory structure rebuilt on decompression. In addition to compression and decompression functions, most of the compressors have various housekeeping options connected with maintaining archives such as selective delete or viewing of files.

Of the four products under test, Arc is by far the oldest and most established. Still the compressor of choice for many public domain libraries, it offers an extensive range of options including an encryption/decryption feature for those concerned about security. The latest version of Arc is v6.02, released in November of 1989.

Zoo offers a similar number of features to Arc. In addition it allows comments to be tagged on to compressed files and can store multiple versions of the same file (useful for archiving source code). The latest version of Zoo, v2.1, was released in July of 1991, and offers two compression rates - normal which is compatible with the output of earlier versions, and a new high compression option.

LHarc has always been renowned for achieving remark-

able compression ratios, albeit at the cost of speed. It has also unfortunately become notorious for incompatibilities between versions - there was a stage when the Unix and Amiga versions simply couldn't produce compatible files. The latest ST version, v1.1316 dated December 1990, offers a new quick compression mode as well as improved compatibility with implementations on other machines.

The newcomer to the scene is STZip. Although recent, it comes from a strong background as the PC version, PKZip, has become the de facto compressor for that machine. The version of STZip that I tested was still a beta release, version 0.9, and is 'post-cardware': the author merely requests that if you use the product you send him an interesting postcard.

To test the performance of each of the products, I created an 803,502 byte directory structure containing a number of applications, and data files of various types. The times that each product took to compress and decompress the data were measured (several times where the utility had more than one level of compression) and the size of the compressed file generated was recorded. The results are shown in the table.

Going through the results, there can be no doubt that Arc is starting to show its age. It was one of the slowest performers and produced the second largest compressed file. Version 6.02 was a massive improvement over version 5 but it's now looking badly out of date.

LHarc v1.1316 is much faster than earlier versions - nearly two and a half times faster than v1.13b - although the degree of compression seems to have suffered slightly. The default level of compression was respectably fast and the degree of compression was still one of the best. However the quick compression option failed to work as expected (it produced an archive file larger than the files it was meant to be compressing) and even managed to be unreliable - I couldn't get LHarc to decompress the archive without bombing out. It's a pity about this as it degrades the entire product.

Zoo used to be a rather average product, compressing files just a touch faster and a little bit better than Arc. However, version 2.1 changes all that. The new high compression mode produces impressive results and decompression is very fast. Normal compression proved to be unreliable with packed executables which was more than a little concerning.

STZip's performance was a very pleasant surprise. It generated very compact files and also was the fastest. An additional plus was the built-in graphical interface which made using it very easy and intuitive. This is in stark contrast to the others which all used the command line for issuing instructions. Although STZip is rather limited in its features, it did have a useful built-in disk formatter.

Last time I concluded that Arc was the compressor of choice owing to its decent performance and widespread use. Two years on and I've had to change my opinion. Arc looks old and simply cannot be recommended any more. I was concerned to find that both LHarc and Zoo had reliability problems which marred otherwise impressive performances. STZip has made a most impressive debut and I look forward with anticipation to revisions. It's undoubtedly a must for those who have been put off by the complexity of other compressors.

Rounding Off

I can't finish an article on compression without mentioning MaxiRamdisk. It is a reset-proof ramdisk which has the added feature of compressing transparently all files written to it. The effect is almost magical to watch - a ramdisk set up to be 300K in size can generally store over 400K of data. As all compression is done automatically, it seems to the user as if the disk is growing in size as more files are stored on it. In spite of this compression overhead, MaxiRamdisk doesn't seem much slower than other ram disks. I've been using it for almost four years and it hasn't once let me down. Try it - it's public domain - and I think you'll be impressed.

William Iern

Utility	Compression Time (s)	Size of File (bytes)	Ratio (%)	Decompression Time(s)
Arc	330	511,423	64	154
LHarc (normal)	360	409,970	51	183
LHarc (quick)	555	806,747	100	-
STZip(implode)	240	414,878	52	97
STZip (shrink)	125	503,868	63	110
Zoo (normal)	300	502,664	63	-
Zoo (high)	437	382,997	48	149

Programmers' Forum

ST Applications' regular programming column continues with its review of techniques for inter-program communication. Also this month: an explanation of the base-page structure and a routine for converting DEGAS low resolution files into medium resolution files.

Inter-program communication

After last month's introduction to the subject of inter-program communication, we come now to discuss some of the finer points. Many of these are concerned with the problems of trying to create a general communications system. Last month's example contained a main application and an accessory that were *designed* to work together. Is there any way that programs can communicate/share resources without prior knowledge of each other?

In principle, this should be possible, as *anything* can be passed between programs in the message pipe (text, graphics, etc.), but there are some difficulties to be overcome.

Firstly, you may remember that the AES function `appl_find()` must be used to obtain a program's application identifier before `appl_write()` can be used to talk to it. This is all very well when the application and the desk accessory are designed to work together and can assume fixed filenames (as in last month's example), but for more general use there is a problem. How can an application guess the filename of its intended correspondent, in order to use `appl_find()`?

The short answer is that it cannot, but there is one simple way around the problem. It seems that in all current versions of the AES, the current main application (the foreground process) has an application identifier of 0. Therefore, if this is assumed, there is no need for accessories to call `appl_find` to identify the main program.

Secondly, there is no way to broadcast a message - for a main application to ask 'Who is out there?'

Thirdly, there is no standard protocol for the messages. If applications and accessories are going to understand each other, they must share the same language. It would be no good if one program's request for a status report were to be interpreted as an instruction to shut down permanently!

Message protocols

In an attempt to get around the latter two problems outlined above, several groups have attempted to specify protocols for communication using the AES message-passing system. Over the next few columns we will discuss three of these in detail: XAcc (published by Compo Software); GEM Tube v1.1 (by Pierre-Louis Lamballais and Douglas Allen); and the Venus-Accessory protocol (from the Gemini package).

Each of these has advantages - XAcc is rumoured to have been endorsed by Atari Germany and has the backing of a major software house (though it would be interesting to know how many of their products actually support the protocol). GEM Tube does not make use of the assumption that the main application identifier is 0, as it uses a rather elegant (and legal) technique to acquire the information. Additionally, GEM Tube is claimed by its authors to have been accepted by Atari. The Venus-Accessory protocol allows accessories to make use of special features of the Venus shell. Programmers' Forum has already printed a short accessory that used Venus to execute a program (see STA 10), a task that cannot normally be accomplished by an accessory.

Next month, we will start with the first of the protocols: Compo's XAcc. A change of subject now: the remainder of this column is given over to readers' letters.

What is the basepage?

Rather a long time ago, I am ashamed to say, Programmers' Forum received a letter from Herbert Sauro of Guildford. Having been mislaid for a while, and recently unearthed, it is definitely time that this was printed! Herbert writes:

1) In your first column (STA 2) you discussed briefly the basepage. I am not entirely clear as to the meanings of some of the fields present in this structure. In particular, could you explain what is the BSS? All I understand is that it has something to do with the 'block storage segment'. I wonder if you could elaborate.

2) In Figure 1 of your first column you also indicate a 'data' segment just before the BSS. Could you explain the function of this and how it differs from the BSS?

3) The other question that I have refers to the heap. I never use Malloc as one is so often warned of the limits of this GEMDOS call. Instead I use the built-in malloc. My question is, how does something like, say, Lattice C5 (which is what I use) know how much to Mshrink, since the start up code does not know my requirements and moreover I have no way of informing it. I may need 200K, on the other hand I may only need 2K. The only thing I can think of is that built-in mallocs allocate memory beyond the stack? I'm sure however that this cannot be the right explanation.

Let's start with the basepage. This is a 256-byte block of memory that GEMDOS allocates when it loads an executable file (.PRG, .ACC, .APP, .TOS, .TTP). It contains information which may be useful to the program when it runs. Listing 1 shows how the basepage might be represented as a C structure. The names of the structure fields are as defined by Atari, so they should be the same in your compiler's documentation.

`p_lotpa` and `p_hitpa` point to the beginning of, and to the byte just after the end of the Transient Program Area (TPA). This is the area of memory which is available for use by the program whose basepage we are considering. In general, `p_lotpa` will point to an address just above the memory occupied by the operating system, resident programs and desk accessories; and will generally be equal to the start address of the basepage itself. Similarly, `p_hitpa` will usually point to the start of the memory reserved for the screen, and will be equal to the value in the system variable `_memtop`.

Since programs are relocated by GEMDOS whenever they are loaded, they cannot make any assumptions about what address they will be running at. However, it is often useful to have this information, so GEMDOS makes it available to the program in the basepage. `p_tbase` points to the start of the text section of the program, `p_dbase` to the data section and `p_bbase` to the BSS. The fields `p_tlen`, `p_dlen` and `p_blen` specify the lengths of each of these sections. See the Box for an explanation of the different sections, including the BSS.

p_dta points to the default disk transfer area (DTA) for the program. This is used by the GEMDOS calls Ffirst and Fnext. Currently the default DTA is set to the same area of memory as is used to store the command line (i.e. p_dta = (DTA *)p_cmdlin). This means that any use of this DTA by Ffirst/Fnext will corrupt the command line. Therefore, either set a new DTA using Fsetdta or make sure that you have finished parsing the command line *before* using these functions.

p_parent points to the basepage of the parent process. This will usually be the Atari Desktop or NeoDesk/Gemini if used. Recently it has been suggested that this field should be regarded as private, and not used by application programs.

p_reserved and p_undefined[] are reserved parts of the basepage and you should not rely on any values you find therein. p_env points to the GEMDOS environment string area, and p_cmdline contains a copy of the command line (as entered in the dialogue box for .TTP programs). The string is stored in a fairly odd fashion: p_cmdline[0] is the length of the command line; the text proper starts at p_cmdline[1].

To my knowledge, the basepage always occupies the 256 bytes immediately preceding the start of the text section. However, programs are passed a pointer to the basepage

when they are started which makes it unnecessary to make such an assumption. Accessories find a pointer to their basepage in register a0 when they start. All other program types have the address passed on the stack, where it can be accessed using an instruction such as: move.l 4(sp),a0.

The information contained within the basepage is often used to determine how much memory to reserve for the program. This topic was discussed at some length in the Programmers' Forum in STA2, to which interested readers are referred. However, to answer Herbert's third question, I *think* that the Lattice C start-up code determines the amount of unused memory available to the program (i.e. between the end of the BSS and p_hitpa) and returns most of it to the system (15/16 for TOS versions < 1.4; 63/64 for TOS 1.4 and above). That which is retained is used for the initial heap. If one attempts to reserve more memory than this using the Lattice malloc() function, the library routine will presumably call GEMDOS Malloc for another chunk of memory. The problem with early versions of GEMDOS Malloc is the number of active blocks, not their size. By requesting memory from GEMDOS in a few large chunks and then cutting it up as required for the program, the Lattice library function circumvents the problem.

Converting DEGAS files

On to another letter, this one from Nicholas McBride of Dunstable. Nicholas has a small problem with picture file formats:

I have an Atari STE upgraded to 1040 and First Word Plus and Timeworks DTP. I bought the set-up with the intention of publishing a small-circulation magazine on the game of draughts. [...] I have drawn a draughts board and draughts pieces, using Hyperpaint, for the diagrams. I drew the pictures in low resolution, extension .PI1. I now need to get this into medium resolution for it to be of use with First Word Plus or Timeworks. Is there any routine/program you can suggest? It took so long to do, I don't really want to re-do it in medium resolution unless I really have to!

I can quite understand your reluctance! I'm not entirely familiar with Hyperpaint, but judging by the .PI1 extension I guess it is probably the DEGAS low resolution format. Working on this basis, Listing 4 is for a C program which will take a DEGAS low resolution file and convert it into a DEGAS medium resolution file (.PI2). It was written for Lattice C v5, but uses nothing odd, so it should be easily portable to any other compiler. Note that in the conversion process, some colour information is lost, so you should be careful which colours you use. Since medium resolution only supports 4 colours, most of the colour information must be discarded. In fact the program only takes account of low resolution colours 0-3; this may require some modification to suit your diagrams.

I guess that for DTP you may want to convert the pictures to the GEM bitimage (.IMG) format. This can be done easily using the SNAPSHOT and DEGASNAP tools supplied with the First Word Plus package. A pitfall to watch out for is the aspect ratio which changes dramatically between low and medium resolution.

Next month

Next month Programmers' Forum will feature more of your letters and continue the discussion on inter-program communication. Keep the letters coming in: hints on any subjects, or questions about programming problems should be sent to the address below. All contributions, no matter how simple or advanced, are most welcome. Please include your address on the letter, so I can get back to you if anything in your contribution is unclear. E-mail addresses are useful too.

Please send a disk if there are large chunks of text or ASCII source code: I have no time to retype lots of material. Naturally, disks will be returned if an SAE is included.

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

Text, Data and BSS - what are they?

In the basepage, several fields refer to sections of the program entitled **text**, **data** and **BSS**. For those who have not come across these terms, a little explanation is in order.

When a program is compiled or assembled, the compiler (or assembler) and later the linker, split up the output into three blocks. Into the first block, the text segment, are put all the executable code (in C, the functions); into the next, the data segment, all the initialised variables, and into the third, the BSS, all the uninitialised variables. When writing an assembly language program, the programmer has to decide what should be placed in each section using the TEXT, DATA and BSS directives. Different assemblers have different names for these commands: yours might use .text, .data, etc.

Although the data and BSS sections are both used to store variables, they are not equivalent. In C, some variables will be placed in one section, others in the other section. The segregation depends on how the variables have been declared. Variables with storage class auto are excluded from this analysis because their space is allocated on the stack at run time.

Static or global variables which are explicitly initialised as part of their declaration are placed in one group, those which are not go into another. Now, the definition of the C language guarantees that variables in the latter group start off with the value 0. This provides a way to save space in the program file on disk. Since all the variables in this group are going to start off with the same value, there is no need to store them individually: we can simply store a number indicating the total space that is required, and let GEMDOS zero an appropriate chunk of

memory at run time. The variables in the first group will have to be stored individually because they could all have different values.

If you had not already guessed, the first group make up the data section, the second the BSS. Examples of variable segregation are shown in Listing 2. The space savings can be quite substantial: you might want to reserve space for a screen buffer in a program using a declaration such as short screen[16000]; if this were put into the data section instead of the BSS, your program would take up 30K more disk space than was necessary.

The sizes of the three blocks, text, data and BSS, are saved as part of the executable .PRG file, as are the contents of the text and data blocks. Listing 3 contains C source code for a simple little program to print the sizes of the text, data and BSS sections of an executable file. These values are stored as three long words starting at byte number 2 of the executable file.

When the program is loaded, the text and data blocks are loaded into the TPA and a block of free memory after the end of the data section reserved for use as the BSS. The address and size fields of the basepage are then filled in.

On the ST, the operating system does not enforce any difference between data and code sections: executable code could be placed in the data section, and executed normally. Similarly, many PD programs written in assembly language have all their initialised data in the text section. This is not good practice, however. On some other computers, executable code and data are treated quite differently, and mixing the sections in this way would be unacceptable.

Listing 1 The basepage structure.

```

=====
struct basepage
{
    void *p_lowtpa;
    void *p_hitpa;
    void *p_tbase;
    unsigned long p_tlen;
    void *p_dbase;
    unsigned long p_dlen;
    void *p_bbase;
    unsigned long p_blen;
    void *p_dta;
    struct basepage *p_parent;
    unsigned long p_reserved;
    char *p_env;
    unsigned short p_undefined[40];
    char p_cmdlin[128];
};
    
```

Listing 2

```

=====
/*
** The following variables would be placed in the
** DATA section.
*/

int foo = 5;
char *str = "Test string";
double table[] = {1.2, 2.2, 6.5, 31.3};
static long temp = -1L;

/*
** These variables reserve space in the BSS.
*/

int f;
char *string;
double table2[4];
static long temp2;
    
```

Listing 3

```

=====
/*
** Listing 3.
** Programmers' Forum February 1992
**
** Quick program to display the lengths of the text, data
** and BSS sections of an executable file. The information
** is extracted from the header block whose format is as
** follows (28 bytes in total):
**
** Offset      Function
** 0           Magic number: always $601A
** 2           Length of text segment
** 6           Length of data segment
** 10          Length of BSS
** 14          Length of symbol area (0 if none)
** 18          Reserved space, set to 0.
** 28...      Text segment information.
**
** Compile and link this file and name the resulting file
** as SHOWSECT.TTP. To use, double click the SHOWSECT icon
** and type the filename of the executable file whose details
** are to be displayed.
**
** Compiler system: Lattice C v5.06
** Compile options: Phase 1: -cafku Phase 2: -ms
** Link with C.O and LC.LIB
** Written on 9th December 1991
*/
    
```

```

#include <stdio.h>
#include <stdlib.h>

#define HEADER_SIZE 28
#define MAGIC_WORD 0x601A

#define TRUE      1
#define FALSE     0

/*
** This type should correspond to a 16 bit
** quantity: alter as required for your compiler.
*/

typedef unsigned short WORD;

/*
** Global variables.
*/

WORD header[HEADER_SIZE/sizeof(WORD)];

/*
** Function prototypes.
*/

int main(int, char **, char **);
void end_prog(char *);
    
```

```

/*
** The program starts here...
*/

int main(argc,argv,envp)

int argc;
char **argv, **envp;

{
    FILE *fp;

    printf("\033E\nExecutable section reporter\n");
    printf("Written 9th December 1991, Jon Ellis\n\n");
    if (argc != 2)
        end_prog("Usage: showhead <executable_file>\n");
    if ((fp = fopen(argv[1],"rb")) == NULL)
        end_prog("Open failure on input file\n");
    if (fread(header,HEADER_SIZE,1,fp) != 1)
        end_prog("Read error on input file\n");
    fclose(fp);
    if (header[0] != MAGIC_WORD)
        end_prog("Input file is not a valid GEMDOS executable !\n");
    printf("Text section: %u bytes\n",*(unsigned long *) (header+1));
    printf("Data section: %u bytes\n",*(unsigned long *) (header+3));
    printf("BSS section: %u bytes\n",*(unsigned long *) (header+5));
    end_prog("");
    return(0);
}
    
```

```

/*
** Function to quit the program with an
** message to the user. After waiting for
** a keypress, exit() is called.
**
** Usage: end_prog(text);
**
** void end_prog(char *);
*/
    
```

```
void end_prog(text)
```

```
char *text;

{
    printf("%s\nPress RETURN to continue ",text);
    getchar();
    exit(0);
}
    
```

Listing 4

```

=====
/*
** Listing 4.
** Programmers' Forum February 1992
** Quick program to convert a DEGAS low resolution file
** into a DEGAS medium resolution file. Only the first two
** bitplanes are used, so take care over which colours are
** used. Compile and link this and name resulting file
** as MAKEPI2.TTP. To use, double click the MAKEPI2 icon
** and type the filename of the input .PI1 file and that
** of the desired output .PI2 file, separated by a space.
**
** Compiler system: Lattice C v5.06
** Compile options: Phase 1: -cafku -j135i Phase 2: -ms
** Link with C.O and LC.LIB
** Written on 8th June 1991
*/
    
```

```

#include <stdio.h>
#include <stdlib.h>

#define DEGAS_SIZE 32034

#define LOW_RES      0
#define MEDIUM_RES  1

#define TRUE      1
#define FALSE     0

/*
** This type should correspond to a 16 bit
** quantity: alter as required for your compiler.
*/

typedef unsigned short WORD;

/*
** Global variables.
*/

WORD source_pic[DEGAS_SIZE/2], dest_pic[DEGAS_SIZE/2];

/*
** Function prototypes.
*/

int main(int, char **, char **);
int convert(WORD *,WORD *);
void end_prog(char *);
    
```



```

/*
** The program starts here...
*/

int main(argc,argv,envp)

int argc;
char **argv, **envp;

{
    FILE *fp;

    printf("\033E\nDEGAS low->medium res converter\n");
    printf("Written 8th June 1991, Jon Ellis\n\n");
    if (argc != 3)
        end_prog("Usage: makepi2 <source_file> <dest_file>\n");
    if ((fp = fopen(argv[1],"rb")) == NULL)
        end_prog("Open failure on input file\n");
    if (fread(source_pic,DEGAS_SIZE,1,fp) != 1)
        end_prog("Read error on input file\n");
    fclose(fp);
    if (convert(source_pic,dest_pic) == FALSE)
        end_prog("");
    if ((fp = fopen(argv[2],"wb")) == NULL)
        end_prog("Open failure on output file\n");
    if (fwrite(dest_pic,DEGAS_SIZE,1,fp) != 1)
        end_prog("Write error on output file\n");
    fclose(fp);
    end_prog("Conversion finished\n");
    return(0);
}

/*
** Function to actually do the conversion. The arguments
** are pointers to source and destination screen buffers.
** The function returns TRUE if all is OK, with the
** altered data in the destination buffer. On any error,
** a message is printed and FALSE returned.
**
** Usage:  result = convert(src,dest);
**
**         int result, convert(WORD *,WORD *);
*/

int convert(src,dest)

```

```

WORD *src, *dest;

{
    register int f, g;

    if ((*src & 0x03) != LOW_RES) /* Check header file */
    {
        printf("This is not a DEGAS low resolution file\n");
        return(FALSE);
    }
    *dest++ = *src++ | MEDIUM_RES;
    for (f=0; f<16; f++) /* Transfer palette data */
        *dest++ = *src++;
    for (f=0; f<200; f++) /* Process each scan-line */
    {
        for (g=0; g<20; g++) /* 20 long words per line */
        {
            *dest++ = *src++; /* Copy the first 2 planes */
            *dest++ = *src++; /* Skip planes 3 and 4 */
            src += 2; /* Skip to the next line */
        }
        dest += 40;
    }
    return(TRUE);
}

/*
** Function to quit the program with an
** message to the user. After waiting for
** a keypress, exit() is called.
**
** Usage:  end_prog(text);
**
**         void end_prog(char *);
*/

void end_prog(text)

char *text;

{
    printf("%s\nPress RETURN to continue ",text);
    getchar();
    exit(0);
}

```

Authorware

LEARNING A LANGUAGE?

ACADEMIC SOFTWARE supply several budget foreign language disks to help you in your studies. Rated at 86% and officially recommended in ST Format. So whether you're at school, higher education or you simply want to brush up on your knowledge of a language, call 0296 82524 any time (stating your address) for a free brochure sent same day.

Or write to 128 Ingram Ave, Aylesbury, Bucks, HP21 9DJ.

For demo disk, just send 4 x 24p stamps OR s.a.e. + disk.

Mouse Tricks and Read Text 2.00

The ultimate mouse utility:

Use your chosen combination of speed, acceleration and limit to speed up the mouse - or slow it down. Includes options for: movement inversion and med-res horizontal movement doubling; dropdown or pulldown menus; optional screen saver with adjustable switching times and 'watch modern' option; selection of 'special effects' (shift, dbl clk, keypress, and hyperspace) activated by the right mouse button and 'joy buttons'; Hyperspace to speed up menu selections.

A text reader at your fingertips: Read text can hold up to 8 files at the same time. Files larger than free memory are read a bit at a time. Read Text offers scrolling, find, position mark, block print and save functions, and ASCII/1st Word conversions.

Cheque or P.O. for £10, or S.A.E. for more details:

Jonathan Lawrence, 76 Sistova Road, London SW12 9QS

SCISSET UNIFIED TEXT AND SCIENTIFIC FONTS

for

SIGNUM

£50 or write for details

to:

Dr Graham McMaster
Retsum Computing
Solutions
7 Murray Terrace
Alford Aberdeenshire
AB33 8PY.

C & P Rossiter

For all your ST hardware needs, ask the experts.

Best prices and service on memory upgrades and repairs.

Repairs from £25

Upgrades from £25

Plus blitters, TOS 1.4, emulators, clocks, scanners and the famous printer booster only £25

Please phone or write to:-

C & P Rossiter

48 Park Drive, Hucknall, Notts.

NG15 7LU

☎ (0602) 631631

"Congratulations on the prompt and courteous way you have dealt with my requirements"

G Doodson June 1991

Cookie Monster

Following on from "Rainbow TOS Exposed", Mathew Lodge invites you to dip into the "Cookie Jar", a new TOS standard introduced in STE TOS 1.6.

To all intents and purposes, TOS 1.6 is the STE version of "Rainbow TOS" (TOS 1.4). However, that 0.2 extra on the version number concerns more than just a few changes for the STE hardware. One of those differences is the addition of the Cookie Jar. This is an attempt by Atari to provide programs with information about the machine on which they are running. The idea is to collect all this information together in one place, and also to provide information on hardware that is difficult or impossible to determine through software techniques.

So where is this jar, and what do cookies look like? Another new system variable, `_p_cookies`, has been introduced to point to it, and this resides at \$5A0. Each cookie takes the format of two consecutive longwords. The first longword is the cookie ID, and the second word contains the value of the cookie. Convention has it (see Official Atari Cookies below) that the ID longword is actually regarded as four bytes representing four ASCII characters. The cookie value can be anything you like - just a simple value to indicate whether or not a certain bit of hardware is connected, or possibly a pointer to the data structure of a memory resident program.

A special entry is the "null cookie", used to mark the "bottom" of the Cookie Jar. This cookie has an ID of zero, and its value is the overall size of the Cookie Jar. By counting the number of cookies found (including the null cookie) and comparing it to the overall size of the jar, the number of free slots in the Cookie Jar can be calculated.

Dipping into the jar

Program One is a fairly straightforward assembler program that prints out all the cookies in the jar. It checks that there is a Cookie Jar to be found, and if so prints all the cookie IDs (in ASCII) and their values (in hexadecimal).

Adding your own cookie is quite easy. Say

that you've written a network driver as a memory resident program. You can use the Cookie Jar to indicate the presence of your network driver, and also allow "network aware" programs to use it by giving the address of a table of routines to perform various functions. The text box "Baking your own" explains the process of adding cookies and gives example assembler code.

If there isn't any Cookie Jar at all (`_p_cookies` is zero), then it would seem to be simply a case of allocating memory for a new jar, putting in your and the null cookies, and then making `_p_cookies` point to it. This would work, but there are a set of official Atari cookies, some of which should be in every Cookie Jar.

Official Atari Cookies

All the Atari cookie IDs start with an underscore, and I believe the current set to be `_CPU`, `_VDO`, `_MCH`, `_SND`, `_SWI`, `_FRB` and `_FPU`. The `_CPU` cookie gives the processor type for the ST in the lowest byte of the value. Possible decimal values are 00, 10, 20, 30 or 40, corresponding to the 68000, 68010 and so on to the 68040.

The `_VDO` cookie shows what type of video shifter the ST is equipped with. The high word of the value can be one of the following:

Value	Meaning
0	Plain ST shifter
1	Improved STE shifter
2	TT shifter

The `_SND` cookie describes the sound hardware in the lowest byte. The official Atari line is that only internal sound hardware should be described here - external hardware such as a sampler should have its own cookie. The bits of the low byte are encoded as follows (a one means the hardware is present):

Bit	Meaning
0	Normal ST Yamaha "plinkety plink" sound chip
1	Stereo DMA sound chip (as fitted to STE and TT)

The `_MCH` describes general features of the ST system. The high word gives details of the type of ST, while the low word is currently always zero, except for on the Mega STE when it is 16.

Value	Meaning
0	Plain 520 or 1040 ST
1	Mega 1, 2 or 4 ST
2	STE
3	TT

Quite where the new Mega STE range will fit into this scheme of things remains to be seen!

The `_SWI` cookie value gives the state of the configuration switches to be found on the STE and TT circuit boards. I don't know what the intended use is for these switches, but STEs seem to have the value \$FF in the low byte.

The `_FRB` cookie is TT-specific, and the value points to a 64K fast RAM buffer used by the ACSI DMA controller. This is the controller for ST-style hard discs using the DMA port - the ACSI controller can only DMA to/from ST RAM. There is a separate SCSI controller for SCSI hard discs, which can DMA to/from ST and TT RAM. If the value is zero, no fast RAM buffers are installed.

The `_FPU` Cookie describes what hardware and software floating-point support is installed in the machine. The low word of the cookie's value describes software floating-point support; currently, this is always zero, but Atari may assign values in the future for software floating-point support packages. Notably, the 68040 requires software to support some of the instructions that the 68881/68882 execute on chip.

The high word describes the hardware floating-point installed in your system. Note that the 'unsure' cases result because the BIOS probes for the 6888x without determining which FPU you have. If some software cares, it can probe, and re-set the cookies accordingly. The BIOS always installs an `_FPU` cookie, even with zero value, so that floating-point support software can change the low word when it installs itself.

Value (high word)	Meaning
0	No hardware FPU detected
1	SFP004 or compatible 68881 as peripheral
2	68881 or 68882 unsure which as processor
3	68881 or 68882 plus SFP004
4	68881 for sure
5	68881 plus SFP004
6	68882 for sure
7	68882 plus SFP004
8	68040's internal floating-point support
9	68040 plus SFP004

Note: If your software requires Line-F floating point support, check this cookie for a non-zero value in either the high or the low word.

Given these official Atari cookies, when installing a Cookie Jar on an ordinary ST (not STE or TT), you should put at least the `_CPU`, `_VDO`, `_SND` and `_MCH` cookies in the jar. Program Two is a program to install a standard ST Cookie Jar on any ST without one.

There is another "official" cookie which is installed by the `POOLFIX3` or `POOLFIX4` programs (see my previous article, "Rainbow TOS explored"). Its ID is `_OOL`, and it simply indicates that the patch is installed. If there is currently no cookie jar, `POOLFIX` creates its own. However, it does not install the other official Atari cookies. Changing Program Two to recognise this situation and install the official Atari cookies is left as an exercise for the reader.

In conclusion, Atari's attempt to standardise the collection of information detailing the current state of an ST is to be welcomed. If programmers use it and abide by the rules it should be a success.

Baking Your Own

Initially we'll assume that there is a Cookie Jar in the machine, and that it has free entries. Imagine the table of network functions as follows:

```
netfuncs:
    dc.l    net_init, net_status, net_tx, net_rx
```

Work through the Cookie Jar looking for the null cookie:

```
add_cookie:
    move.l  _p_cookie, a0      A0 points to cookie jar
    clr.l   d0                 Our cookie counter

srch:
    move.l  (a0)+, d1           Get ID
    move.l  (a0)+, d2           and value
    addq.l  #1, d0              Increment counter
    tst.l   d1                 Null cookie?
    bne    srch                Continue search

    cmp.l   d0, d2             Jar full?
    beq    full_jar           Handle this case

    move.l  #"NETW", -8(a0)     Install our Cookie
    move.l  #netfns, -4(a0)     over the null cookie
    clr.l   (a0)+              Tack on new null cookie
    move.l  d2, (a0)+
    rts                       Done
```

That's fine if the Cookie Jar isn't full. If it is, you'll have to expand

the jar by allocating some memory for it and copying across the current cookies, before adding your own. It's a good idea to allocate more than one new slot. If every program that had to expand the Jar only added one new slot for itself, every program that installed a cookie would have to allocate a new jar and discard the old one. You'd have lots of defunct jars littering memory, so it's best to allocate a few more slots - I usually add another eight. In the following piece of code, assume that `malloc_cookies` is a routine that allocates new memory for cookies, returning the address of that memory in `A0`, given the number of cookies in `D2`:

```
full_jar:
    move.w  d2, d3             Save no. of old cookies
    add.w   #8-1, d2           Calculate new number of
                                cookies
    bsr    malloc_cookies     Allocate memory for them
    move.l  _p_cookies, a1     Start of current jar

transfer:
    move.l  (a1)+, (a0)+
    move.l  (a1)+, (a0)+     Transfer cookie
    dbf    d2,                 transfer Until done
    move.l  #"NETW", (a0)+    Add our cookie
    move.l  #netfns, (a0)+
    addq.l  #8, d3
    clr.l   (a0)+             Add null Cookie
    move.l  d3, (a0)+
    rts                       Done
```

```
* Show contents of Cookie Jar
* (c) 1991 Mathew Lodge

_p_cookies equ $5A0          Cookie jar pointer

dos equ 1
xbios equ 14

Pterm0 equ $00
Cconws equ $09

Supexec equ 38

start:
    move.l  #stack, sp        Set up our stack
    pea   disp_jar
    move.w  #Supexec, -(sp)
    trap   #xbios             Execute routine in super mode
    addq.l  #6, sp

    move.w  #Pterm0, -(sp)    Terminate
    trap   #1
```

```
disp_jar:
    move.l  _p_cookies, d0
    beq    no_jar             If pointer zero, no jar installed
    move.l  d0, a0

loop:
    move.l  (a0)+, d0         Get cookie ID
    move.l  (a0)+, d1         Get cookie value
    tst.l   d0                End of jar?
    beq    jar_end
    bsr    show_cookie        Otherwise show cookie
    bsr    print_crlf         Goto next line
    bra    loop

no_jar:
    lea    no_jarm, a1        No jar message
    bsr    print_stg
    rts                       Done

jar_end:
    lea    end_msg, a1        Print end of jar message
    bsr    print_stg
    lea    scratch, a1
    bsr    print_hex          Print no of slots in jar
```

```

    bsr    print_crlf    Add CRLF
    rts

show_cookie:
    lea    scratch,a1    Scratch buffer
    move.l d0,(a1)+      Store ID
    move.l #" = $",(a1)+
    clr.b  (a1)          Zero terminate
    lea    scratch,a1    Print it
    bsr    print_stg
    lea    scratch,a1

*                               Fall through to print_hex

print_hex:
    move.l a1,-(sp)      Save buffer address
    bsr    print_hex_1   Store in buffer
    clr.b  (a1)          Zero terminate
    move.l (sp)+,a1      Fall through to print_stg

print_stg:
    movem.l d0-d1/a0-a1,-(sp) Save registers
    move.l a1,-(sp)
    move.w #Cconws,-(sp) Print to screen
    trap  #dos
    addq.l #6,sp
    movem.l (sp)+,d0-d1/a0-a1 Retrieve regs
    rts

print_crlf:
    lea    crlf,a1       Print carriage return
    bra    print_stg     and line feed

print_hex_1:
    swap  d1             Print high word first
    bsr    print_hex_w
    swap  d1
    bsr    print_hex_w   Then low word
    rts

print_hex_w:
    move.l d1,-(sp)      Save D1
    lsr.w #8,d1          Shift low byte into d1
    bsr    print_hex_b   Print it
    move.l (sp),d1       Get D1 back (but don't unstack)
    bsr    print_hex_b   Print it
    move.l (sp)+,d1      Get D1 back
    rts

print_hex_b:
    move.l d1,-(sp)      Save D1
    lsr.w #4,d1          Shift high nybble into D1
    bsr    lookup        Decode it
    move.l (sp)+,d1      Get D1 back
    bsr    lookup        Decode low nybble
    rts

lookup:
    and.l #&F,d1        mask off rest
    lea    hextable,a2   Look up table
    move.b 0(a2,d1.w),d2 Get ASCII equivalent
    move.b d2,(a1)+      Save in scratch buffer
    rts

hextable:
    dc.b  '0123456789ABCDEF'

no_jarm  dc.b  'No Cookie Jar installed',13,10,0
end_msg  dc.b  'Total no of cookie slots :',0
crlf     dc.b  13,10,0
scratch:
    ds.l  4

    ds.l  99

stack   ds.l  1

    END
    
```

```

*      Make standard Cookie Jar      (c) 1991 Mathew Lodge

_p_cookies equ $5A0      Cookie jar pointer

dos      equ 1
xbios    equ 14

Pterm0   equ $00
Cconws   equ $09
Ptermres equ $31

Supexec  equ 38

start:
    bra    GO

standard_jar:
    dc.l  '_CPU',0
    dc.l  '_VDO',0
    dc.l  '_SND',1
    dc.l  '_MCH',0
    dc.l  0,8
    dc.l  0,0
    dc.l  0,0
    dc.l  0,0

GO:
    move.l a7,a5
    move.l #stack,sp      Set up our stack
    move.l 4(a5),basepage Get address of basepage
    pea   inst_jar
    move.w #Supexec,-(sp)
    trap  #xbios         Execute routine in super mode
    addq.l #6,sp

    tst.w success        Jar installed?
    beq   TSR            Terminate and Stay Resident

    move.w #Pterm0,-(sp) Otherwise, normal termination
    trap  #1

TSR      move.l basepage,d0 Address of basepage
    move.l #GO,d1         End of resident data
    sub.l d0,d1           Calculate size of resident block
    move.l d1,-(sp)       The amount of memory to save
    move.w #Ptermres,-(sp)
    trap  #dos            Terminate and Stay Resident

inst_jar:
    move.l _p_cookies,d0
    bne   already_jar     Jar installed?
    move.l #standard_jar,_p_cookies Install jar
    clr.w success         Indicate success
    rts

already_jar:
    lea   already_jarm,a1 Jar installed message
    bsr   print_stg
    move.w #1,success     Unsuccessful
    rts

print_stg:
    move.l a1,-(sp)
    move.w #Cconws,-(sp) Print to screen
    trap  #dos
    addq.l #6,sp
    rts

    cnop  0,4            Word align

basepage:
    ds.l  1
success ds.w 1

already_jarm:
    dc.b  'Cookie Jar already installed',13,10,0

    ds.l  99
stack   ds.l  1

    END
    
```

CAD Column

Joe Connor takes an exclusive look at Crazy DOTS, a new graphics expansion card, and offers you a chance to win a copy of CADja, one of the leading Atari CAD packages.

Crazy DOTS is supported in the UK by System Solutions. Different versions for the Mega ST and the new VME bus used on the Mega STE and TT are available. The small board measures 137x140mm (about the same size as the Reflex 1024 board), leaving plenty of space for processor accelerator and other internal add-ons. The preliminary manual claims experienced DIYers should have little trouble getting it working on other ST models. Rather than me!

The board features 1MB of DRAM offering resolutions up to 1280x800 in 256 colours or grey levels. In monochrome, interlaced resolutions up to 1664x1200 and non-interlaced resolutions up to 1024x768 are available.

I connected Crazy DOTS to a standard VGA monitor at 640x480 resolution and experienced the desktop in glorious colour - er, green actually - and I'm still searching my disk collection for something that can benefit from the colours. Any suggestions?

Next connected was my trusty Eizo 6500 monochrome monitor which (as is the case with most graphic expansion cards) ran DynaCADD, CADja, Drafter and Draftplus, all OK except BeckerCAD which only runs at 640x400 resolution. DynaCADD can display 16 grey levels, so Crazy DOTS, in grey level mode, offers an all in one alternative to plugging in a colour monitor for layer checking.

A socket for a 68881 maths coprocessor is provided. Coprocessors rated at any clock speed can be used, provided you plug a matching dot clock into the socket provided. Furthermore, the manual states, if you already use an Atari coprocessor board this can be piggy backed onto the through connections on the Crazy DOTS board. The manual omits to mention you can't get the lid on or plug in the power cable; perhaps using a Tower case would solve it.

In STA 11 I explained several ways David

Potter uses Harlekin II within Draftplus, David has written to point out merging Draftplus levels is achieved using the HPGL output files and not, as I implied, the raw Draftplus files.

Another Draftplus tip is that inactive levels can be displayed greyed out by editing the drawing .INF file using Harlekin or any text editor as follows:

Locate the [@] character on line 168, column 18 and change it to an |A|.

David raised a range of questions arising from the CADja demo (available from the ST Club). These questions betrayed Draftplus tendencies!

Q: Can inactive levels be displayed greyed out? Because this makes it easier to see which elements will be affected by edit commands.

A: No, but as edit commands, in CADja, affect ALL visible elements it is not such a useful option. Elements on the active layer can easily be determined by toggling between the commands [Turn OFF/ON all inactive levels].

Q: Is it possible to delete symbols in one operation?

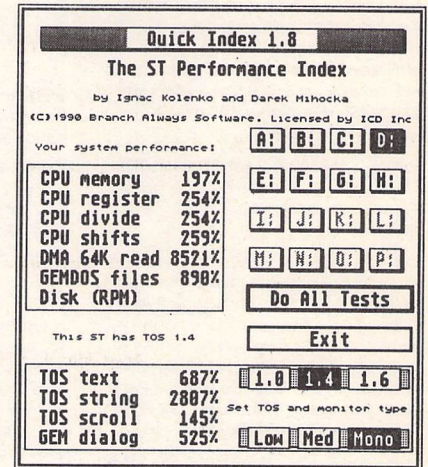
A: In many CAD packages elements can be grouped together; in CADja only hatching elements are grouped, but at the risk of teaching David to suck eggs it is possible using Harlekin II and the output ASCII file to group ANY elements together and subsequently release or modify them inside CADja using the hatch commands! Perverse but true.

Without resorting to this hack it is easier to import symbols onto a separate layer where they can be deleted, moved, edited as desired, before pasting them to their final location.

Some things went down well, in particular the speed of redraw, the icon tablet and layer handling options.

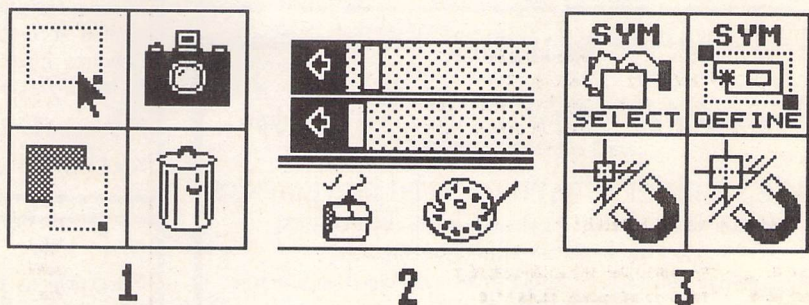
I am currently gathering together a compatibility list of hardware add-ons such as graphic cards and accelerators and would be interested to hear from anyone who has successfully (or unsuccessfully) tried combinations of add-ons. Please send any tips or comments to the address in the CADja giveaway.

FASTest 68000?



The Quick Index results shown above were obtained with Turbo 20, an accelerator board from FAST Technology, with Turbo ST V1.84, which comes bundled with the board. Turbo 20 features a 68000 (rated 16MHz) running at 20MHz and 32K static RAM cache. The board is now available from the Atari Workshop for £271.75 inclusive.

Win a copy of CADja



Expressworks have kindly agreed to let me give away a copy of CADja worth £199! An earlier version of CADja was reviewed in ST Applications issue 4 and CADja frequently features in the CAD Column. All you have to do to enter is:

- identify the 3 popular software packages from the screen snapshots above.
- come up with a good reason why you should win CADja.

Send entries to: Joe Connor, 65 Mill Road, Colchester, Essex, CO4 5LJ.

Rules

All entries must be received before 22nd February 1992.

My decision on the winning entry is final and I cannot enter into any correspondence regarding my decision.

The winner will be announced in the following CAD Column.

10 runners-up will receive the interactive demo version of CADja.

For Sale

C-Lab Notator V.3. Perfect condition – used a few times only!! Bargain £340. Contact Chris. Tel: 0926 511085. (15).

Citizen Swift 24–Pin Printer for sale, includes cable, spare ribbons and a disk full of ST printer drivers – £170.00 including P&P. Also playback STFM Stereo Sound Cartridge £15. Phone 0909 771707. (15).

Signum 2 with Page Preview, Signum to Graphics Converter, Print Spooler, Drivers for 9 pin, 24 pin, Lasers and Deskjet printers, Old English, Rockwell, Souvenir, Times and Univers fonts in addition to standard set. £80. Tel: 0923 266636 Evenings. (15).

Kozmic 2.1 (TOS 1.62 OK) Direct from the author. Psychedelic Pattern Generator STF Rating 89% Aug 91. DS Disk needs 1 Meg Ram. Infinite patterns save to disk. £5.00 for two disks incl. source code + extras. Dave Henninger, 199 Bruntsfield Place, Edinburgh EH10 4DQ. (19).

Phillips CM8852 Colour Monitor, little used. £100. Consider Part Exchange Software (Not Games). 073081 6602 After 7pm. (15).

Atari 30 Megafile Hard Disk. Limited home use. No bad sectors, like new, filled with ST Public Domain Software. £280. ono. Atonce PC Emulator, requires soldering, very reliable. Complete instructions provided £90. Lattice C v5. £70 ono. Superbase Personal £15 ono. Phone 061 338 5797 (Manchester), Evenings. (15)

Share Master £50, Verminator £9, Stos Games Creator £8, FOFT £7, Shanghai £5, Galdregon's Domain £8, Football Manager + Exp Kit £8, PC Ditto £20,

Classified Adverts

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

Greg Norman's Ultimate Golf £10, The Quest for the Time Bird £10. If interested call John on 0708–630127. (15)

Multiface ST with box and manual £10, Balance of Power £5, Triad Vol 1 £10, Alternate Reality (The City) £10, Ludicrous £8. p+p £1.50 each item. If interested, Contact John on 0708–630127. (15)

EVS–1 Synthesizer Module, 16–note polyphony, 8–part multi–timbral, with 80 presets and 20 programmable memories, also includes 20 PCM sampled drum sounds and Atari ST Patch editing software. Plus Books, extra leads and Atari software, inc. Midi sequencers, extra sounds, demos etc. Mint/boxed £255; tel: 0752 256067. (15)

1040 STE, as new with Joystick and

Mouse, Dust over, Magazines. Software: 1st Word, Spell It, Neo sampler, ST Basic, Hyperpaint, Hyperdraw, K-Spread, Word–up, Superbase Personal, Assorted PD and Games. Buyer to collect, £250 cash. 0703 843347 (Southampton) any time. (15)

Mega ST2 with 60Mb Hard drive and Ball & Swivel Monochrome Monitor, lots of 'serious' software. Every published issue of ST Format, lots of ST Users & ST Worlds. (No disks with above magazines.) £850 the lot. Call:– 0533 707206 Evenings. (15)

Creator V3. Midi Sequencing software, dangle, manual etc. Dr. T's D10/D110 Editor/Librarian plus over 2000 sounds – manual etc. Huge Casio FZ1/FZ20M Sample Library. Ring evenings for details. Andy: Leeds (0532) 430177 or write 20, Hanover Square, Leeds, LS3

1AP. (16)

Daatascan Professional Scanner with software v2.30. Still under guarantee (9 months old). Cost £180. Boxed as new £100, plus postage. Ring 0524 751593 (Lancs.) (15)

ST Tower System case and keyboard unit. Fittings for 520/1040 and two disk drives. £50.00. Phil Davies on 0482 642302 (day) or 0482 797841 (night) – Hull. (17)

Amstrad PCW8512, two drives (3"), monitor and printer built-in. Locoscript, CP/M plus software. 3 years old and still in very good condition. Please ring James Beswick on 0959 71114, any day between 6pm and 11pm. (18)

Games £2.00 each (inc. P&P): Gauntlet II, Arcade Force Four, The World's Greatest Epyx, International Soccer, Football Manager 2, Powerplay – the Game of the Gods, The Karate Kid II, Cards, Defender of the Crown; or the whole lot for £15.00 (inc. P&P). Tel: Andrew More on 081 651 2528 evenings. (15)

Atari SLM804 laser printer, 2 years old, excellent condition. Recent new toner. Offers over £600. Epson LX800 dot matrix printer, excellent condition, boxed as new: £75 o.n.o. Herbert Payne Printers 0602 502054. (16)

Atari Mega ST4 with Adspeed and Fast TOS 1.4 ROMs fitted £500; Atari Megafile 60 hard disk £200; SM124 mono monitor £40; Reflex graphics card with WYSE WY790N A3 monitor – a superb display system for £600; AVR Pro12 Sampler £100; Daatascan 400dpi scanner £70. Large library of original software for sale includes Calamus, Megapaint Professional and Calligrapher. Call Anthony for dull details on

Authorware

If you would like to see your software featured in the ST Applications Authorware column please send us a review copy of the software and a rough outline of the advertising copy you would like to be printed.

PULSER

A low-resolution programme which cycles the colours as you draw ... and keeps them moving.

CREATE STUNNING GRAPHICS WITH MOVEMENTS

Draw a circle with PULSER switched on and it REVOLVES!

..clockwise or anticlockwise ..you choose.

Every circle, line, square, ray etc can PULSE in any direction, all on the screen at the same time.

USE IT... to create unusually interesting graphics and diagrams etc and run them on the built-in SLIDESHOW.

USE IT... to import Degas low res. pics, give them some movement and save them in PULSER format.

USE IT... to create lively title screens for your own programmes.

A separate TITLE.PRG is included to load and show them.

£7.50 inclusive or £2.50 (refundable on upgrade) Demo

1 double sided or 2 single sided disks (state which)

David J Fright, 113 Waytemore Road, Bishops Stortford, Herts.

SynTax

The ST adventure magazine on disk! Reviews, solutions, hints, special features and much, much more. Runs in colour only. Produced bi-monthly. SynTax costs £3.50 an issue, £20 for a year's subscription 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.

Clip Art

specifically for

Christian and Community Magazines

Seven disks of IMG images for DTP programs supplied with a printed picture catalogue of every image. Cost: £3 per disk plus P & P: total of £23 per set. Cheques payable to:

Peter Kempley, KemCom Designs, 21 Chart House Road, Ash Vale, Aldershot, Hants. GU12 5LS.

Genealogy

My genealogy program runs on any STE). SAE for details or £17 for program: E.G. Richards, 2 Peckarmans Wood, London SE26 6RX.

STEN

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

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

Educational Adventures

for ages 5-13. 88% in ST Format. £12.00 each. 50p/disk for demos. C.V.S. 18 Nelson Close, Teignmouth, TQ13 9NH.

Tel: 0626 779695.

0562 730381 evenings/weekends. (16)
 Still available the following ST games, all originals with manuals: Elite, Corruption, Jinxter, Castle Master, Life and Death, Conflict Europe, Red Storm Rising. Call S. O'Connor on 081 798 5435 after 6.30pm. Each game £10. (26)

1st Word Plus v3.20 - brand new, unregistered, the standard ST word processor, WYSIWYG display, 40,000 word spell checker, graphics and mail merge. Cost £60, will accept £35. Des Gibbons, 5 White Lodge Court, Greenisland, Co. Antrim BT38 8SJ. (16)

Datel Geniscan hand scanner for the STFM, 100-400dpi, saves in IMG or DEGAS formats, settable for size of scan. In good condition: £80.00 (currently sells for £130.00) John Weller, 49 Haylett Gardens, Surbiton Crescent, Kingston, Surrey KT1 2Er. (16)

SM124 monitor with cover and tilt and swivel base £75. Protex WP v5.5 (latest version) £75. Timeworks DTP £30. Funschool 3 (5-7's) £10. Plus P&P for monitor. Evenings 0233 720677. (16)

HiSoft Basic 1.3, Fast Basic ROM £20 each, Railroad Tycoon £10; Sim City, Balance of Power, Bridge Player 2150, printer lead, Blitz Turbo backup cable, Anatomy of Atari ST (h/b), Programming the 68000 (Sybex, 540pp: £5 each. Phone Paul on 0494 712274. Also ST User/World issues 1-26 and ST Applications issues 1-12. Any offers? (17)

Proscore v2.0 score writing software, original, boxed with dongle. £140. Tel: Leeds (0532) 665388. (17)

Switch-on delay unit kit - as ST Applications issue 6, £10 only. Bob

Harvey 0780 63810. (16)

Write ON word processor by Compo, as reviewed. Cost £34 - offers above £15. Will transfer registration. 'Phone Steve on 0732 456537. (15)

Atari 1040ST with SM124 mono monitor & s/ware - NCL, Signum2, Time-works, GFA Basic 3 & others; Power-drive 900 40MB hard disk and Super-charger: all £700, but will split. Tel: 0664 67998, ask for Tim. (15)

SM124 Monitor £50, Lattice C v3.04 £15, Metacomco Assembler v12.00 £15; tel: 0223 870329. (15)

Atari SM124 monitor only 6 months old £80 o.n.o. David Fenny 0400 61292 (Lincoln area). (17)

FastCom 2 (doesn't work from hard disk) £14; K-Comm 2 (v2) £12; Neo-desk 2 £12; Personal Finance Manager Plus £14 (v1.02). All prices include P&P. Tel: 0222 705576 after 7pm, R.M. Dickson. (15)

Atari SLM804 laser printer, excellent condition, new toner cartridge, £450. Call Anthony on 0562 730381 eve./wkend. (16)

Wanted

Help! Can anyone please help me translate a printed German manual? - Willing to swap PD etc in exchange. Please write to: Keith, 7 Pool Road, Leicester LE3 9GH, England, or phone (0533 823089) 7pm to 10pm. (15)

Casio FZI/FZ20 Sample disks for swaps etc. Andy: Leeds (0532) 430177 or write 20, Hanover Square, Leeds, LS3 1AP. (16)

Timeworks DTP, Hand-held scanner, MasterCad or similar, printer switchbox (one computer to two parallel printers).

Tel: Paul on 0308 24072 eves. (16)

Anyone have a copy of Your First Basic they no longer need? Phone David on 0505 22650. (16)

External disk drive, double-sided with or without integral power supply. Phone 0749 344158 anytime or 0749 346320 evenings.

Needed urgently! Any American Football simulation (preferably U.S. import) or management game. I already have Gridiron (Bethesda) and Headcoach v3 (Coda). If you can help then phone 081 364 3982 or write to Colin Campbell, 21 Aldbury Mews, London N9 9JD. Good prices paid! (19)

Anyone who has successfully decoded Morse or RTTY on their ST - what software/hardware used? Has anyone developed a shoestring version yet using a sampler? Any info welcome or discussion in Forum - Tim 0742 435999. (16)

Help

I have a GST 40E Gemlock. A full screen image on the computer is not full screen on the video screen. I am told that a modification to the computer is required. Can anyone help me in finding out what and where I can get one? R. Bounsell, 67 Cambria Crescent, Gravesend, Kent.

Is there anyone out there who uses Timeworks DTP on a 1040 ST with mono monitor, 2 disk drives and a DeskJet 500? You might be able to help me! Please ring Nick on 0582 602941.

General

My Little Phoney BBS (0793) 849044 - all speeds up to V32bis and HST. Spe-

cialist Atari ST BBS, carrying all Atari-related fidonet and Nest Echoes, and importing international ST file echoes (AFN/ADN). High speed and technically aware callers are especially welcome! (R)

ST Church User Group, the national group for users of the Atari ST in Christian work. Disk-based magazine published 3 times per year. For details contact: Revd. Joe Clemson, tel: 091 487 6944. (20)

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

Guide Dogs for the Blind Appeal - Please send used postage stamps to help this worthy cause to: 19 Dunloy Gardens, Newton Abbey, Co. Antrim, BT37 9HZ. (R)

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)

Professional typeset from 1st Word disks. Over 100 Faces. Output to high quality PMT. Much better than laser. Also cheap printing A5/A4 single colour. Contact: AZTRAL Games, PO Box 8, Lowestoft, Suffolk, NR32 2AS. (R)

Arcade Fantasy BBS - 0533 376056 (300-2400) (8pm - 8am). Superb ST PD/Shareware Section as well as PC, Amstrad, Amiga File Areas - Also The Support BBS For All "Hitchhiker" Shareware Releases - Give us a call today - very friendly SYSOP - No Fees. (R)

Kitchen Design Program

by Lawrence Elliott
 (High res. mono only)

Create Kitchen Plans and Elevation views to scale from a wide selection of Units and Appliances with worktops, pelmets, etc.

42 Gwaun Coed, Brackla, Bridgend, Mid Glamorgan CF31 2HS.

MORSE MASTER v1.0
 for ATARI 520/1040/STE

THE complete morse trainer/simulator, with realistic 'on air' emulator and integral editor. The emulator allows complete control of your listening environment. Volume, Frequency, Drift, Noise and adjacent RTTY channel volumes can be tailored to suit your listening needs.

In addition to sending, your Atari can also receive and decode morse from your own key, using the supplied interface cable. Usable by novices and professional radio operators alike, this product has got to be one of the best simulators around!

Send cheque or P.O. for £29.99 payable to Boscad Ltd. at

16 Aytoun Grove, Balbridgeburn, Dunfermline, Fife KY12 9TA. Telephone 0383 729584 evenings for technical information.

BOSCAD Ltd.

Calamus Manual

This self-tutorial guide incorporating sections on frame drawing, entering text, changing fonts and styles, importing text and images, drawing boxes and lines, loading, saving, printing, text rulers, headers and footers and page numbering.

It is available at £5 (including postage) from:

David Waller, The Sandon School, Molram's Lane, Great Baddow, Chelmsford, Essex, CM2 7AQ..

Cheques should be made out to 'Sandon School'.

RAE Morse Test

Selectable letter/number groups, thinking time, note pitch, morse generation from keyboard for CQ; plus save to disk, etc. Instruction manual and disk for £7 or SAE for more details.

R L Tuft, 62 Admirals Court, Thirsk, North Yorks. YO7 1RR.

Telephone: 0845-525082

"SONIX"

**Atari ST/E
 Sound Sampling
 Service**

We will sample your sounds from tape on to disk. Ideal for demos, games and your own programs.

3 day turnaround guaranteed. Write for FREE details to:

The Lodge, Delly End, Hailey, Witney, Oxon OX8 5XD.

ST APPLICATIONS Back Issues

For four years prior to the launch of ST Applications. The ST Club produced "The ST Club Newsletter". We can supply back issues of Newsletters 28 to 31 and all back numbers of ST Applications.

Newsletter Issue 28

Reviews: A Book on C, STOS, HP Desk Jet Plus, Football Crazy, Canvas, Goliath 2, HiSoft Forth. Articles: Fontkit Plus Tutorial I, 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 2, 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: NeoDesk 3, Universal Item Selector III, Deluxe Paint ST, East 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, Reading CP/M disks, Gadgets by Small; Regulars: PD Update 11.1 Forum, CAD Column, STicks and STones.

ST Applications Issue 2

Reviews: NeoDesk CLI, Le Rédacteur v3.03, Megapaint II, Protex v5, Jet Setters (Inkjet printer), Dr. T.'s Tiger Club, 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 Part 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, ST Internals, DIY Fan Thermostat, Fontswitch 3 Part 1, Giving it the WERCS Part 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 Part 1, Auto-Run, Software Documentation, Fontswitch Part 2, Tempus Part 1, Giving it the WERCS Part 3; Regulars: News, ST Internals, STicks and STones, Adventure Column, Forum GFA Problem Page, Programmers' Forum, CAD Column.

ST Applications Issue 6

Reviews: Playback, Quartet, Opus 2.2, Auto-Switch Overscan, In The Public Domain; Articles: Atari Press Conference, ST in the Office, Scanning New Horizons, Switch-On Delay Unit, Tempus Part 2, Giving it the WERCS Part 4; Regulars: News, STicks and STones, MIDI Fundamentals, PD Update 11.5, Adventure Column, CAD Column, Forum, Programmers' Forum.

ST Applications Issue 7

Reviews: MasterSound 2, Introducing Atari ST Machine Code, Retouche, Deskjet Refills, Migraph Scanner and Touch-Up, In the Public Domain; Articles: TeX First Aid, More Upgrades, MIDI Fundamentals, STE Programming; Regulars: ST Internals, PD Update 11.6, Adventure Column, STicks & STones, Desktop Discussions, Forum, CAD Column, GFA Problem Page, Programmers' Forum.

ST Applications Issue 8

Reviews: That's Write, Minix 1.5, HyperDraw, VidiChrome, G+Plus 1.5, Head to Head; Articles: The ST in Education, Getting to Grips with

Cubase Part 1, STE or Mac Classic? STE Programming; Regulars: ST Internals, PD Update 11.7, Adventure Column, STicks & STones, Desktop Discussions, Forum, CAD Column, Programmers' Forum.

ST Applications Issue 9

Reviews: Replay 8, Knife ST, GO, Professional Virus Killer 2, Super-Boot versus XBoot, Bible Concordance, Master CAD, Xtra RAM ST+2, The Blog; Articles: High Density Floppies, ST Internals, Cubase Part 2, In the Public Domain; Regulars: News, PD Update, STicks and STones, Adventure Column, Desktop Discussions, Forum, Programmers' Forum, CAD Column, A-Z of the ST.

ST Applications Issue 10

Reviews: HyperChart, Knife ST - Ultimate Disk Editor?, CodeKeys, Cold Hard Cache, PC Speed, Fractal Music, Public Domain Software; Articles: Racing Spreadsheet - is it a Winner?, ST Internals, Getting to Grips with Cubase Part 3, From the Hotline, File Selector, Traps for the Wary Part 1; Regulars: News, PD Update, Jeremiah's Journal, The A-Z of the ST (C-D), STicks and STones, Forum, Desktop Discussions, Programmers' Forum, CAD Column.

ST Applications Issue 11

Reviews: PageStream 2.1, Didot lineArt, Mortimer, Harlekin 2, PD Software, Adimens Database; Articles: Pilgrimage to Dusseldorf, Harnessing Harlekin, ST Internals, Getting to Grips with Cubase Part 4, From the Hotline, Traps for the Wary Part 2; Regulars: News, PD Update, Jeremiah's Journal, The A-Z of the ST (E), STicks and STones, Forum, Desktop Discussions, Programmers' Forum, CAD Column.

ST Applications Issue 12

Reviews: Hard Reign's a-Gonna Fall (Hard Drives), MultiDesk, The Ultimate Ripper, Hype! Calligrapher Junior, PD Software; Articles: Dusseldorf '91 Show Report, ST Internals, Getting to Grips with Cubase Part 5, Proportional Print, From the Hotline, Traps for the Wary Part 3; Regulars: News, PD Update, Jeremiah's Journal, The A-Z of the ST (F-G), STicks and STones, Forum, Desktop Discussions, Programmers' Forum, CAD Column.

ST Applications Issue 13

Reviews: GFA Draft Plus v3, Hotwire, Avant Vector, Games in Black and White, Printer-Q, Public Domain Software; Articles: ST Internals (Part 9), Getting to Grips with Cubase (Part 6), Going On-Line, Signum - The Jewel in the Crown, From the Hotline, Traps for the Wary (Part 4); Regulars: News, Licenceware Update, Jeremiah's Journal, A to Z of the ST (H-I), STicks and STones, Forum, Desktop Discussions, Programmers' Forum, CAD Column, Classified Adverts.

ST Applications Issue 14

Reviews: Redacteur v3.15 - English version, Maxifile, UIS v3.3, Word Perfect v4.1, Score Perfect, PD Software, M.ROS Utilities disk; Articles: From DTP to Prepress, ST Internals Pt 10, Going On-Line, From the Hotline, Rainbow TOS Exposed; Regulars: News, A to Z of the ST (J-L), Jeremiah's Journal, STicks and STones, Forum, Desktop Discussions, Programmers' Forum, CAD Column Supertest, Classified Adverts.

Prices and Subscriptions

Subscriptions

ST Applications is published monthly.

United Kingdom:

12-issue subscription to ST Applications: £15.00
12-issues plus 6 Disk Mags: £22.50

Air Mail to Europe:

12-issue subscription to ST Applications: £18.00
12-issues plus 6 Disk Mags: £26.50

Air Mail Worldwide:

12-issue subscription to ST Applications: £28.00
12-issues plus 6 Disk Mags: £34.50

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.

Back Issues

Newsletter back issues cost £1.20 each, or just £4 for issues 28 to 31.

ST Applications back issues cost £2.00 each, £1.75 each if you are ordering three or more issues, or £18.50 for a complete set of issues 1 to 12 inclusive.

Disk Mag back issues are available at PD disk prices - see page 6 of our current catalogue.

ORDER FORM

- Commercial Software •
- Books • Accessories •
- Disks and Boxes •

PD & Shareware Disks

Qty	Title	Price
	ST Applications Subscription (£15)	
	ST Applications + Disk Mags (£22.50)	
	Overseas Subscription	
	Imagecopy - £9.95	
	Redacteur 3 Demo' 75p	Mono/ Colour
	Redacteur 3 @ £89	
	<small>Launch price: RRP = £119 - Offer expires 28/2/92</small>	
	Signum Font Set SGP-1 @ £8.50	
	Signum Font Set SGP-2 @ £8.50	
	Signum Font Set SGP-3 @ £8.50	
	Universal Item Selector III - £14.95	
	Quick ST3 - still just £12.95	
	FastCopy Pro - launch price: £18.50	
	Fontkit Plus v3.4 (£19.95)	
	Clip Art Catalogue (£2)	
	Disk Boxes for 12 disks (£1.40 each)	
	Branded D/S Disks: 10 @ £9.95	
	Un-Branded Double Sided Disks	
	Disk Labels @ 1.5p each	
	Sub Total A = £	

	Code (AAA NN)	Title / Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

PD & Shareware disk prices

Up to 6: £1.45 each 6+ Disks: £1.25 each
10+disks: £1.00 each 25+ disks: £0.85 each
Budgie UK disks are licenseware - not PD - and cost £2.95 or £3.95 ea. - please use the left hand column to order these disks.

___ PD Disks @ £__._ =		
Plus Sub total A =		
Plus 50p P&P on orders below £5		
TOTAL ORDER VALUE		

Subscription to start with current issue / issue no.

All prices include VAT • Our VAT No: 432•2334•90
Please tick here if you require a VAT Invoice

Name: _____

Address: _____

Post Code: _____ (This is essential)

STA15

Cheques and Postal Orders should be crossed and made payable to: **SIMPLE LOGIC & Co.** You may pay by Transcash at The Post Office or by Giro Bank Transfer to our Account Number: 37•820•7806. Overseas orders are welcome - please see Air Mail prices in our Overseas price list.

Accessories

Unbranded Disks

Guaranteed and from known manufacturers, usually Kao or Sony. Supplied with labels.

10 - £5.00
50 - £22.50

Banded Disks

Guaranteed 3.5" DS disks
- Top quality boxed with labels
- Sony branded or equivalent
Box of 10 - £9.95

Disk Labels

Coloured Labels - 1.5p each
500 Sprocket Fed White Labels - £9.50

Disk Boxes

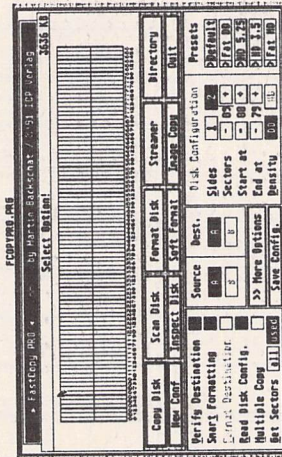
Slimpack box for 12 disks - £ 1.40
Box for 40 disks - £ 5.95
Box for 80 disks - £ 7.45
Posso stackable file for 150 - £22.95
Posso Box Lock Unit - £ 3.95

Classified Advertisement Copy

Please insert the following advert for Issues under the following classification: / ST Contacts / For Sale / Wanted / General / User Groups. Adverts are free to ST Applications subscribers.

Warning: It is illegal to sell unauthorised copies of commercial software - All software offered for sale must be in the original packaging with manuals etc. Anyone found to be selling pirated software through the classified advert listings will be reported to the appropriate authorities. Software Publishers do not normally offer user support or upgrades to users of software purchased second hand.

ST Club Product News



Page 30

FastCopy PRO - £18.50

Page 27

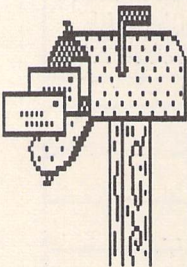
Imagecopy £9.95

Page 30

**FontPac Plus
Derwent Set - £9.95**

*Special Offers on
Redacteur 3, UIS III,
and Quick ST3
all extended to
28th February.*

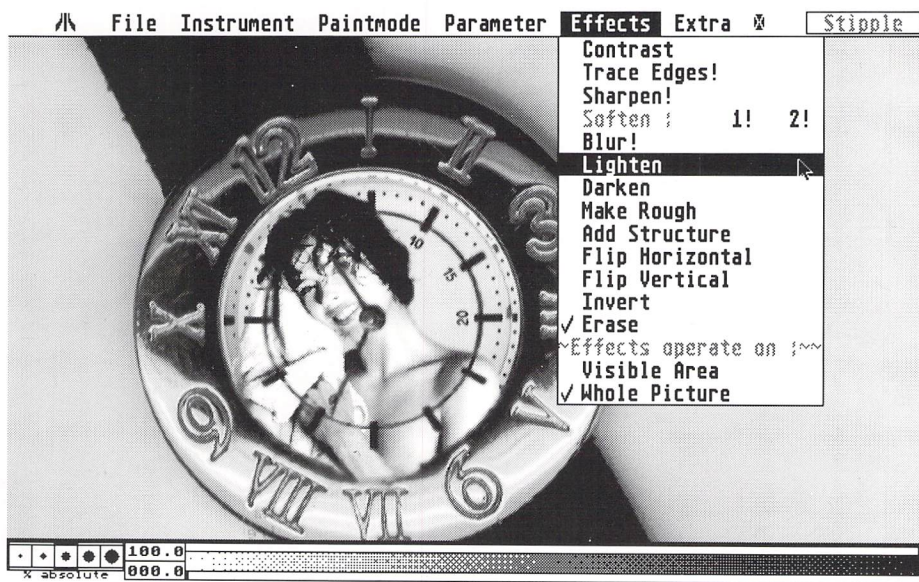
Use this space for any feedback you'd like us to read.



Memo

The Dawn Of A New Era

2 New programs that will revolutionize your ST(E)/TT



RETOUCHE

THE DIGITAL REPROSTUDIO

Retouch is a truly revolutionary new graphics tool for the Atari ST(E)/TT. As a Creative user you'll know that a picture can say a thousand words and that powerful tools are essential to achieve the quality you need. We can guarantee that after using Retouche, you'll look back on the days of tortuous pixel-punching with the best of the current bunch of high resolution monochrome art programs as a gruesome nightmare.

Retouche brings new levels of graceful ease and elegant sophistication to the subtle art of fine halftone image retouching, whilst possessing the sheer brute block processing power necessary to execute its comprehensive range of radical full blown image processing techniques. All very smoothly at the highest quality possible and available directly from your desktop.

Price: £175.00

Didot LINEART



Didot LineArt, is the latest and possibly greatest vector art package of its type to become available for the Atari ST(E)/TT.

Didot LineArt displays a fully thought out user interface, and a wealth of features to make vector graphics useable.

Didot LineArt includes three main modules which are: The Font Editor allowing Postscript Type 1 and Calamus fonts to be edited/converted; The Auto-trace Module (level 1), which allows you to trace bitmap images for conversion to vector file formats; and finally The Vector Module itself, allowing you to create simple and complex artwork. Also a number of file formats are supported, including IMG; GEM; CVG; TIFF and many more.

"What better compliment could a reviewer make than to say that the package under review has pushed all competitors off his hard disk? For me, it's definitely good-bye to Easy Draw, Megapaint Professional and Outline Art."

Günter Minnerup. ST Applications

Price: £235.00



CGS ComputerBild
19 Ledbury Place
Croydon
Surrey CRO 1ET
Tel: 081-686 8121
Fax: 081-666 0405

For further information and to place your order, please complete and return this coupon to: CGS ComputerBild, 19 Ledbury Place, Croydon, Surrey CRO 1ET.
10% Discount available with this coupon. All prices are inclusive of VAT. Please allow for postage and packing.

		£	£	£
		R.R.P	P & P	Total
Please rush my order through as soon as possible. I enclose payment of £.....	Please send me further information	<input type="checkbox"/>		
NAME:.....	RETOUCHE	<input type="checkbox"/>	175.00 - 10% + 3.75 =	161.25
ADDRESS:.....	RETOUCHE PROFESSIONAL B/W	<input type="checkbox"/>	530.00 - 10% + 5.00 =	482.00
.....POSTCODE:.....	DIDOT LINEART	<input type="checkbox"/>	235.00 - 10% + 3.75 =	215.25
TEL:	DIDOT PROFESSIONAL B/W	<input type="checkbox"/>	355.00 - 10% + 5.00 =	324.50

Abeville
Leicester
Tel: 0533 628182

Analogic
Kingston Upon Thames
Tel: 081 546 9575

Atari Business Centre
Nottingham
Tel: 0602 810009

Atari Workshop
London SE15
Tel: 071 708 5755

Atari Workshop
Windsor
Tel: 0753 832212

Cambridge Software
Royston
Tel: 0763 262582

C & P Rossiter
Nottingham
Tel: 0602 631631

Evesham Micros
Birmingham
Tel: 021 458 4564

Evesham Micros
Cambridge
Tel: 0223 323898

Evesham Micros
Evesham
Tel: 0386 765180

Fidget Computerware
High Wycombe
Tel: 0494 533144

First Choice Computers
Leeds
Tel: 0532 637988

Gate Seven Computers
London W14
Tel: 071 602 5186

HCS
Croydon
Tel: 081 777 0751

Ladbroke Computing
Preston
Tel: 0772 203166

Miditech
Leeds
Tel: 0532 446520

R J Computers
Bristol
Tel: 0272 566369

Silicon Centre
Edinburgh
Tel: 031 557 4546

Silica Shop
London W1A
Tel: 071 629 1234 ext 3914

Silica Shop
London W1P
Tel: 071 580 4000

Silica Shop
Sidcup
Tel: 081 309 1111

Softmachine
Sunderland
Tel: 091 510 2666

Star Computers
London NW10
Tel: 081 961 4412

RHS
West Yorkshire
Tel: 0924 473556

Risetime
Tonbridge
Tel: 0732 351234

We Serve
Porchester
Tel: 0705 325354



COMPO THE ST SPECIALISTS

Are you a serious ST user looking for high-performance WP software or a PC emulator? Look no further... COMPO™ have everything you need!

Write ON™, our low cost word processor, has won great praise from press and users including an ST Format Gold Disk Award. That's Write™ (Write ON's big brother), was designed for the professional user and is now the top selling ST word processor.

Our best-selling PC emulation products range from PC SPEED™, the ideal low cost route to PC computing, to the superfast 16 Mhz 286 AT SPEED C16™. Needless to say our PC emulators work with all STs including the ST(E) and Mega ST(E).

Then there's C-Font™, a brand new utility program which converts outline fonts from Calamus for use with Timeworks Publisher 1 and 2, all GDOS programs, and our word processors That's Write and Write ON.

There's more on the way too: coming soon is COMBASE™, a fully relational database and CompoScript™ to print PostScript files to non-PostScript printers... not to mention our new PostScript font packs and a continuous development programme for our existing software.

Want to know more? Just send in the coupon or contact your nearest authorised COMPO dealer.

**COMPO
SOFTWARE**
Setting New Standards

COMPO Software Ltd, 7 Vinegar Hill, Alconbury Weston, Huntingdon PE17 5JA.
Tel: 0480 891819 (sales), 891271 (hotline), 890787 (fax)

COMPO, That's Write, Write ON, CompoScript and COMBASE are trademarks of COMPO Software Ltd.
PC SPEED, AT SPEED and AT SPEED C16 are trademarks of Sack Electronics GmbH. All other trademarks are acknowledged.

Please rush me details of:

- Write ON & That's Write word processing software Name: _____
 PC SPEED, AT SPEED & AT SPEED C16 emulators Address: _____
 C-Font Calamus font convertor _____
 Other new COMPO products as and when they appear Postcode: _____

Cut out and send to:

COMPO Software, 7 Vinegar Hill, Alconbury Weston, Huntingdon PE17 5JA.