

ATARI

ST USER

June 1993

Issue 88

£3.40

Overseas £3.65

Britain's best for ST • STE • TT • Falcon



GREAT GRAPHICS

**How to
put the
best on
your ST
screen**

FREE Worth **£60**
COMPLETE PACKAGE



Atari in Europe
**Will German enthusiasm
revitalise a bright future?**

We review:
NeoDesk & CLI
Truepaint
Convector

Plus games galore

euroPRESS
ENTERPRISE



Ladbroke Computing



**33 Ormskirk Rd,
Preston, Lancs,
PR1 2QP**

Ladbroke Computing International are one of the longest established home computer dealers in the U.K. We have developed an extensive customer service policy which involves testing of all hardware prior to despatch to ensure that goods arrive in working order, offering free advice and support over the phone and keeping customers informed. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup.

All prices are correct at copy date 22/4/93 (while stocks last), and are subject to change without prior notice. All prices include VAT but exclude delivery.

How to Pay

You can order by mail Cheques/Postal Orders made payable to Ladbroke Computing. Or give your credit card details over the phone.

Delivery

Postal delivery is available on small items under £40 (Normally £3, phone for details). Add £7 for courier delivery. Next working day delivery on mainland UK subject to stock (£11 for Saturday delivery).

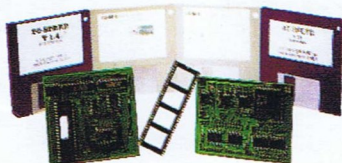
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Ladbroke Computing Ltd trading as
Ladbroke Computing International.

Fax: (0772) 561071

Tel: 9am-5.30pm (5 Lines)

(0772) 203166

PC Emulators



- Run PC Software on your ST
- Full installation instructions
- XT or AT Emulation

PC Speed STFM (XT)	£55.00
PC Speed STE (XT)	£55.00
AT Speed STFM (8MHz)	£129.00
AT Speed STE (8MHz)	£139.00
AT Speed C16 STFM	£189.00
AT Speed C16 STE	£199.00
DR DOS 5	£14.00

Falcon 030

- 16MHz 32 bit 68030 Central Processor, 16MHz blitter
- 32MHz 56001 Digital Signal Processor
- 1.44Mb 3.5" Floppy up to 14Mb RAM
- Displays 65536 colours from 262144 palette at 768 x 480 resolution
- 8 Channel 16 bit, higher than CD quality stereo sound sampling
- Multi TOS MultiTasking Operating System

FALCON 1Mb No HD	£579.00
FALCON 4Mb 65Mb HD	£979.00

Printers



Star	
Star LC100 Colour	£165.00
Star LC20	£124.00
Star LC24/100 Mono	£179.00
Star 2 year warranty	£9.99
Starjet SJ48 Bubblejet	£210.00
Star SJ48 Auto Sheetfeeder	£55.00



Citizen	
Citizen Swift 240 Colour	£270.00
Hewlett Packard	
HP Deskjet 500	£339.00
HP Deskjet 550 Colour	£580.00

Lasers	
Seikosha OP104	£549.00
● 512K RAM (Exp to 2.5Mb)	
● HP Laserjet IIP emulation	
● 14 resident fonts	
● Centronics/RS232C/RS422	
● 12 months on-site warranty	

Seikosha 512k RAM upgrade	£69.00
Seikosha Toner (2 units)	£19.00
Seikosha Drum Unit	£79.00
Ricoh LP1200	£759.00

- Fully HP III compatible
 - 400Dpi resolution
 - 2Mb RAM on board
 - Serial & Parallel ports
 - 12 months on-site warranty
- Add £3 for Centronics cable and £7 for next working day courier delivery (subject to stock).

3.5" Floppy Disks

10 HD 3.5" Disks	£9.99
10 3.5" Disks	£5.41
50 3.5" Disks	£23.50
100 3.5" Disks	£44.65
50 Capacity Box	£4.99
100 Capacity Box	£7.99

STACY Batteries

- Complete re-chargeable battery upgrade kit for STACY
 - Weighs 2.2 pounds
 - Slow charge in 14 hours
 - Fast charge in under 4 Hours (with optional fast charger)
 - Fits into STACY's battery compartment and is charged by the STACY's power supply
- STACY Battery Upgrade £49.99**
Fitting Service £10.00

Mice

Biocon Mouse	£14.99
High quality, high resolution replacement mouse. 2 Microswitched buttons	
It's a Mouse	£9.99
High quality replacement mouse. 290dpi microswitched buttons.	

Floppy Drives

Cumana external ST drive	£64.99
While stocks last	
Internal ST Drive	£44.99
ST's case may need modification.	
Full instructions supplied.	

Joysticks

PRO 5000 Black	£7.00
ZIP Stick	£11.99
PRO Star	£14.99
PRO 5000 Mini (LED's)	£14.99
Navigator	£14.99
Quickjoy Turbo	£6.99

Accessories

Forget Me Clock II	£17.99
ST Dust Cover	£3.99
Mouse Joystick extension	£4.99
3.5" Disk Head Cleaner	£3.99
Monitor Switch Box	£19.99

STE Packs

- Includes Mouse and built in modulator to connect to TV.
 - 4 Great games: 9 lives, Escape from the planet of the robot monsters, Final fight, Sim City.
 - 1st Word wordprocessor, Neochrome Art & Ani ST
- | | |
|-----------------------|------|
| 520 STE | £219 |
| 1Mb STE | £229 |
| 2Mb STE | £275 |
| 4Mb STE | £329 |
| 1040 STE CURRICULUM 2 | £289 |

Monitors



Atari SC1435 Col Mon	£199.00
The SC1435 comes complete with cable and tilt/swivel stand	
Trust MM100 Mono Monitor	£139.99
This 14" SVGA Monochrome monitor comes complete with adaptor for the ST. Fully compatible with all High Resolution programmes	
Philips 8833 MkII Col Mon	£229.99
The 8833 MkII comes complete with Lotus Turbo Challenge 2 game.	
Colour SVGA Monitor	£255.00
High quality Colour SVGA monitor. For use with Falcon (needs adaptor).	
Philips SCART to ST/STE	£9.99
8833 MkII to ST/STE	£9.99
Falcon VGA Adaptor	£9.99
Falcon ST Monitor Adaptor	£9.99

Biocon Pen Mouse

The Biocon Pen mouse is a hi-resolution opto mechanical mouse with 2 microswitched buttons and one bubble switch. Shaped like a pen it makes freehand drawing easier and is fully compatible with all applications.

Biocon Pen Mouse	£24.99
------------------	--------

Psion Series 3

Psion 3 128K	£170
Psion 3 256K	£234

- 16 Bit Processor
- Graphical Windowing Multi Tasking OS
- 128K or 256K RAM
- Up to 4Mb Card Storage
- Built in Wordprocessor, Database, Calculator, To Do Manager and OPL programming language

Parallel Interface	£28.00
Serial RS232 Interface	£64.00
Psion 3 PSU	£14.00
Spreadsheet (256K only)	£63.00
128K RAM SSD	£74.00
512K RAM SSD	£184.00
1Mb RAM SSD	£274.00
256K Flash SSD	£64.00
512K Flash SSD	£109.00
1Mb Flash SSD	£184.00

Atari Lynx 2



Lynx 2 Batman pack	£89.00
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- 16 Bit Processor
- Full Colour Games
- 4096 Colours
- Stereo Sound
- Headphone Socket

Dracula	£19.99
Hydra	£19.99
Dirty Larry	£27.99
Pit Fighter	£31.99
Chips Challenge	£14.99
Hard Drivin	£28.99
Scrapyard Dog	£9.99
Warbirds	£28.99

Coming Soon DinOlympics, World Class Soccer, Desert Strike.

**Phone for latest releases
WIDE RANGE IN STOCK**

DataPulse Plus



Hard Drives

- All Data-Pulse Plus Hard Drives are formatted, partitioned and tested before despatch, ready to "plug in and go"
- Fully Autobooting and Autoparking
- DMA device selector & on/off switch on front of case for ease of access
- DMA Out port for daisy chaining extra drives or Atari Laser printers
- Full metal case measuring 300mm x 285mm x 51mm (wdh), providing good shielding and monitor stand
- We use only high quality ICD controller boards including on-board clock and software
- Only Highest Quality Quantum or Maxtor mechanisms used
- All drives come with full 12 months warranty and free expert help and advice over the phone
- All drives include Vault archiver, Backup software, Virus killer, MCP shell program, Midistudio Master demo

Data-Pulse + 42Mb	£319.99
Data-Pulse + 85Mb	£379.99
Data-Pulse + 127Mb	£429.99

Falcon Data-Pulse Plus

The same high quality components are used in our Falcon hard drives as in the ST DataPulse Plus drives above. However the Falcon does not require an ICD host adaptor. Therefore these drives have a 50-way SCSI connector on the back of the drive which allows direct connection to the SCSI port of the Falcon using the cable supplied.

Data-Pulse +85Mb Falcon	£354.99
Data-Pulse +127Mb Falcon	£404.99

ST/Falcon Data-Pulse Plus

These drives are configured as Falcon drives but include the ICD Link external host adaptor (no clock) to allow connection to the ST. The drive can be used with a Falcon by obtaining a 50-way SCSI cable.

Data-Pulse +85Mb/Link	£379.99
Data-Pulse +127Mb/Link	£429.99
Falcon SCSI Cable	£39.99

ICD's LINK

- Adapts the ST's DMA port to a 50 way SCSI Connector
- Allows connection direct to SCSI hardware including Hard drive Mechanisms, Floptical Mechanisms, Optical Drives, CD ROM's

ICD LINK	£69.99
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Floptical Drives

- Capable of storing over 20Mb of uncompressed data on a single 3.5" Floptical disk
- Can read and write 720K and 1.44Mb 3.5" Floppy disks
- Average access time 65ms
- Data transfer rate of 200K per sec (6 times faster than Floppy disk)
- 3.5" SCSI mechanism
- Utilises only high quality ICD host adaptors
- High quality Case and PSU as used in all Data-Pulse Plus Hard Drives (see opposite for details)
- Available as a stand alone unit, an upgrade to existing Data-Pulse (Plus) drives or as a combination unit with Hard drive mechanisms from 42Mb to 1.2Gb
- Ideal for fast data backup from hard drive
- Low cost removable media



21Mb Floptical Drive	£399.99
Datapulse upgrade	£299.99
42Mb HD+21Mb Floptical	£609.99
85Mb HD+21Mb Floptical	£669.99
127Mb HD+21Mb Floptical	£719.99
170Mb HD+21Mb Floptical	£789.99
213Mb HD+21Mb Floptical	£869.99

All the Above drives include one 21Mb 3.5" Floptical Disk

21Mb 3.5" Floptical Disk	£24.99
5 x 21Mb Floptical Disks	£114.95
10 x 21Mb Floptical Disks	£199.99

Diamond Back II

- Extremely Fast backup to floppy/floptical/hard drive with optional compression and encryption
- On Line help facility makes it very easy to use
- Load/Save Custom backup configurations
- Incremental backups by date/time or Archive bit (TOS 1.4)

Diamond Back II	£29.99
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HD Turbokit

- De-Fragmentation Utility optimises the speed of your hard drive by moving all data blocks into contiguous data areas

HD Turbokit	£4.99
-------------	-------

Image CAT

- Catalogue all image files on your hard disk. Prints tiled display with path names

Image CAT	£24.99
-----------	--------

ST Networks

PowerNet Network Software

- MultiTasking Network software allows applications to run on the server while drive and printer accesses take place in the background
- Allows the mixing of Network types. ie LanNet and MidiNet devices
- Full Falcon compatibility using LanNet device
- Ethernet compatibility and E-Mail coming soon.

LanNet with PowerNet	£89.99
MidiNet with PowerNet	£59.99

Prices quoted are for 1 Node. Each computer attached to a Network requires 1 Node. A LanNet device is required to Utilise the Lan Port on a Mega STE, TT or Falcon.

Silhouette

- Autotraces bit image graphics to resolution independant vector graphics
- Produces Beziers, B-Splines, High resolution grey scales
- Supplied with FontGDOS
- Supports FSM GDOS
- Imports IMG, DEGAS, TINY, MacPaint, GEM, SGF Bit image files
- Exports IMG, GEM (1.3), SGF, DXF, EPS (Postscript) files
- Supports direct scanning via Scanlite accessory
- Requires 1Mb ST, Hi-res monitor

Silhouette	£60.00
Calamus Vector Graphics (CVG) support coming soon	
Calamus V1.09N	£124.99
That's Write 2	£109.99
1st WordPlus	£39.99
Timeworks 2 DTP	£39.99
Signa's Script WP	£79.99

Aries Upgrades



- Will fit any ST(F)(M) or Mega ST
- Extremely compact in house designed Multi-layer circuit board smaller than a credit card
- Upgradeable in stages from the base 512K to 2Mb then 4Mb
- Solder in design for greater reliability
- Fully tested prior to despatch
- All Aries RAM upgrade boards come packaged in a 10 capacity disk box, complete with full fitting instructions and memory test disk.

512K Board	£39.99
2Mb Board	£79.99
4Mb Board	£129.99
512K SIMM's STE	£9.99
2Mb SIMM's STE	£49.99
4Mb SIMM's	£94.99
2 x SIPP to SIMM adaptors	£30.00

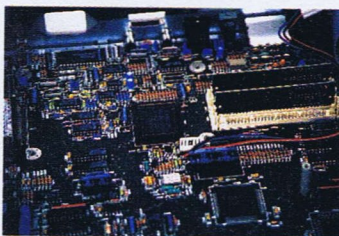
Repair Services

Our Service department can repair ST's in minimum time at competitive rates. We can arrange for fully insured, courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day.

We can fit memory upgrades, PC Emulators, Security devices, ROM upgrades, hard drives to Mega STE's etc.

We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge.

Please note: The minimum charge covers labour, any extra parts are chargeable.



Quotation	£15.00
Minimum repair charge	£35.25
Same day service	£15.00
STFM(E) PSU	£39.99
1Mb internal drive	£44.99
A/B Boot switch	£4.99
TOS 2.06 + Switch STFM	£65.00
TOS 2.06 + Switch STE	£65.00
Courier Pickup	£11.00
Courier Return	£7.00

Phone for price and availability of ST spares

Scanlite

- For those times when all you want to do is quickly scan an image and not bother with a larger editing program
- Supports GOLDEN IMAGE, Migraph, Geniscan and Daatscan Hand Scanners
- Works in low, medium, high and BigScreen resolutions
- Instantly accessible from within programmes supporting accessories
- Scans directly into Silhouette and Megapaint II

Scanlite Accessory	£20.00
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Preston, Lancs,
PR1 2QP**

Fax: (0772) 561071
Tel: 9.00am-5.30pm (5 Lines)
(0772) 203166

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ART EDITORS Terry Thiele
Tym Lecky
Alan Jones
TECHNICAL EDITOR Darren Evans
PRODUCTION EDITOR Phil Morse
STAFF WRITERS Ben Styles
Jonathan Maddock

AD MANAGER Simon Lees
AD PRODUCTION Barbara Newall
MARKETING ASSISTANT Lucy Oliver
PRODUCTION Sandra Childs
CIRCULATION DIRECTOR David Wren
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Tel: 0625 878888 (all departments)
Fax: 0625 850652

CHAIRMAN Derek Meakin
MANAGING DIRECTOR Ian Bloomfield

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ENTERPRISE

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The CoverDisk



HiSoft's DevpacST 2 is a powerful assembly language used by many professional games programmers. It's complete, unrestricted and all yours, FREE!

PLUS:

- **Psycho Pig 2** is a brilliant and zany arcade game in which you guide the porky hero in his battles against the criminal underworld
- **SilkMouse** is a utility that will vastly improve mouse performance. More than just a mouse accelerator, it has other useful features such as a screen saver facility
- **DISKSPC** - Check out how much space is used and how much remains on any floppy or hard drives attached to your ST
- **The useful extended format utility ABFormat** enables you to cram even more on to a standard floppy disk
- **ST Picture Formats** is a text file detailing the most popular picture formats for the ST - great for programmers wanting to use pictures from various art packages in their work.

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GASTEINER

Unit 2, Millmead
Business Centre
Millmead Road
London N17 9QU
Tel: 081 365 1151
Fax: 081 885 1953



ICD POWER ATARI

ATARI COMPUTERS

520 STE 1/2Mb	£209.00
520 STE 1Mb	£219.00
520 STE 2Mb	£265.00
520 STE 4Mb	£320.00
1040 STE 1Mb	£250.00
ST BOOK 1Mb 40Mb H/D	£1275.00

FALCON COMPUTERS

Falcon 1Mb	£550.00
Falcon 4Mb	£750.00
Falcon 1Mb 65 Mb HD	£850.00
Falcon 4Mb 65 Mb HD	£899.00
Falcon 4Mb 120 Mb HD	£1099.00
Falcon 4Mb 240 Mb HD	£1299.00

FALCON HARD DRIVES

40 Mb	POA	65 Mb	POA
120 Mb	POA	240 Mb	POA

NEW GASTEINER SPARE SHOP

Power Supply (ST, STE, STFM, STE)	£32.95
Atari Internal Drive	£45.00
Keyboard STFM and STE	£59.00
STE Mother Board No RAM	£149.00
DMA Chip	POA
TOS 2.06 STE/STFM	£59.00
1/2Mb STFM Mother Board	£149.00
Outer Casing STE	£39.00
Atari Original Mouse	£8.00

MONITORS

SVGA Monitor for Falcon	£239.00
Atari SC1435	£199.00
Multisync Monitor	£399.00
Gasteiner Mono High Res	£149.00

PRINTERS

Citizen Swift 9 Colour	£179.00
Citizen Swift 240 Colour	£279.00
Citizen Swift 200 Colour	£219.00
HP 500	£309.00
HP 500 Colour	£439.00
HP 550 Colour	£550.00

RAM

8 Mb RAM for STE, Mega	
ST/STE (COMING SOON)	POA
Marpet XRAM Deluxe Simms Upgrade	
For ST, STF, STFM and Mega ST	
0Mb	£30.00
1/2Mb	£39.00
2Mb	£85.00
4Mb	£139.00
Gasteiner STE and Mega STE Upgrade	
1/2Mb	£6.99
2Mb	£59.00
4Mb	£109.00

SCANNERS

256 Greyscale Scanners with OCR	
Option. Features:- True Greyscales, 100-	
400 DPI, 105mm Head + Touch Up +	
Mergelt	£119.95
Scanner + OCR Software	£179.00
Full OCR Software	£165.00
OCR Upgrade for any GoldenImage	
or Alfadata Scanner only	£69.00

HARD DRIVES

GASTEINER ? DRIVE FOR ST, STE,
MEGA ST, MEGA STE

- * High performance drive
 - * Supports up to 7 extra SCSI devices
 - * Autobooting * DMA throughput * Autoparking
 - * Accept a second Internal drive * Optional battery backed clock
 - * 12 Months back to base warranty
 - * Comprehensive manual * Fast SCSI drive
 - * High quality metal casing * Internal PSU
- | | |
|--------------------------|---------|
| 42Mb (24Ms) Quantum | £289.00 |
| 50Mb (24Ms) Seagate | £289.00 |
| 85Mb (14Ms) Quantum | £369.00 |
| 120Mb (14Ms) Conner | £429.00 |
| 170Mb (14Ms) Quantum | £469.00 |
| 240Mb (14Ms) Conner | £569.00 |
| 330Mb - 1.2 Giga byte | POA |
| Floptical 20Mb Drive | £399.00 |
| Floptical 20Mb Disks | £24.00 |
| Optional Clock for above | £15.00 |

HARD DRIVE KIT

GASTEINER MAKE YOUR OWN HARD DRIVE

- | | | | |
|---------------------------------|--------|--------------------|--------|
| * Case | £35.00 | * Host Adaptor | £59.00 |
| * 45W PSU | £35.00 | * DMA Cable | £6.00 |
| * SCSI Cable | £6.00 | * The Link | £79.00 |
| * Power Cable | £5.00 | * ICD Host Adaptor | £69.00 |
| * ICD Host Adaptor (with clock) | £79.00 | * Cleanup ST | £29.00 |

BARE HARD DRIVES

50Mb Seagate	£199.00	42Mb Quantum	£179
85Mb Quantum	£249.00	240Mb Quantum	£499
120Mb Conner	£299.00	105Mb LPS Quantum	£299
170Mb Conner	£329.00	85Mb Conner	£229
170Mb Quantum	£349.00	52Mb LPP Quantum	£279

MEGA STE HARD DRIVE

- With Official Atari MEGA STE KIT
Atari Host Adaptor and Formatting Software
- | | |
|------------------------|---------|
| Mega STE Kit | £39.00 |
| Kit + 50Mb Hard Drive | £219.00 |
| Kit + 120Mb Hard Drive | £379.00 |
| Kit + 210Mb Hard Drive | £499.00 |

ACCESSORIES

Monitor Switch Box Colour/Mono	£14.95
Multisync Switch Box	£29.95
Printer Cable	£6.00
Modem Cable	£6.00
Null Cable	£6.00
Serial Cable	£6.00
Philips/Atari Cable	£10.00
Scart Cable	£10.00
Box of 10 Disks	£7.00
5.25" External Drive	£89.00
3.5" External Drive	£50.00
3.5" 1.44 External Drive for Mega STE/TT	£99.00
Blitz Turbo	£25.00
Ripper Cartridge	£25.00
Supra Fax-Modem	£250.00
Ad Speed ST	£140.00
Ad Speed STE	£165.00
Auto Sensing Mouse/Joystick Switch	£12.95
Forget Me Clock II	£14.95

MICE + TRACKBALL

AlfaData

Infra Red Mouse	£45.00
Mega Mouse	£10.95
Mega Mouse (Mat+Holder)	£14.95
300 DPI Optical Mouse	£27.95
The Trackball	£29.95
Crystal Trackball	£34.95
Optical Pen Mouse	£35.95
Auto Mouse/Joystick Switch	£12.95
Golden Image	
GI 600	£13.95
Optical Mouse	£23.95
Brush Mouse	£19.95
New Golden Image	
400 DPI Mark 2 Mouse	£14.95

SOFTWARE

Word Processors

1st Word +	£55.00
Calligrapher Pro	£79.00
Calligrapher Gold	£109.00
That's Write V1.4	£19.00

DTP Software

Pagestream V2.2	£149.00
Timeworks Publishing 2	£80.00
Calamus V1.9	£129.00
Calamus SL	£339.00
OCR Software	£165.00
Touch Up	£49.00
Easy Draw	£34.00
Cyber Studio	£25.00
Cyber Control	£25.00
Cyber Paint	£25.00
Human Design Disk	£10.00
Future Design Disk	£10.00
3D Font 1	£10.00
CAD 3D	£10.00
CAD 3D Developers Disk	£10.00
Neo Desk 3	£28.00
Thats Fun Face	£18.00
Signs + Banners	£15.00
Calendar + Stationery	£15.00
Greeting Cards	£15.00

Music Software

C-Lab Notator	£279.00
C-Lab Creator	£179.00
Cubert	£150.00
Cubase	£279.00
Cubase Light	£150.00

REPAIR SERVICE

New service centre/repair for most Atari computers. We offer a quotation service of £10 for which we will examine your computer and report back with an exact quotation price for the repair. If the repair is carried out the £10 is then deducted from your bill.

PLEASE PHONE IN
FOR REPAIRS ON ST

DELIVERY CHARGES:
Small consumables & software items.
Other items, except lasers
Offshore and Highlands
IN ADDITION WE OFFER THE FOLLOWING EXPRESS SERVICES
Saturday deliveries
AM next day

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MultiTOS makes its move

by Andrew Wright

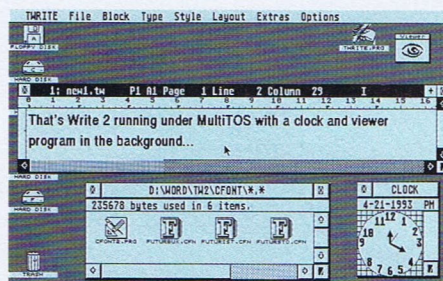
THE long-awaited multitasking operating system MultiTOS is due for imminent release according to Atari's marketing manager, Darryl Still.

Although distribution channels are still to be finalised, HiSoft will be one of the first to sell the disk-based version and it should cost £29.95.

MultiTOS has been two years in development, having started out life as a PD experiment in the shape of Eric Smith's MINT, a recursive acronym standing for Mint Is Not TOS.

Atari have been trying hard to make it part of TOS, of course, and it looks as if they have finally succeeded.

Version 1.0 features an English language installation program although it can be copied to the boot disk manually if needed. Several



The real thing at last – MultiTOS, v1.00

small applications are included – a clock, line drawing demo, file viewer and a windowing application for running TOS programs in GEM windows.

MultiTOS is similar in appearance to the TT and Falcon versions of TOS with plenty of options for customisation, including coloured window backgrounds, scroll and move bars.

It will run on any ST/STE with 1Mb of memory and a hard disk but at least 2Mb will be needed to make use of the multitasking and task-switching capabilities.

Past previews in other magazines have been based on MINT rather than MultiTOS, but next month we'll include an exclusive review of the release version. HiSoft are on 0525 718181.

MT Software go into print

MT Software, the Isle of Wight based PD library, is set to enter the world of publishing with the launch of the 600-page *Beginner's Guide to STOS Basic*.

According to proprietor Mark Thomson, it is "a complete programming course that takes the beginner from basic principles through to the development of complete programs".

The guide is supplied in a hard plastic ring binder and runs to 618 pages plus two double sided disks containing nearly 200 programming examples.

Tutorials are included teaching users how to program games and applications, from shoot-'em-ups to a wordprocessor and database. Full programming instructions are provided for games like Alien Attack, Bonk the Gonk, Shoot the Spook, a name and address program, a comprehensive Degas-compatible art package and scores of smaller projects.

Other subjects covered include GCSE mathematics, sound sampling, music and animating sprites. The package costs £39.95 plus p&p and is available from MT Software on 0983 756056.

Hot off the press

NOTTINGHAMSHIRE-based ST hardware supplier and repair specialist C & P Rossiter have announced an unusual new service.

Using state-of-the-art hot foil printing technology and the latest Atari DTP software, the company can design and supply items such as business cards, key fobs, bookmarks, rulers and coasters in a range of eye-catching colours.

For example, business cards are available in the standard size with the customer's name, address and logo, if required.

The gloss-coated cards are available in

brown, black, burgundy, olive, blue, dark blue, dark green, red, marigold, beige, yellow, silver, grey and white.

The text is foil printed in one of ten colours – gold, silver, copper, red, green, blue, orange, black, white and brown.

The cards are designed using the top-end DTP package Didot Professional Colour Design running on a TT.

Prices range from £12 for 100 to £35 for 500 and there is a one-off charge of £15 for artwork on initial orders.

Contact 0602 631631.

Top developer expands ST coverage

HISOFT are set to venture into new market areas following their acquisition of Audio Visual Research, a firm well known for sampling products Mastersound and Stereo Replay.

AVR is the trading name of 2-BIT Systems Ltd and the company's directors will join HiSoft to provide technical help with new and existing AVR products.

Future hardware will be marketed by HiSoft under the AVR name, although all accompanying software will carry the much-respected HiSoft name.

AVR's current range is marketed by Microdeal and this arrangement will continue under the firm's new ownership.

"The buy-out takes HiSoft into new markets and consolidates its already strong position in the Atari marketplace," said David Link, HiSoft's owner.

"We'll be concentrating on multimedia solutions for the ST and Falcon platforms such as the combined monochrome video digitiser and sampler called Video Master selling for under £70."

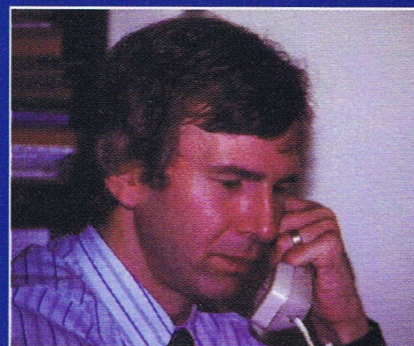
Eager

Meanwhile, HiSoft have also picked up the distribution rights to one of the most eagerly awaited ST utilities, Datalight 2.0, a disk space doubler from Germany.

Datalight loads from the AUTO folder and automatically compresses all data written to both hard and floppy disks. It does this "on the fly" so that the user is rarely aware that it is happening.

The only thing the user sees is a doubling of available space on whichever drive is in use. It is expected to sell for under £50 and should be available shortly.

Also in the pipeline is another product from Shift – the German developer of Arabesque Professional and Convector – called Interface, an advanced 3D resource construction set.



Link: Expands HiSoft with AVR buy-out

VGA adaptor from Ladbroke

LADBROKE Computing have just announced a new adaptor cable that allows VGA and SVGA monitors – the kind used with PCs – to be connected to any ST.

The Lancashire-based company developed the cable to keep up with the continuing demand for high resolution monitors now that the SM124/144 series are being discontinued by Atari.

Using the cable, any VGA/SVGA monitor will work with the ST in high resolution mode and produces a display some 10.5 inches across on a 14 inch screen – slightly larger than the screen display on the old SM124.

Colour VGA/SVGA monitors can be used, but they will only display mono.

The combination has been tested with Overscan, the company claims, and the cable includes a small piezo beeper to relay key clicks and system beeps. Users needing more

sound can easily add amplified speakers as a 3.5 mm output jack is provided.

Ladbroke Computing supply the cable for £99.99. Specially selected 14in mono VGA monitors are also available, with a tilt and swivel base, priced £139.99 including the cable.

The firm can be contacted on 0772 203166.

Use VGA
monitors
with your ST



Citizen extend with colour

CITIZEN's Swift range of dot matrix printers has been extended this month with the launch of the Swift 90C, a 9-pin colour model which will sell for £257.

It was shown for the first time at the CeBit information technology exhibition in Hanover recently, and will be available in Britain from late spring.

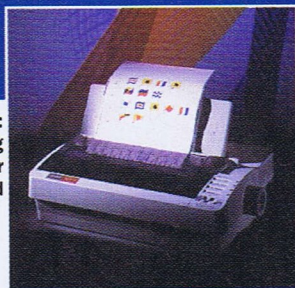
The machine runs at 180 characters per second, and 216cps when printing at 12 characters per inch. Six fonts can be used in near letter quality mode, and two in draft.

The manufacturer claims that it is among the quietest models on the market, and it is Epson FX850-compatible.

"There is a large and continuing consumer demand for a printing solution that offers a low buying price, while maintaining high quality output," said Citizen's Anthony Odhams.

"To satisfy this demand, we have built on the strengths of the Swift 9 and incorporated many features of the successful 24-pin Swift 2 series into the Swift 90C."

A mono version will be sold with a £233 price tag, with a colour kit available as an extra.



Swift 90C:
Satisfying
consumer
demand

Do you know something we don't?

Although Atari ST User has scores of contacts in the ST world, we still need you. If you have some hot news, ring John Butters on the news desk on 0625 878888 or fax us on 0625 850652.

Titanic trio for Falcon

TITAN Designs, the Birmingham-based developer, have three new products for the Falcon – two genlocks and a video digitiser.

Graffiti is a budget-priced true colour genlock that will also work on the STE with a suitable adaptor.

The software is still being developed, but will include some advanced manipulation features, including rotation, resizing, and stretching of text, which will be able to be imported in Calamus, PostScript or Didot format.

There is an impressive list of special effects such as flash, melt, disperse, vacuum, explode, implode, mirror and cycling. Titan hope to keep the price to between £100 and £130.

Fresco is a professional genlock which will be compatible with the Expose digitiser. It will have all the capabilities of Graffiti plus real time 3D text and object manipulation at any of the Falcon's resolutions including the over-scanned 768 by 480 mode. Other effects such as dissolves and a dynamic light source are planned and the price will be £299.

The third product is Expose, again to be priced at £299, which will be able to capture images from several video sources including camcorders and the Canon Ion camera. Images can then be displayed on the screen at resolutions up to 512 by 512 pixels (non-interlaced) or transferred directly to the Fresco genlock.

Contact David Encill on 021-414 1630 for more information.

DIARY DATES

20 to 23 May

Spring Computer Shopper Show
Organiser: Blenheim Online
Venue: Olympia, London
UK's largest direct computer product sales forum.

3 to 5 September

Computer Show '93
Organiser: Interexpo & Media – Holland
Venue: Den Bosch, Holland
Large computer games show for ST, Amiga and PC.

24 to 26 September

Benelux Computer Show '93
Organiser: Interexpo & Media – Holland
Venue: Eindhoven, Holland
Large computer games show for ST, Amiga and PC.

16 to 20 September

Live '93
Organiser: News International
(071 782 6000)
Venue: Olympia, London
A public consumer electronics show.

19 to 21 November

International Computer Show
Organiser: Westminster Exhibitions
(081 549 3444)
Venue: Wembley, London
Discounted software/hardware and product launches.

Have a great holiday on us!

WITH a £3,000 promotion starting this month, there's never been a better time to take out a regular newsagent's order to Atari ST User.

Not only does the order guarantee your copy of the complete Atari magazine and its unrivalled CoverDisk, but also gives you the chance of winning a dream holiday.

The winner can travel alone, or even take the whole family – providing the total cost of the holiday comes to no more than £3,000.

Turn to page 82-83 for an order form and full competition details – but don't waste time, the promotion runs for just two months.

Swap to save the world?

US COMPUTER dealer Purple Mountain Computers have started a green recycling programme for computer books, magazines and software.

They claim to provide a pool of unwanted items which can then be exchanged or sold, thus cutting down on waste and preserving the environment.

Apparently PMC is an environmentally friendly company because it comprises a receptionist, student, office manager, housewife and engineer. Quite why this combination should be so environmentally effective, we couldn't work out from the brief press release.

PMC were obviously so keen to save paper that the single page didn't provide enough room to explain exactly how they intend to achieve their goal...

Less confused conservationists can call them on 0101 206 399 8700.

System Solutions

High Res Monitors

The sudden lack of Atari High Resolution monitors, and high demand have prompted System Solutions to fill the gap with their new range of SM14 monitors.

This 14" monitor has a paperwhite FST (flatter squarer tube), which gives a crisp and sharp image with no blurring at the edges. There are two models, the SM14 without speaker and the SM14s with Speaker. A special Falcon version is available, too.

Each monitor is individually adjusted for the best possible picture. Perfect aspect ratio and optimised image for OverScan ST (shown below) are available on request.

'Essential Buy, 90%'

ST Review, May 1993.

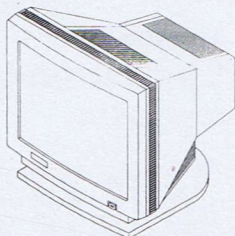
RRP: £149.95

without speaker

RRP: £169.95

with speaker

Contact System
Solutions on
081-693 3355

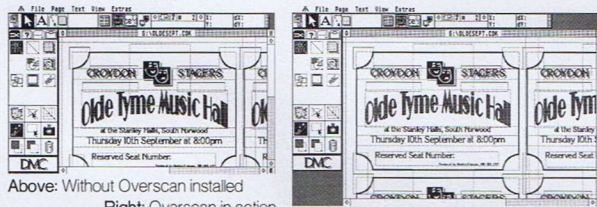


Crossing the Border

EVER fancied the idea of a larger monitor, but not the price that goes with it?? Well now you can with OverScan ST. This little board fits inside your Atari ST(FM) or Mega ST (not STe's) allowing you to use the black borders as an extended working area. In practise this means you can get up to 40% extra screen in high resolution, and up to 60% in colour. It also works with Multisyncs.

Special Offer
Price £39.95

Contact System
Solutions on
0753-832212



Above: Without Overscan installed
Right: Overscan in action

NVDI

If you are one of those people using DeskTop Publishers, or Music Notation, do you find that you spend ages for the screen to redraw. Well, if so then System Solutions have the solution for you. NVDI is the fastest and most compatible display accelerator software available.

It works by replacing parts of TOS with optimised code. The faster the processor (CPU), the greater the benefit. Display routines are 3-10 times faster.

'It'll make you wonder how you ever used your ST without it' ST User, August 1992.

Version 2.11 still only £39.95

Further info on tel 081-693 1919

High Density

DO you feel left out when your PC, and Mac friends start talking about how they can get 144Mb on a floppy disk. Well, now you can join them with the EICo High Density kits.

The kit comes with fitting instructions, software (HD formatter) and a high quality 144Mb floppy disk drive. It is fully compatible with your old double density disks, and works with PC Emulators.

A perfect replacement for those troublesome single-sided drives.

Special Offer Price: £89.95

The High Density Module is also available separately without the drive for £39.95

Phone System Solutions on Tel: 0753-832212

News

Drives

QUALITY SCSI Hard Drives are now available from System Solutions with capacities from 40 Megabytes to 3.5 Gigabytes!! They are all carefully assembled into beautiful UK made cases with prices as low as £299.

Also available are 128Mb Magneto Optical drives, Syquest drives, Optical, Floptical and WORM drives. For more information call 081-693 3355.

Fax Modems

EVER though about joining the communications revolution. Well, all you need is a modem from System Solutions. Available speeds are 2400bps to 14,400bps, including data compression, error correction and Hayes compatibility as standard. TeleOffice, the facsimile manager software, allows you to send and receive faxes from within your favourite wordprocessor and DTP software. Why not find out more. See address below.

Tower Power

SAVE desk space by putting your Atari into a stylish Tower, giving you more room internally for extra upgrades and drives. A kit is also available to give a separate keyboard.

Why not call in to the Desktop Centre for a demonstration?

For further information on any of the products on this page, please contact:

System Solutions,
Windsor Business Centre,
Vansittart Road, Windsor, SL4 1SE
Tel: 0753-832212
Fax: 0753-830344

or

System Solutions,
The Desktop Centre,
17-19 Blackwater Street, London,
SE22 8RS
Tel: 081-693 3355
Fax: 081-693 6936

Atari Repairs/Upgrades

If your Atari has seen better days, or it needs a bit of a boost, then contact us at Atari Workshop. We operate two fully equipped workshops, giving a professional service and customer satisfaction. Our high standard of workmanship has been endorsed by Atari UK. We repair, fit memory upgrades, accelerators, and in fact just about anything you can think of. Why not give us a call now, and see what we can do for you?

Windsor Service Centre:
Windsor Business Centre, Vansittart Estate, Windsor, SL4 1SE. Tel: 0753-832212
London Service Centre:
The Desktop Centre, 17-19 Blackwater Street, East Dulwich, SE22 8RS. Tel: 081-693 1919

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WORKSHOP

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ST

REVIEW

FLY HIGH WITH A FALCON - FREE!

...in ST Review's great
easy-to-enter competition



You could be the proud owner of a brand spanking new Falcon with four megabytes of memory and a 65 megabyte hard drive. We're even throwing in *MultiTOS* and *SpeedoGDOS* to give you one of the most muscle-bound personal computers currently available. Just think about what you could do with all that power under your fingertips...

AND THAT'S NOT ALL...

We're also including a superb colour monitor from System Solutions and Screenblaster hardware to do justice to the Falcon's graphics, a Citizen Projet printer and oodles of software including HiSoft's *True Paint* and COMPO's *That's Write 2* and *MUSiCOM*. Even if you don't win, there are five consolation prizes of *True Paint*!

With a total value of nearly £2,500, this has to be the greatest prize ever offered by an Atari magazine!

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520 STE Discovery Xtra Pack II	£224.95	£239.95	£279.95	£339.95	-
1040 STE Family Curriculum Pack II	-	£274.95	£334.95	£394.95	-
Falcon 030	-	POA	-	POA	POA

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with Hardware Switch

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Philips 15" TV/Monitor + Remote Control + Scart Cable (Model 3332)	£239.00
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 - Please allow 5 working days for cheque clearance



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disk REVIEWS

**Unleash the full power of the ST
in your programs with the
complete and unrestricted
DevpacST 2 assembly language
development system from
HiSoft, plus zany arcade fun in
Psycho Pig 2 and much more**

DevpacST 2

Programmed by: Andy Pennell, Dave Nutkins, Alex Kiernan

First, copy the contents of the DEVPACST folder to a blank disk. The files in the folder are not archived and once copied, run GENST.PRG to get started.

In the world of programming, there are many languages to choose from – Basic, Pascal, Forth, C and others. However, when it comes to sheer power and speed, assembly language is the only choice.

The majority of arcade games that you have undoubtedly played on your ST are written in assembly language. This is because it is the preferred language for games programmers allowing direct and uncompromised access to the hardware within your machine.

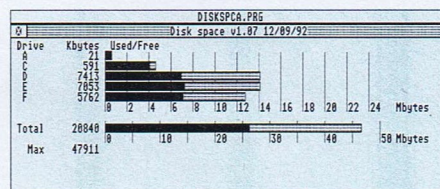
GenST is the heart of Devpac and is a high-performance, full featured, two-pass Motorola standard macro assembler capable of assembling up to 60,000 lines of code per minute.

It can produce directly executable programs or linkable object code in GST or DRI format. GENST also offers conditional assembly, text include and macro capability as standard.

GenST is also integrated and from within its editor, you can assemble a program to memory, switch to MonST (the debugger) and when you have finished, you are taken straight back to the editor.

The editor also features comprehensive block editing and search and replace facilities for easy editing and entry of program source code. GenST is also provided as a standalone assembler in the form of the GENST.TTP program. This allows for those of you with your own preferred editor or those who use batch files or CLIs. GenST also features a

Configuration: All STs, all resolutions
Filenames: DEVPACST - Folder containing
non-archived files



The assembly process is also very flexible, allowing various types of code to be produced as well as offering control over where the output is directed to

versatile and large array of assembler directives. Directives allow you to control the assembly process with ease.

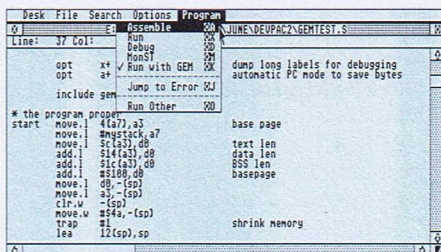
Some of the more powerful directives include OPT, which provides a powerful optimising facility to make GenST automatically replace certain code with faster or smaller versions and MACRO, which allows long, commonly used sequences of code, to be written concisely. In conjunction with conditional assembly, the macro features greatly simplify programming.

When it comes to finding the bugs in a program you have written, Devpac has a powerful symbolic debugger, MonST, packed with features that help you trace those problems that prevent your program from working.

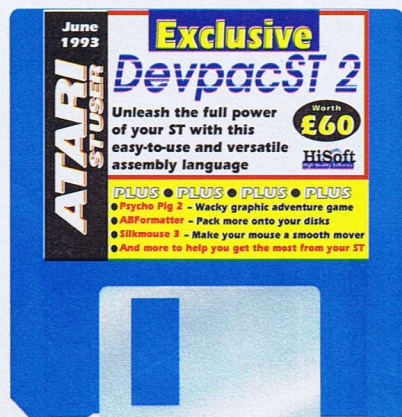
Some of the main features of MonST are its ability to use symbols taken from the original program. It also has various types of breakpoints which can be inserted into the program to help you check what is actually going on as the program is executed.

Along with the actual assembler programs, Devpac also comes with a powerful collection of pre-written routines that allow you to use the GEM operating system. Some of the routines deal with aspects of the AES and VDI, which are two parts forming the GEM operating system. Some of the AES library routines available include object manipulation, AES events and menu routines.

Turn to page 17 for an example of using DevpacST to assemble one of the supplied example programs.



Devpac's integrated programming environment means the entire programming process, from editing source code to debugging, is possible from within the one application



HiSoft DevpacST 2 reader offer

If you would like to obtain the full manual for DevpacST 2, turn to page 15 for full details as well as a special offer for upgrading to DevpacST 3.

DISKSPC

A useful utility that allows you to instantly see how much space is available and how much is used on all floppy disks or hard disk partitions connected to your ST

Although this program was designed primarily with hard disk owners in mind, it is also capable of producing statistics for floppy-based systems too.

DISKSPC, when run as a program or accessory, provides you with a graphical representation of the percentage of space left and how much is currently in use on any

Programmed by: Mark Brinkworth
Configuration: All STs - all resolutions
Filenames: DISKSPC - Folder containing non-archived files

DISKSPC.PRG	
Disk space v1.07 12/09/92	
BIOS Parameter Block information	
Drive:	0
Sector size:	512 Bytes
Cluster size:	2 Sectors
Cluster size:	1024 Bytes
Root dir. length:	16 Sectors
FAT size:	49 Sectors
2nd fat start:	50 (first sector)
Data starts at:	131 (first sector)
Data Clusters:	14502 (total)
Misc Flags:	1
Disk space usage information	
Total Clusters:	14502
Free Clusters:	7413

More detailed statistical information on the drive is available when the appropriate bar graph is clicked on

and more informative than the Desktop's Show Information facility. Each floppy or hard drive partition is represented as a bar graph. Further, more detailed information, gleaned from the BIOS parameter block, is also available if you click on any of the bars. The information includes sector size, root directory length, FAT size and other relevant disk statistics.

As mentioned before, DISKSPC can be used as an accessory or program.

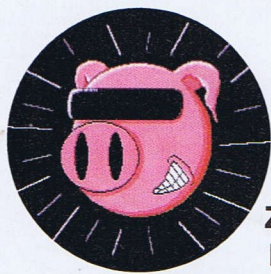
Simply choose which type you want and either copy it to your boot disk (in the case of the accessory) or simply double click on the .PRG version.



Choosing from one of four starting locations, our hero decides to opt for the local docks in his search. I think a swim is in order



A dive underwater finds Psycho Pig up against his first encounter. A bazooka blast to the squid's gob will soon sort it out though



Psycho Pig 2

Zany and brilliant action-packed game where you play the part of a porky superhero crimefighter

The two archived pig files each need to be copied to two, previously formatted blank disks and then run from there. Label the disks as number one and two and to start the game, simply boot the ST with disk one inserted.

He's back (from where I don't know) and he's meaner than ever. By day a pig insurance salesman, by night he's PSYCHO PIG (huge fanfare effect), the bane of the criminal underworld.

In this month's episode, Psycho Pig and his crime-fighting prowess come to the aid of four baby crocodiles, abducted by a sinister character known as the Boss, who is running a racket making illegal crocodile handbags.

Psycho Pig is approached (in his guise as pig insurance salesman) by the distressed mother of the four unfortunate baby crocs in a last ditch hope to contact Psycho Pig for help.

Programmed by: Animal Soft
Configuration: Any ST with TOS lower than 2.06 - low resolution
Filenames: X_PIG1.TOS, X_PIG2.TOS - Self-extracting archive

Little does she know that the mild manner salesman, who she has heard has some contact with Psycho Pig, is in fact, the porky hero himself. Listening to the mother's story of her little ones' abduction, he decides that those responsible must pay.

You must guide Psycho Pig through the various screens, shooting all manner of bad guys and collecting various things on the way to help you progress. So what are you waiting for? Those little baby crocodiles need you!

Single-sided service

Single-sided drive users wanting the contents on this month's disk on single-sided disks should send their original CoverDisk and a cheque for £1.50 - payable to Atari ST User - to SSD Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP.

ST Picture Formats

A text file detailing the structure of many file formats available for the ST

Edited by: David Bagette
Configuration: Simple text file for all STs
Filenames: PIC_FMTS.TXT - Simple text file

This file lists over 20 different file formats and their structure. It is ideal for programmers looking to incorporate picture loading routines into their programs. Some of the formats detailed include NEO, PIFS, IFFs, IMGs, GEM Metafile, Spectrum 512 and many more. The file also has notes on the various compression schemes used in some of the formats.

Problems with your CoverDisk?

With thousands of disks being duplicated each month, a few will inevitably be faulty. Fortunately, we can help you. Send the faulty disk to:

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CoverDisk Hotline

Hotline number: 0625 859766, 2pm to 5pm every Wednesday.

If you have any other problems with the CoverDisk, our technical editor, Darren Evans, will be available on the Atari ST User CoverDisk Hotline. The Hotline number is only available within the times specified, and no advice will be available outside these hours.

SilkMouse

A brilliant utility that improves the way the mouse moves and offers a screen saver and hardware bug fix in the ST's keyboard

This great mouse accelerator uses a very different method to similar programs. The main design objective wasn't acceleration but rather resolution independence, or in other words, a uniform response in resolutions.

To get a little technical, SilkMouse achieves this via a distance-to-distance relationship between mouse movement and pointer movement as opposed to a distance-to-pixel relationship.

The end result of this is, funnily enough, an acceleration. There is also an improvement in behaviour using the keyboard ALT-arrow feature for moving the mouse.

Also thrown in is a screen saver. Not one of those fancy entertaining ones which take up a lot of memory, but a simple, no-fuss monitor saver. Also, it does not just "go black" on you while you happen to be looking at the screen and not inputting anything via mouse or keyboard.

After a specified time has elapsed with no activity from mouse, keyboard or, optionally, a modem, the display inverts and changes to half intensity. As an example, black text on a white background transforms to grey text on a black background. The screen then remains in this state for some multiple of the original delay, then goes black.

Moving the mouse, pressing a key on the keyboard or, if you have enabled the modem facility, any activity from the modem port will restore the original display.

Also, the author claims that there is a bug with the ST's keyboard. Apparently, when a shift key is held down and two adjacent keys are pressed at about the same time, the keyboard will, sometimes, report a shift-F1 or Shift-F3 in addition to one or both of the keys that were actually pressed.

Of course this will only be evident if you are using a program where Shift-F1 or Shift-F3 actually activate a function. Therefore, SilkMouse offers a keyguard feature which effectively cures the problem.

Another facility which SilkMouse offers is a hold screen option. This is a very useful feature which allows you to read the screen output of a program which was run from the Desktop, when in fact it was designed to be run from a CLI. A classic problem is

Programmed by: Mark Slagell
Configuration: All STs, all resolutions
Filename: SILKMOUS - Folder containing non-archived files

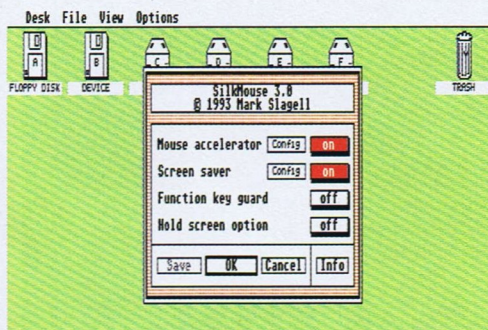
when you have a TTP program which you don't have any documentation for, and, which when run with an empty command line, prints a list of available commands on-screen.

If the TTP application has not been programmed to pause before exiting, the screen will clear and go back to the Desktop before you have a chance to read the text. Surely some of you have frantically had your hand poised over the CTRL-S button in an attempt to pause the screen before the end of the text is reached, only to find that it is too quick to do it?

Well, with SilkMouse's hold screen feature activated, before such a program is exited, there is a check made on the status of the right mouse button. If it isn't being held down, the program exits normally.

If it is being held down, the output on screen is not cleared until the button is released, thereby allowing you to read any text that would otherwise be erased.

With Atari's extensible control panel Xcontrol you can change such features as "gear" sensitivity and ratio which SilkMouse uses (read the text file on disk for more information about these) and also enable or disable the other features mentioned earlier.



SilkMouse will drastically improve your mouse's performance and, with its extra features, is a "must" utility

ABFormatter

A multitasking disk formatter utility – much more versatile than the formatting facility available from the Desktop

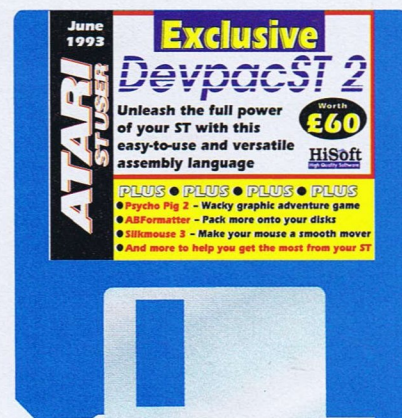
Almost everyone knows that you can gain extra space on a standard disk simply by formatting it with ten sectors and increasing the number of tracks to format. Some formatters allow you to format using 11 sectors and also increase the track count to 83.

However, your humble 720k disk is not meant to be stretched too far and using too high a number for the track or sectors will probably result in data being lost.

Having said that, I frequently use a format of

Programmed by: Gregg Hungerford
Configuration: All STs, all resolutions
Filename: ABFORMAT - Folder containing non-archived files

ten sectors and 82 tracks and have had no problems in over a year. Formatting to these values with ABFormatter achieves a disk capacity of 828,416 – a substantial increase over the standard 726,016.



Using the CoverDisk

Write-protect your CoverDisk now by sliding the write-protect tab so you can see through the hole at the top right corner of the CoverDisk.

In order to fill the disk with as many programs as possible, ST User employs disk compression techniques when placing large programs on the CoverDisk.

These files are termed "archived files" and cannot be directly executed from the CoverDisk. Archived files are identified by their names beginning with X_.

Any files that do not begin with X_ are actually folders containing files which are not compressed.

These uncompressed files should also be copied to a blank disk. Following are a series of step-by-step instructions for using the CoverDisk.

Important: Make a backup of your original CoverDisk and put it in a safe place.

Using archived files

Note: When copying files or disks, the ST refers to disk A and disk B in its on-screen instructions. Disk A refers to the disk being copied while disk B refers to the disk being copied to (usually a pre-formatted blank disk).

1. Format a disk.
2. Copy the required archived file to the formatted disk.
3. Run the copied archived file. It will now automatically "extract" to its full size.
4. Once complete, delete the X_ filename as this is no longer required. The formatted disk should now contain all the files that were in the archive file.

Normal uncompressed files

1. Format a blank disk
2. Open the required folder and copy all files in the folder to the formatted disk.
3. You can now immediately run the program/s as is.

Highlighting and dragging files and icons

1. Click once on the item, it should turn black (the item is now highlighted).
2. If you keep the left mouse button held down on the item, a dotted outline of the item appears and you may then re-position it by moving the mouse to the required position (effectively dragging the icon) and releasing the mouse button.

If you are new to the ST and did not understand some of the terminology in the preceding steps. There now follow an explanation of some basic techniques needed.

Formatting a disk

1. Place the disk to be formatted in the drive.
2. Highlight the drive A icon.
3. Move mouse pointer up to the FILE menu at the top of the screen and select FORMAT.
4. A box will appear. Click on OK.
5. Another box will appear. Ensure DOUBLE SIDED is selected then click on OK. The disk is now being formatted.

Copying files to another disk

1. Select the file to be copied by highlighting it and dragging it to the disk B icon.
2. A box entitled COPY FILE(s) appears. Click on OK and follow instructions on the screen exchanging disks as requested.

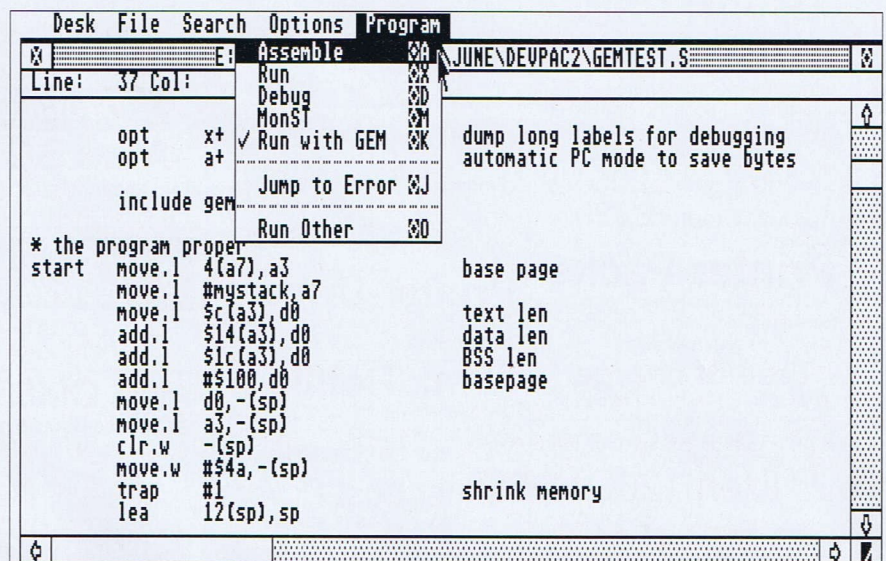
DevpacST 2 DevpacST 2 DevpacST 2 DevpacST

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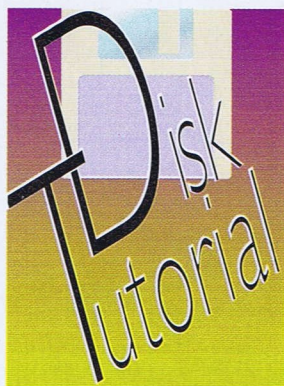
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Once you have copied the DevpacST files to either a floppy or hard drive, double click on the file GENST2.PRG. You will shortly be presented with Devpac's integrated editor called GenST.

Some assemblers require that you use a text editor to enter your program (source code) - then you must exit the editor and run a separate assembler program to convert the source code into machine code ready for execution.

If the program is found to be faulty, another program called a debugger will be needed to search for and correct the



Sourcing the code

faults. GenST is integrated in that all the steps needed to produce a fully working program are accessible from within GenST without the need to exit it. This allows for fast program development times and is one of Devpac's great strengths.

Selecting Preferences from the Options menu will allow you to alter certain aspects of the editor. Once selected, you may change such things as the tab settings, how the numeric keypad is to be utilised, whether automatic indentation is to be activated and also whether or not to have the debugging program, MONST, resident in memory along with the editor.

The latter feature allows you instant access to MONST without the need to exit the editor and also enables automatic debugging of any program which has been assembled to memory.

The most important part of Devpac's editor is the Program menu. Here, you can activate the assembly procedure, run a program which has been assem-

A basic guide to help you get HiSoft's powerful DevpacST 2 macro assembler up and running

bled to memory, execute MONST for debugging your program as well as executing any external program without leaving the editor.

Also, if any errors are found during assembly, Devpac keeps track of them and upon completion of the assembly process, you can select Jump To Error and have the cursor placed on the offending line.

When you select Assemble from the Program menu, the assembly options box appears. At this point, you may specify whether you wish to assemble to disk, memory or none. Assembling to none doesn't produce any code and is useful for checking the syntax of a new

program. Assembling to memory creates the code in a buffer allowing it to be executed or debugged (if MONST is resident in memory) immediately without having to leave the editor.

To show just how easy to use DevpacST 2 is, we will go through an assembly process using an example file called DEMO.S.

Move the mouse pointer to the File menu and select Load. A file selector should appear. Click on the file DEMO.S and then click on OK.

The file should then load and will be displayed on-screen. Move the mouse pointer to the Program menu and click on Assemble. The assembly options box will appear. Under the box Output To, make sure the memory box is selected. Now click on Assemble.

X-HEAD

After assembly, you will see that Devpac prints the results of the assembly process listing such data as the number of errors (if any), the size (in bytes) of the actual code produced and how long it took to assemble.

If any errors occurred, when you press a key you are returned to the editor with the cursor automatically placed on the line where the error is.

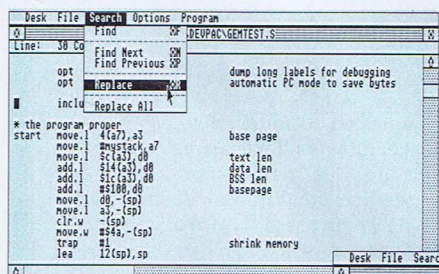
At this point, press a key to return to the editor. Considering we told Devpac to assemble the program to memory, you can now run the program immediately.

Move the mouse pointer to the Program menu and select Run. The screen should clear and a window titled "An Example GEM Program by HiSoft" should appear. Use the mouse to manipulate the window to your heart's content and when you're finished, click on the top left box (close box) and you will be taken right back to the editor.

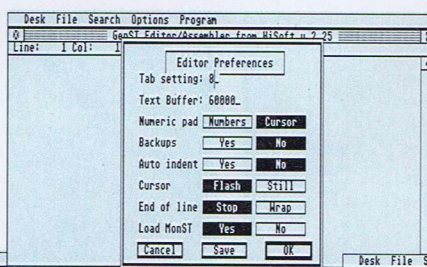
The ability to assemble to memory and execute or debug a program immediately means the whole process of producing a program is very quick, easy and productive.

DevpacST 2 Offer

Turn to page 15 for an unbeatable offer on this powerful package

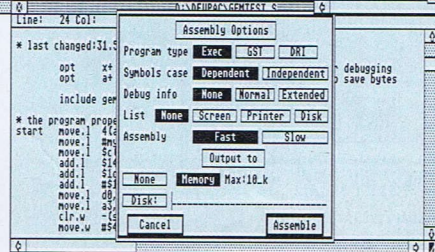


Devpac's editor has many features such as a search and replace facility that make editing your source code much simpler

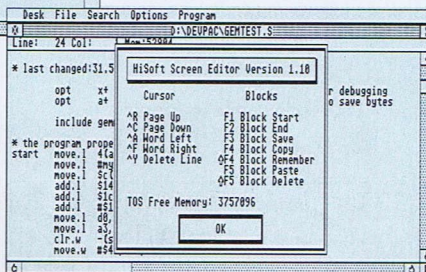


Devpac is also configurable to personal tastes allowing you to change various aspects via the Preferences menu

The assembly process is also very versatile allowing a number of types of code to be produced as well as allowing assembly to disk or memory



There are also good block editing functions available allowing you to cut and paste sections of code



There are so many aspects to graphics on the ST that it's hard to know where to start. For some it's purely and simply another medium for exploring visual art.

Computerised painting packages have opened up art to amateurs – although limited in terms of colour range and brush effects, the ability to erase and undo has been a boon to many a budding pixel Picasso.

Others take a more voyeuristic view of graphics – the online conferences abound with scanned images ranging from the latest weather satellite pictures to the scantily clad female form.

Personally I'd prefer to watch rain clouds gathering over the Gulf of Limpopo but there's no accounting for tastes. Whatever the subject, viewing other people's images has become a popular pastime.

The third aspect is the more serious end of the scale – creating logos and graphics for use in wordprocessors and DTP packages.

It's this aspect we've looked at this month – all the packages here can be used in conjunction with desktop publishing programs, either because they save files in the right formats for import or because they run in ST high resolution which is the best mode for creating detailed black and white images.

Both vector and bitmap programs have been included as well as those capable of both types of operation.

DEGAS ELITE

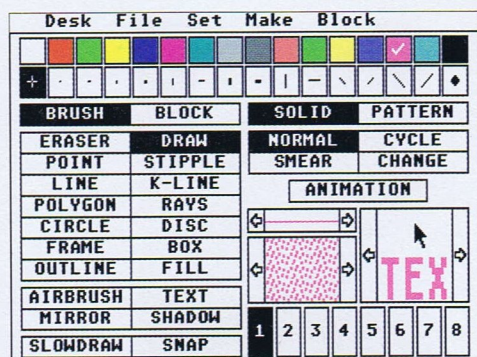
Despite its age, Degas Elite is still one of the most popular packages around. It has few bells and whistles but its main claim to fame is that it set the standard which others tried to follow. Its picture file format has also become the most important graphics standard on the ST.

Save for the GEM-style menu bar at the top of the screen, it has no pretensions to be a GEM-based program. However, the interface is so easy to use that it has been regularly imitated over the years.

It comes on a single disk with an informative manual. GDOS is included, along with a number of non-standard printer drivers – although Degas uses GDOS, it doesn't use printer fonts for output.

The main menu comprises a number of boxes from which the required tools and settings can be obtained. Double clicking a box usually opens up a settings dialogue while a single click chooses the option.

There isn't an icon in sight although there are 16 boxes for each of the brush shapes, and the fill pattern, text size and line type can be selected from a scrolling list. Once the settings and



The package that started it all off – Degas Elite

options are chosen, a right mouse click takes you to the current work screen (up to eight can be kept in memory at once).

Degas' strengths are its simple interface and wide range of good basic drawing tools. Its weaknesses include the limited animation and the lack of support for the all-important IMG format which would make it much more useful in mono mode.

HYPERPAINT

Hyperpaint is a surprisingly good art package supplied by Atari themselves – indeed it has often been bundled with ST "bargain" packs which has resulted in a fairly wide user base.

It comes on two disks, one of which is the GDOS distribution disk, with a comprehensive manual. Hyperpaint 2 is just the STE-compatible version.

It uses a GEM-style interface although the windows aren't resizable. There is also a toolbox comprising nine icons on the left-hand side of the screen and a palette along the bottom.

In contrast to Degas Elite, it will handle IMG files and its ability to run in any resolution makes it handy for file conversion and simple editing jobs.

The zoom facility isn't quite as flexible as it could be and you can't cut out a block that is larger than the window. It doesn't automatically scroll as you reach the edge either, which can restrict attempts at smooth freehand painting.

On the other hand it has a useful lasso function and more fill patterns in low resolution 16-colour mode.

PRISM PAINT

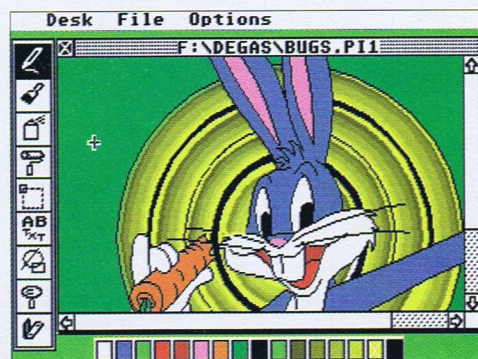
Prism Paint is one of the newest ST paint packages around. It comes on a single disk with a 200-page A5 manual and works on any ST/STE or TT in any resolution, including true colour graphics cards.

The manual is targeted at beginners and contains well-written sections on handling the mouse, loading the program and drawing basic shapes.

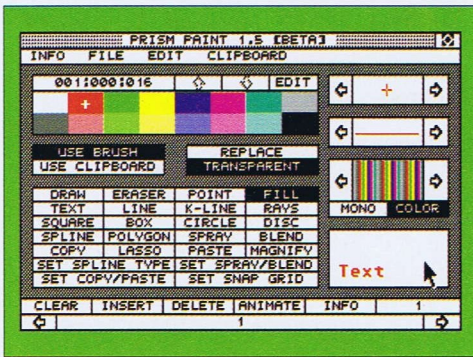
Prism Paint doesn't use the standard GEM interface – it has a large toolbox or menu, similar to that in Degas Elite but it's smaller and movable.

The toolbox has its own pull-down menus and it can even be reduced further to make some drawing operations easier. To edit a picture and get rid of the toolbox, a click of the right mouse button is all that's required.

Magnification is very flexible and excellent for editing. It will also load



Hyperpaint – another ST stalwart that's still extremely useful



Prism Paint – lovely to use but a bit pricey

different file formats including the important GIF format which it dithers to match the screen resolution and colours.

The animation facilities are also very good – they are simple enough to be used by young children yet powerful enough to let you create quite complex animations using the program's powerful painting features.

The number of frames is limited only by memory and there are various settings for speed of replay. A separate public domain player program is provided for the FLM format animations and several good ones can be downloaded from Compuserve.

TRUEPAINT

TruePaint was developed by HiSoft in the UK and one of the first packages written with the Falcon in mind. It will handle 65,536 colours on-screen from a palette of over a quarter of a million (the Falcon's true colour mode) at resolutions up to 768 by 480. Happily it will also run on slightly less mouth-watering systems from 256 colours in TT low all the way down to good old mono in ST high resolution.

It is still worth considering for many ST owners with hopes of trading up to a Falcon in future – not least because of its attractive price and handy conversion capabilities.

The program is supplied boxed with three disks and a very professional manual with full colour illustrations. The program and file exchange filters are on the first disk and the other two contain sample images.

TruePaint has a neat GEM interface – all the tools and options are accessed via a toolbox which appears in each window (up to seven can be open at once) or the standard GEM menu bar.

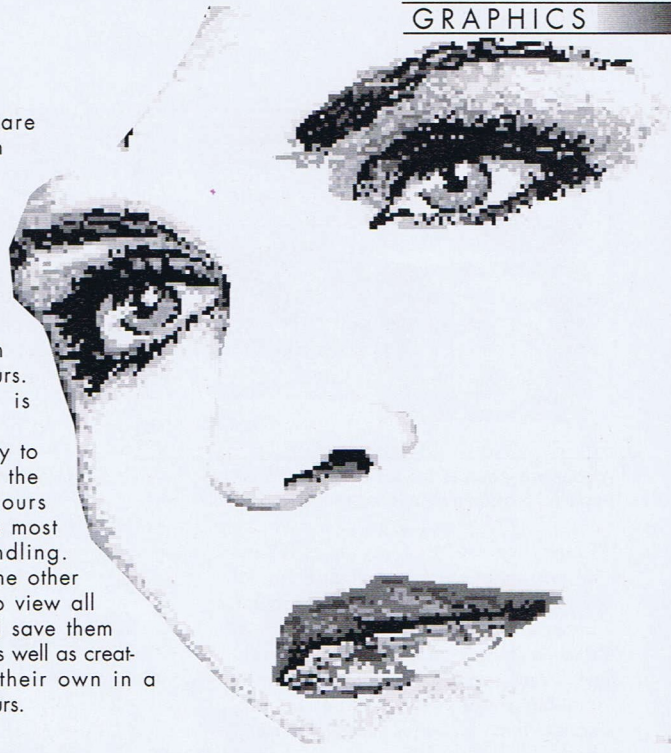
There is also a wide range of keyboard short-cuts – no less than three pages of them in the 164-page manual!



TruePaint – one good reason for buying a Falcon

All the usual tools are available, including an airbrush, composite shapes, radiating lines, freehand and pattern fill, as well as more unusual ones like animation, a colour picker and rainbow tool which blends different colours. No print facility is included though.

TruePaint is unlikely to excite ST owners as the low range of colours prohibits getting the most from the colour handling. Falcon owners, on the other hand, will be able to view all kinds of pictures and save them into different formats as well as creating and animating their own in a dazzling array of colours.



MEGAPAIN

Megapaint is an impressive bit of software that comes in two flavours – the Professional version which offers both bitmap and vector graphics and the standard bitmap version, Megapaint II.

The latter is currently available from Silica at the excellent price of £39.95 although the Professional version looks decidedly expensive at over £200.

Megapaint has a phenomenal range of drawing tools and the ability to create and edit on the screen at the same resolution as the printed output, up to 600 dots per inch. This makes it very useful for tidying up scanned mono line art as well as resizing and adapting existing images.

The unique interface resembles GEM but is much faster in operation. It has a number of pull-down and cascading menus and a tool bar along the bottom of the screen too.

Clicking on the right mouse button brings up two large square toolboxes to supplement or duplicate those in the pull-down menus. Unfortunately it has a steep learning curve and can be unwieldy to use.

Even in bitmap mode there are drawing tools to rival many a CAD program for complexity. For example, you can measure the angle between lines or the distance between two points using a dedicated tool which even marks the result on-screen!

Megapaint is an excellent program in

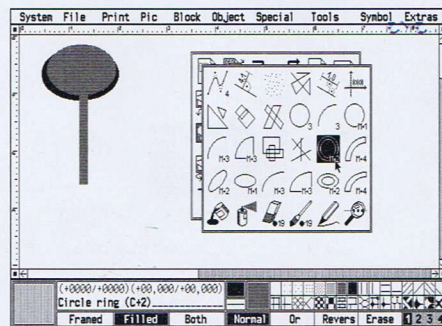
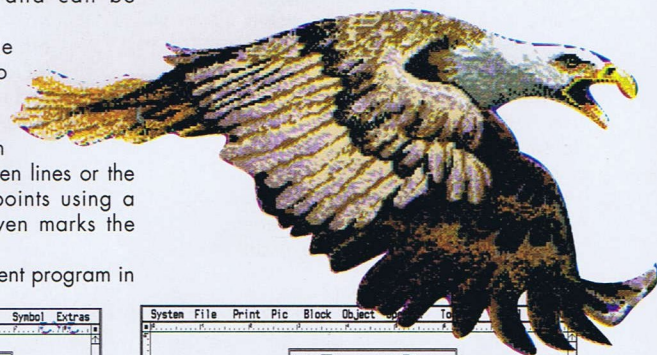
either version, though it does have its weaknesses. The range of proprietary fonts is very limited, vector import and export facilities are restricted to the custom format (although add-on modules are available on request) and there is no sensible Undo function.

ARABESQUE PROF'

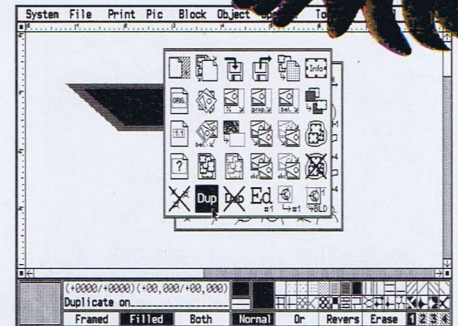
Arabesque is reviewed fully elsewhere in this issue, so I won't dwell on it for too long. It has been included in the tables because it has a lot to offer, as a glance at its features will show.

The main disappointment is the non-GEM user interface which is distinctly unfriendly and lacking in any online help. Almost everything is carried out by selecting icons on the small floating toolbox or the resulting pop-up dialogues.

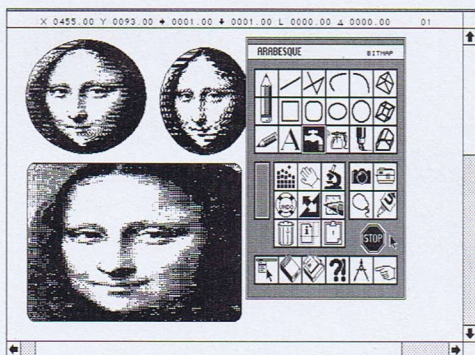
However it is undoubtedly a powerful package that carries out most opera-



Megapaint II – a fully-featured bitmap package



Megapaint Professional's vector mode



Arabesque – one of the most powerful ST graphics packages



tions at lightning speed. It also has a few unique features such as the ability to transfer bitmaps as objects and use them in vector mode. It can handle linear and radial gradient fills as well as filling shapes with another bitmap image, which make for some interesting effects.

SILHOUETTE

Silhouette is another excellent budget buy although the impressive-sounding list of features hides several omissions and inadequacies. It offers both bitmap art and vector drawing features plus an auto-tracing facility that is normally only found in much more expensive packages.

Silhouette has a traditional-style GEM interface with a menu bar along the top, a large tool on the left-hand side and a GEM window to work in.

The default mode is the raster or bitmap mode; changing from vector to raster or to the pixel editor (basically a zoom window with one magnification level) requires selecting the relevant menu option.

As well as the more mundane tools like airbrush and composite shapes, there are unique tools such as spiral, star and parabolic curve, all of which can be altered as you draw them, varying the number of whirls or points.

Each tool is selected by a click of the mouse but unusually a single click is all that's needed to start the drawing process.

It does enable a high degree of accuracy – what's more you can stop and do something else halfway through a complex operation.

The program has a lot of hidden features – some tools change depending on which key they are used in

conjunction with. Silhouette's weaknesses are its poor bitmap module – only one zoom level and no block operations – plus the autotracer's inability to trace complex images. It works reasonably well in vector mode, allowing points to be moved individually, but it can be hard to know when a point has been selected.

Silhouette is a GDOS-based program and it comes supplied with both GDOS 1.1 and the new FONTGDOS plus relevant printer drivers and fonts.

The other useful bonus is the ability to export as EPS for importing complex graphics into PageStream or over to other platforms.

EASY DRAW 2

I must confess to having a soft spot for Migraph's EasyDraw. Before I discovered ST desktop publishing in the shape of Timeworks I was producing leaflets, forms and posters on EasyDraw, something that is a testimony to the flexibility of this basic vector graphics package.

EasyDraw 2 is supplied on two single-sided disks and includes a GDOS distribution disk plus fonts and printer drivers. Version 3 is only available in the US but it can use Bezier curves and the GEM/3 file format. UK users can upgrade but they will have to contact Migraph in the US direct.

EasyDraw works on standard 512k STs and has an easy to use GEM interface with two icons, a dustbin and a clipboard, and one or two open windows. Most operations are accessed via the GEM menu bar, which is slightly ponderous, consisting of no less than ten separate menus.

Drawing tools are accessed by clicking the right mouse button which produces a floating toolbox of 12 icons holding all the basic tools but including arcs, segments and rounded boxes.

Text handling is quirky, to say the least, but EasyDraw can import text files directly, making it quite possible to produce multi-column documents like newsletters. A box is drawn on



screen and a separate text editing mode entered.

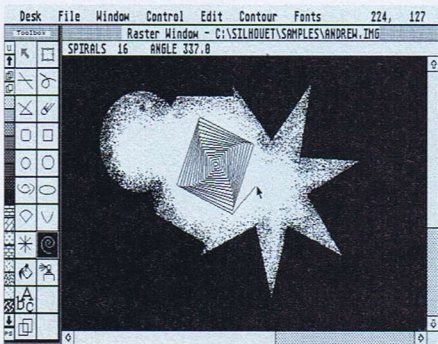
Other handy features are the ability to align objects on the page, edit the points on polylines, and cut and paste between two open GEM graphics files. EasyDraw's Achilles heel is its inflexible zoom system and a certain lack of response to the right mouse button used to change modes.

HYPERDRAW

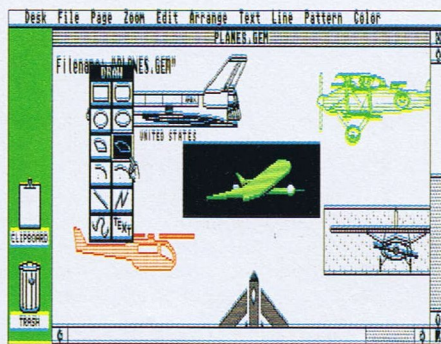
Hyperdraw is another Atari product, this time a basic but nonetheless useful vector graphics program. It is supplied on two disks, one with the program and the other with the GDOS distribution files, fonts and printer drivers.

The manual is very good and the user interface very similar to that of Hyperpaint, with a toolbox to the left, status bar along the bottom and a GEM window for the graphics.

Like its competitor, EasyDraw, it can load text files but the text handling itself isn't quite a good. It does, however, have other strengths. It can rotate objects in tenth of a degree increments, something few other programs can match, and it can also align objects and



Silhouette – a lot for your money



EasyDraw is an old favourite



text on the page in several different ways.

There are 20 composite drawing tools including arcs and segments, K-lines and B-spline curves. A wide range of paper sizes is covered, from A0 to A7, and other features like the ruler and snap function are fully customisable.

Like its bitmap counterpart, the zoom isn't terribly well implemented but it can store up to ten work screens in memory and it is an excellent way to put together simple GEM drawings for any purpose.

DIDOT LINEART

Didot LineArt is the forerunner of Didot Professional and arguably the best serious drawing package on the ST. It is only let down by the poor range of output drivers and the lack of an EPS option – although it can print out directly to PostScript or to a file for later printing via CompoScript.

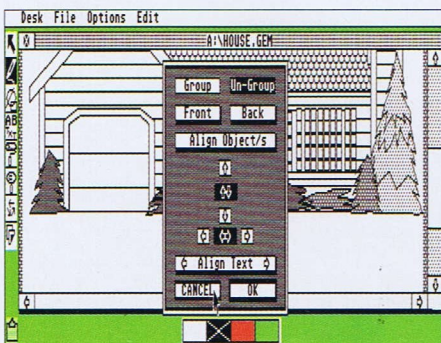
LineArt is supplied on a single disk with a hefty ring-bound manual. The interface is best described as unusual – but it's surprising how easy it is to use after the first few weeks! It comes with an autotracing module which, although it only offers three user definable settings, is extremely effective at tracing even the most complicated images.

Other features include a powerful integral PostScript and Calamus font editor and a basic text editor.

LineArt offers a stunning range of vector editing functions – graphics can be rotated, skewed, stretched or resized with the minimum of effort. Greyscale tints can be added and line thicknesses varied in increments of 0.05mm. To aid the professional user, Didot LineArt has special guide lines, with circular and user definable angled guides in addition to the usual horizontal and vertical ones.

Where Didot LineArt really scores highly, however, is in its all-round professionalism, right down to the PostScript output demanded by today's graphic designers. It can import Calamus or PostScript Type 1 fonts and use the character outlines to build complex logos and graphics.

Text can also be run around circles or forced to follow complicated vector paths. There is detailed control over text angles, widths and sizes, as well as kerning and spacing. In terms of performance Didot is very impressive, even on



Hyperdraw – Atari's answer to EasyDraw

Know those key features

We've listed the main features in our two-page buyers' guide – we'll look at three important ones in detail below.

FILE FORMATS

Choosing a package that supports at least one widely used format is vital, especially if you plan to use the work in DTP or print to a colour printer using dedicated colour printer drivers like Imagemcopy or Flexidump Plus.

The Degas format, supporting up to 16 colours at 320 by 200 pixels (.P?1) or mono at 640 by 400 (.P?3), is the most widely used but it has its limitations in DTP. It is, however, used in video digitising and remain important – almost all the current bitmap ST packages support Degas.

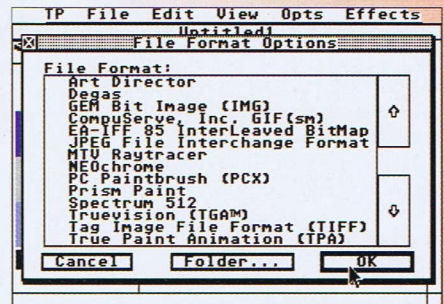
The NEO (Neochrome) and Tiny (TNY) formats are very similar but increasingly less important. IMG is the standard mono format on the ST and most clip art and scanned images come in this form.

Other proprietary formats like those used by Quantum Paint or Spectrum 512 are all but useless for exchanging with other programs.

There are plenty of conversion programs around in the public domain but it's best to choose a graphics package that can handle as wide a range as possible – TruePaint is the most impressive in this area, with support for all the ST formats plus GIF, JPEG, PCX, PNT (Prism Paint), Targa and TIFF.

Vector file formats are fewer and conversion more difficult. As a result, choosing the right one is vital. The oldest is the GEM format, which is still the best bet for simple graphics (up to 128 points per object) as it is supported by virtually all DTP packages. Calamus' format, CVG, is another common standard but does have limitations, including an inability to interpret line thicknesses correctly.

The best is undoubtedly Encapsulated PostScript, EPS, but support for it is still limited – only Silhouette and Convector, reviewed elsewhere, can save to EPS, though both PageStream and Timeworks will import it.



TruePaint supports more file formats than any other art package

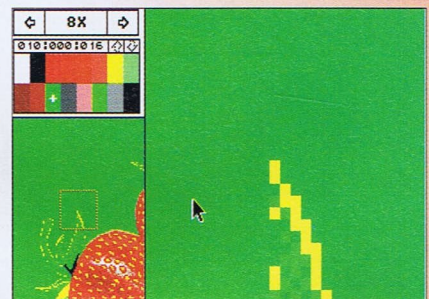
ZOOM

Once you're into your drawing or picture, one of the functions you'll use again and again is the zoom or magnification tool. Here it's a case of the more levels the better and a reasonably large scale view, between 10 and 16 times normal, is essential.

Best equipped here is Prism Paint with 21 levels up to 23 times. Silhouette is particularly poor with only two levels – normal or eight times normal.

The most flexible form of magnification is the Marquee Zoom function – here you draw a rubber band around an area of the page which then fills the screen at the required magnification.

Didot LineArt and DA's Vector have true marquee zoom but packages like Degas and Prism Paint have facilities which are pretty close – selecting zoom produces a box which can be moved around the screen.

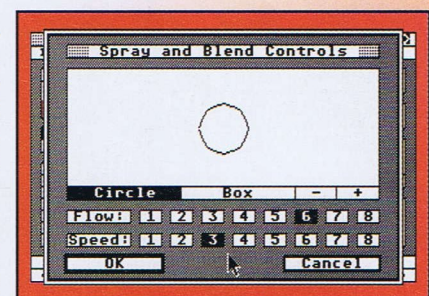


Prism Paint's excellent zoom system

AIRBRUSHING

Airbrushing isn't about special effects – several books have been written on the subject and no professional computer artist could live without it. What is important is the number of different settings that can be achieved as the finer control, the better the result.

The best packages provide a combination of flow and nozzle size – Silhouette has 36 different nozzle sizes but only one flow setting while Prism Paint has different settings for size, shape, flow and speed.



Spraycan or airbrush – the name isn't half as important as the settings

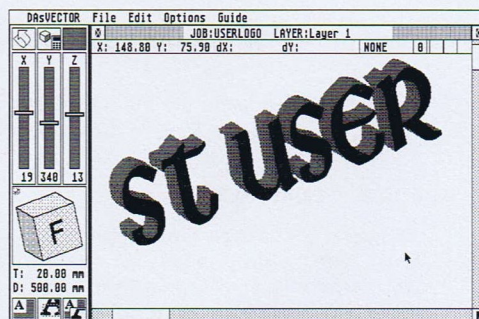
► a standard ST. It is also unique in one particular respect – it can function as a desk accessory and be called from within other DTP programs, provided you have enough memory.

DA'S VECTOR

DA's Vector boasts the same oddly likeable user interface as its illustrious sister package, Didot LineArt. This isn't surprising as it was developed by the same programming team.

It is supplied on three double-sided disks with an 80-page ring-bound A5 manual.

The bulk of the manual is online in the form of a special desk accessory called



Objects can be filled with colour or even images

DA's Knowhow. DA's Vector is a vector graphics package with some rather unusual capabilities – it can do complex animations using keyframe techniques, automatically generate charts and

graphs, and create true colour output using an internal palette of 16.7 million colours.

Like LineArt it has PostScript and Calamus font support and an autotracing module but it has plenty more besides. It can give text and graphics a 3D effect, called extruding, and can make multiple offset copies which change colour and size into the bargain – with results similar to the blend function seen on top professional illustration packages.

Although it was really designed to make the most of the Falcon's true colour capabilities it will run quite happily – and surprisingly fast – on any ST with 2Mb or more and a mono monitor.

One of its most powerful features is its

Paint packages

	Degas	Prism Paint	Hyperpaint 2	TruePaint	Arabesque	Silhouette	Megapaint/Pro
Supplier	Electronic Arts	CGS	Atari	HiSoft	HiSoft	Ladbroskes	Silica
Phone	0753 549442	081-686 8121	0753 533344	0525 718181	0525 718181	0772 203166	081-309 1111
Price (£)	24.99	62.28	34.99	39.99	149	60	39.95/219.95
RAM required	512k	1 Mb	512k	1 Mb	1 Mb	1 Mb	1 Mb
ST resolutions	LMH	LMH	LMH	LMH	H	H	H
Zoom range	12x	23x	16x	10x	16x	8x	8x
Zoom levels	12	21	16	8-10	4	2	3
Marquee zoom	●	●	n	–	–	–	y
Import Degas	●	●	●	●	●	●	●
Import IMG	–	–	●	●	●	●	●
Import GIF	–	●	–	●	–	–	–
Import TIF	–	–	–	●	–	–	–
Import IFF	●	●	–	●	–	–	–
Import PNT	–	●	–	●	–	–	–
Export Degas	●	●	●	●	●	–	●
Export IMG	–	–	●	●	●	●	●
Export GIF	–	●	–	●	–	–	–
Export TIF	–	–	–	●	–	–	–
Export IFF	–	●	–	●	●	–	–
Export PNT	–	●	–	●	–	–	–
Pick colour	–	●	–	●	–	–	–
K-Lines	●	●	●	●	●	●	●
3D mode	–	–	–	–	●	–	–
Spraycan settings	9	4608	18	144	9	36	100
Brushes	16	16	16	218	20	1	12
Smudge/blend	●	●	●	●	–	–	–
Lasso	–	●	●	–	●	–	●
Use Beziers/splines	–	●	–	●	●	●	●
Help lines	–	–	–	–	–	–	–
Snap to grid	●	●	–	●	●	–	●
Block manipulate	●	●	●	●	●	–	●
Fill patterns	36	72	72	36	108	38	160
Custom fill	●	●	●	●	●	●	●
Gradient fill	–	–	–	–	●	–	–
Fill with image	–	–	–	–	●	–	–
Bitmap fonts	●	●	●	●	●	●	●
Vector fonts	–	–	–	Speedo	–	–	–
Undo facility	●	●	●	●	●	●	●
Animation	●	●	–	●	–	–	–
Atari ST User rating	2	4	3	3	4	2	4

ability to fill vector objects including text with halftones or colour images. The images have to be converted to the program's own variation of the TIFF format first using the supplied utility but the results are astonishing.

Conclusion

Any analysis of the best features of a graphics package is bound to be subjective. There is such a wide range of programs, from basic bitmappers like Hyperpaint to complex presentation graphics systems like DA's Vector, that any recommendation will depend upon your exact requirements.

For sheer excitement, DA's Vector has to be the package to strive for. It can

create professional quality graphics as well as full colour keyframe animations and 3D charts. You could even animate the charts!

The price is right too – well within reach of the home user. This makes it hard to recommend Didot LineArt, of course – DA's Vector does all that LineArt can do and more besides.

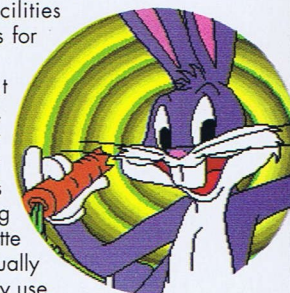
EasyDraw 2 and Hyperdraw are just too long in the tooth to recommend – they don't support CVG output and just aren't creative enough. Put the money towards a combined vector/bitmap package instead.

For mono users, Megapaint II looks a good buy for bitmap graphics but the Professional version is just too expensive. Perhaps a better bet would be

Arabesque or Silhouette, both affordably priced with plenty of good features, including vector graphics and in Silhouette's case, autotracing.

Prism Paint, though relatively expensive, is my favourite colour paint package. It has all the tools you'll ever need, great animation facilities and true colour capabilities for the Falcon.

Degas and Hyperpaint are still worth looking at, although Truepaint might turn out to be a better investment. While it looks great on the Falcon, using the astonishing colour palette to good effect, it's still equally good on the ST for everyday use.



Drawing packages

	Arabesque	Silhouette	Megapaint	EasyDraw 2	Hyperdraw	Didot Lineart	DA's Vector
Supplier	HiSoft	Ladbroke	Silica	GST	Atari	CGS	CGS
Phone	0525 718181	0772 203166	081-309 1111	0480 496666	0753 533344	081-686 8121	081-686 8121
Price (£)	149	60	219.95/39.95	51.52	39.99	235	149
RAM required	1Mb	1 Mb	1 Mb	512k	512k	2 Mb	1 Mb
ST resolutions	H	H	H	MH	MH	H	H
Zoom range	16x	16x	8x	5x	12x	88x	100x
Zoom levels	5	7	1	3	12	1	1
Marquee zoom	-	-	1	-	●	●	●
Import GEM	●	●	-	●	●	●	●
Import CVG	●	-	-	-	-	●	●
Import EPS	-	-	-	-	-	-	-
Export GEM	●	●	-	●	●	●	●
Export CVG	●	-	●	-	-	●	●
Export EPS	-	●	-	-	-	-	-
Bitmap objects	●	-	-	-	-	-	-
Draw round box	●	●	●	●	-	-	-
Draw closed polygon	●	-	●	-	●	●	●
Draw arcs & segments	●	●	●	●	●	-	-
Edit individual points	-	●	●	-	-	●	●
Use Beziers/splines	●	●	●	-	-	●	●
Help lines	-	-	-	-	-	●	●
Snap to grid	●	●	●	●	●	●	●
Skew object	●	●	●	-	-	●	●
Rotate object	●	●	●	●	●	●	●
Complex duplication	●	●	-	-	-	-	●
Fill patterns	72	36	224	39	36	36	0
Custom fill	-	●	●	●	-	Grey	Colour
Gradient fill	-	-	-	-	-	-	●
Fill with image	-	-	-	-	-	-	●
Bitmap fonts	●	●	●	●	●	-	-
Vector fonts	-	-	-	-	-	●	●
Multiple work screens	●	-	-	●	●	-	-
Object layering	-	-	-	-	-	-	●
Undo facility	●	●	-	-	●	-	-
Group objects	●	-	●	●	●	●	●
Charting facility	-	-	-	-	-	-	●
Animation	-	-	-	-	-	-	●
Autotracing facility	-	●	-	-	-	●	●
Atari ST User rating	4	4	3	2	3	3	5

One of the major problems with today's new music has proved to be the live situation. It's all very liberating having a computer when you're writing your songs – there's no need for me to reiterate the freedom in the hands of anyone with a half-decent musical idea, a basic sound module and a sequencer – but when it comes down to actually bashing the stuff out live, things cease to seem as clever.

The basic problem is, it would seem, that the live situation as we all understand it – four sweaty men armed with various sticks, planks of wood and things to hit – is a far cry from the banks of samplers, effects units, keyboards and flickering screens characteristic of new, hi-tech music.

When the equipment is quite capable of playing the music in its entirety without any human help, where does that leave the musicians? Where does that leave the whole idea of "live" music?

HIGHLY FRAGILE

Some performers have understandably decided that carting around a pile of highly fragile and expensive equipment just to press a button to trigger it all off is simply not worth it, and have opted for singing live over DAT recordings of their music.

Such thinking has given birth to the – often justifiably maligned – so-called "personal appearance" circuit which has established itself on the club rounds.

Others, not prepared to completely abandon the spontaneity offered by playing live instruments, have stuck with their sequencers and played one or more of the parts live, allowing expression to squeeze its way through the stage door.

However, this is a far from perfect situation. What if you want to break from the song structure, in order to, say, allow your over-zealous and crowd-pleasing bongo player to bash his skins for another eight bars?

What if you're in the middle of the



Slave to the rhythm

Add some dynamism to your live musical performances

with Slave Driver v2.1, an ingenious program designed to free you from the shackles of technology. Phil Morse takes to the stage...

last chorus, the crowd have lost it, and you know damned well that the sequencer is going to end the song – abruptly – in about three bars' time? Where's the spontaneity there?

The fact is that being tied to rigid arrangements pre-programmed on a sequencer is about as far from the true, rock-bred spirit of a live performance as can be.

What is needed is some kind of system whereby the control over exactly what is played in a live situation is put right back into the hands of the keyboardist who is controlling it all. Surprise, surprise, this is where Slave Driver comes in.

At its very core, Slave Driver is a Midi mapping device. This means that it can "map" where an incoming piece of

Midi information – which can be from anywhere – will go to, and what effect it will have.

All Midi equipment runs using Midi maps. When you press a key on your Midi-ed up keyboard, it is shot to the computer sequencer, which instructs your synth or sound module to react in a certain way – usually, to switch the selected note on, awaiting the following message, which will probably be a Note Off command.

Slave Driver has the ability to intercept any Midi messages and tell them to do anything you wish. This means that, from your master keyboard, you suddenly have the ability to control your equipment in any way you desire.

KEY TRIGGERING

Pitch bending, chorus and reverb, triggering other Midi channels... all are suddenly available to you, triggerable from any key or combination of keys of your choice.

Although Slave Driver will find its use primarily in the live situation – about which more later – this is not where it stops. As you have to tell the software exactly what your plans for intercepting the Midi information are – program it, in other words – you can program quick and simple keyboard-controlled access to absolutely any parameters you like.

If you want your pitch bender to play chords, you can do it!

You can use the Midi-mapping controls to interface different Midi equipment. Manufacturers are notorious for implementing tiny differences which can cause all types of compatibility problems when using one company's

A loop the loop era

Another solution to the problems of playing new, sequenced music live, is that which chart-busters the Stereo MCs – acclaimed for their powerful and exhausting live performances – have chosen to adopt.

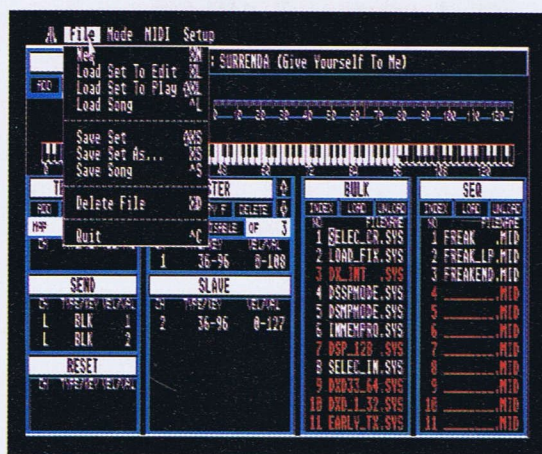
They have every track in a song playing simultaneously through a mixer, which is under the control of a band member.

The tracks can be faded in and out, messed around with effects-wise, and generally tweaked spontaneously as the song is progressing, by simply messing around with the mixer. If a channel is switched off, it is still going, but the audience just can't hear it.

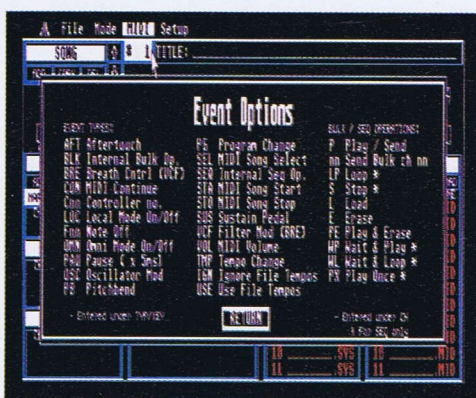
This has put a lot of flexibility back in the hands of the band, and allows them to ride waves of crowd enthusiasm or even shorten bits in songs if they wish.

Such a method is ideally suited to the band thanks to the essential "groove" nature of their music, where repetition is part of the key to building up a hypnotic, cyclical groove, embellished with vocals.

However, the judicious use of software like Slave Driver alongside such a set-up could certainly not harm things, and indeed would increase the level of control over the music being played to heights where – although the control manifests itself in new ways – there is enough to offer the skilled performer all the flexibility he or she could wish for.



The program's main edit screen



There no shortage of controllable events

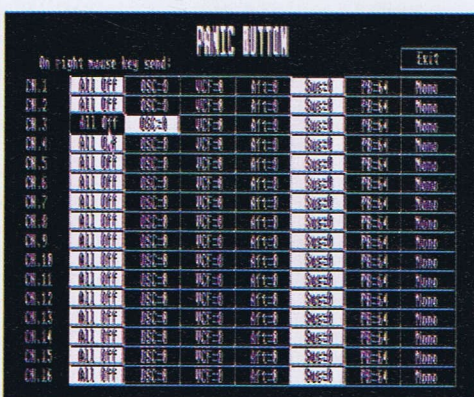
products with another, and Slave Driver can iron out these differences once told what they are.

The software comes on a single floppy disk, with an extremely professional, ring-bound rewrite of the criticised first manual. There are a number of example songs, each demonstrating a different aspect of using the software, a tutorial and a demo.

You program the software in maps. A song can contain up to 255 maps, and this is saved to disk. Continuing the hierarchy, a "set" can contain up to 255 songs – more than enough for most live situations, one would imagine.

Whether the program shines or fails is really in the hands of the user, meaning that what you decide to tell it to do will determine its usefulness to you.

You can stick to very basic ideas, using a key or keys to load up the next song (or another one, or another one – changing a play list mid-set can be as



Tell Slave Driver what to do when you hit Panic!

Standard extras

As well as the features described in the main review, Slave Driver is endowed with extra parts which help to make its use – often in stressful live situations – as easy as possible.

The generic librarian simply saves and loads system exclusive (sysex) messages pertaining to your particular Midi equipment.

This means that, with the correct user-programming, you can use Slave Driver to gain access to sound libraries – again, all from your synthesizer's keyboard. Great for getting right to the heart of your synth, in the dark, half-way through your first live song!

The "remote display module" allows the package to transmit information to the LCD display units of various synthesizers. Currently supported are the Yamaha DX7, the Roland D-series and the Alesis D4.

This negates the need to take a monitor along to gig with you as well as the computer, effectively turning your ST into a hardware sequencer – but offering a level of control far above any conventional hardware sequencers.

simple as hitting a key), or you can get complicated and tell Slave Driver to watch out for a certain sequence of notes, for instance, and jump to another part of the song when it hears them.

In this way you can extend solos and breaks to go on for as long as you wish – accommodating the exciting bashings of your bongo-player, for instance!

All you need do is continue jamming away, and when you wish a sequence to end, play your designated solo-ending notes in the right order to tell Slave Driver to jump to whatever you have decided it should do next.

What about using a foot pedal to give you extra control? You can tell it to play a chord when depressed and start your drum line when up, leaving both hands free for other things.

CONCLUSION

Slave Driver is a pretty unique piece of software. It offers a degree of control over an area of Midi music where control has hitherto been limited to start, stop and song order.

It must be remembered that this is not a sequencer – it is a powerful package allowing an unprecedented degree of access to previously written Midi files. It concerns itself purely with alteration of what already exists.

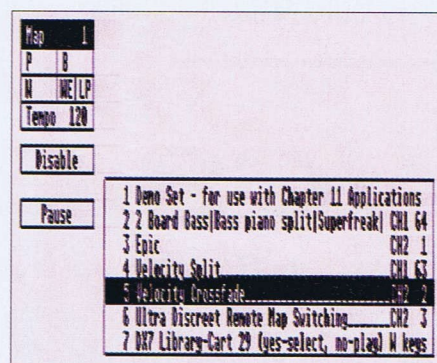
Like very powerful sequencing packages, Slave Driver overwhelms with its potential. Although the manual provides examples of its use, what you actually do with it is totally up to you – in this respect, it is a "transparent" package.

Should you have the time and methodical approach to your work to make something like this a part of your setup, it will develop with you.

You will slowly become aware of its features and potential, integrating it into your setup until you find it a central part of your music writing and playing activities.

By definition, though, it will also be very personal – imagine letting the uninitiated loose on a keyboard where middle C on Midi Channel 2 activates a sting ensemble while loading the encore song from disk!

On equipment used by more than one individual, either separate Midi maps for each person will be required, or everyone will have to learn together!



The performance screen, tuned for simplicity

As an intuitive program, Slave Driver tries its hardest to be friendly and usable. However, its sheer power and lack of any predefined functions mean that it requires a lot of time and effort on the part of the user.

Should you be prepared to put in this effort, however, you could be in control of a Midi setup that would make any normal file playback system look like mechanical child's play.

This is definitely an exciting step forward for the performing electronic musician, and one which the diligent, forward-thinking performer should seriously consider becoming a part of.

Midi is growing up...

BOTTOM LINE

FEATURES

The highly transparent nature of the program means that it can do basically anything you want it to!

Excellent
Good
Average
Bad
Appalling

EASE OF USE

The excellent manual and well thought-out design take the sting out of a steep learning curve and inherent complexity.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Yet to be confirmed for the UK, hence no score – but what price art?

Product: Slave Driver
Supplier: PO Box 56522, Loughheed
Mall Postall Outlet
Burnaby, BC Canada;
V3J 7W2
Telephone: 0101 604951
Price: £TBC
Configuration: All STs and TT

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WTS Electronics Ltd Chaul End Lane Luton Bedfordshire LU4 8EZ Tel 0582 491949 (6 lines)

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In general, the ST is a pretty reliable beast. However, considering the complexity of its innards, it would be a foolish person indeed who claims that nothing will ever go wrong with it.

Sooner or later (preferably a lot later) your ST may develop a fault of some description. There are a number of options that are open to you should it suddenly stop working properly.

If it is still under warranty, you can return it to your dealer, and this is the option you should always take if this is the case.

If it develops a fault within the few weeks, most reputable dealers will replace it with a new machine there and then. Any later and it is usually sent to the dealers' workshop or to Atari for repair.

The warranty does not cover breakages due to carelessness, so taking your



Once the ST is opened, removing the disk drive is simply a matter of unscrewing three mounting screws, then unplugging a power and data lead

Servicing with a smile

broken ST to the dealer with coffee stains all over it will get you nowhere. Also, it is vital that you have your receipt for proof of purchase.

You can attempt to do the repairs yourself if you know what you are doing, or you may know a friend who has the necessary knowledge and skills who will help you for the cost of a couple of pints.

If you do attempt a DIY solution either yourself or through a friend, many repair centres also sell spare parts such as power supplies and also some of the major electronic components such as Shifter, Blitter MMU and floppy disk controller chips.

The easiest and safest method for repair is obviously to send it off to a specialist. However, the disadvantages are that you will be without your machine for a while, and specialists cost money.

Prices vary but most repair centres also offer a 90-day guarantee on any work done. However, some centres are unwilling to attempt repairs on STs that have been played around with by their owners.

Darren Evans takes a look at some of the things that can go wrong with your ST and how to deal with them

The choice of how to deal with the problem depends on how confident you are at doing it yourself or whether and not you can afford the repair costs as well as the time without your ST.

Also, a fault may be simply due to a loose chip on the circuit board and sending it off to a specialist for him to just push it in place and charge you for it is not worthwhile.

So, let's list a couple of common problems and how you can deal with them yourself instead of immediately reaching for your cheque book.

Like a car, the problems you will encounter will fall into one of two categories – wear and tear on parts or accidental damage.

The most common ST component to wear out is the power supply. This is the

most heavily abused part because it's where you obviously switch your ST on and off every time you want to use it.

Also, if you are cautious about viruses, you will probably be avoiding using the reset switch to restart your ST, choosing instead to completely turn off the power with the power switch to clear out possible viruses.

Although highly recommended, such action does add extra burden to the power supply. A faulty power supply can cause further damage to other components such as diodes and transistors.

MODULAR COMPONENT

Luckily, the power supply is a modular component and it's simply a case of buying another, opening up your ST and slotting it onto the circuit board.

Then you simply plug in a lead from the power supply to the socket on the circuit board, so if you are confident, you can do it yourself.

Be careful though – when turned off and even disconnected from the circuit board, there are still components on the power supply that may retain a hefty electrical charge.

Another extremely common problem is wear and tear on the infamously positioned joystick and mouse ports. To digress a little, let's just hope that the designers of the new case for the Falcon realise how many swear words have

CAUTION – SAFETY FIRST!

A few safety precautions need to be observed before attempting any internal work on your ST, and they are as follows:

1. Opening up your ST while the power lead is still connected is extremely hazardous.

Only open your ST if you have some experience with electrical products and always be sure to remove the power lead first. If in doubt, call in the experts to sort out your problem.

2. The electronic components inside your ST are very sensitive to static, so before you start manhandling them, be sure to earth yourself. This can be done by touching a radiator or anything else that is earthed in the house.

However, a much more elegant solution is to buy an anti-static wrist band from any electronics shop. This fits on your wrist and plugs in to a power socket. Don't worry though, you won't fry, only the earth is connected and hence it will keep you free of static.

been uttered in frustration at them, and avoid any repeat of such design errors.

Because of the awkward position of these ports and also the less than secure manner in which they are attached to the circuit board, constant plugging and unplugging of the mouse will eventually lead to problems.

The most common symptom is erratic mouse movements with the mouse pointer seemingly having a life of its own and not going where you want it to.

The first thing you should do, if possible, is visit a friend and try your mouse on his or her computer. If it doesn't work there either, it may actually be a problem with the mouse. If it does work, the problem is with the ports.

Because of the plugging and unplugging of the mouse or joystick, the actual solder which fixes the pins of the port to the circuit board will have become loose, causing intermittent connections.

The cure is to open the ST, unplug the keyboard, turn the machine over, undo all the screws on the underside to reveal the circuit board, then apply a little heat with a soldering iron to all the pins which connect the ports to the circuit board.

UNDUE PRESSURE

Another common problem associated with the awkward position of the mouse and joystick ports is when a user decides to tilt the ST from the front in order to plug the mouse or joystick in.

If you have any leads plugged in at the back, say from your printer, hard disk or modem, this will cause undue pressure on the pins which connect the ports on the back of the ST to the circuit board. It is wise to remove any leads if you intend to do this.

The ideal and inexpensive solution to the mouse/joystick port problem is to buy a set of extension leads. These consist of two plugs which plug into the ports on the ST and also two leads which extend from under the keyboard and which end in two sockets, into which you plug your mouse or joystick – a simple and essential solution to the problem. Another problem,

Drive errors and maintenance

Some drive problems stem from either wear and tear, misuse or inexperience on the part of the user. Here are a few problems which may occur, and possible reason and remedies. Remember, with

the current low cost of drives, it may be more economical to buy a complete replacement. Keep your old drive though as this may be a valuable source of spares.

Fault	Possible reason and action
"Drive not responding error"	If internal, check power cable and data cable are connected. If external, check power is on, data cable is properly connected.
"Drive may be damaged" error	May be a bad disk – check drive using other disks. Drive heads may be dirty, use cleaning fluid. If heads damaged, replace with spare.
Read but no write	Faulty/dirty write-protect LED or switch, try cleaning.
Drive motor not turning	If internal drive, check power cable. If external, check power cable/plug wiring and fuse.
"Write protect error"	You guessed it. Remove write protect.

You should always keep your disks in a dry, dust-free environment, preferably a box. Any dust which accumulates on them will be transferred to the drive heads.

Always keep liquids (coffee, for instance) and disks at an extreme distance – they just don't get on together.

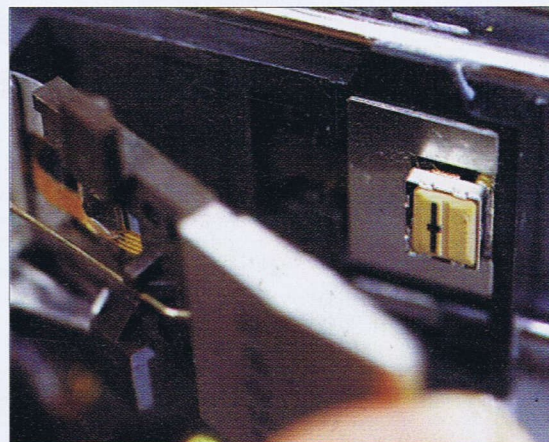
Also, strong magnetic forces (telephones, hi-fi speakers), bright light and excessive heat will damage your disks.

Never touch the magnetic surface of a disk – grease and moisture will cause read/write problems. Do not leave a disk in the drive when switching drive/computer on or off – always eject it first.

mostly restricted to pre-ST machines, is chips working loose from their sockets. A particular problem I encountered was when one of the TOS ROM chips came loose. The ST's Desktop came on screen OK, but every time I went to the menu or even tried to highlight a drive icon, the machine would reset.

One of the most unorthodox methods of fixing the "loose chip syndrome" is also one of the first things a qualified technician will probably do as soon as he gets a faulty ST.

This involves holding the ST level, about 50cm from a firm surface, and then letting it drop. This has the effect of re-seating any loose chips and curing the



Dusty environments and disks can damage the disk drives heads. Cleaning them may resolve the problem but if they are scratched, a new drive may be in order

problem. This is not an ideal solution, but if your ST subsequently works after doing it, you can be sure a loose chip is indeed causing the hassle and you may then open up the machine and press any socketed chips firmly into place.

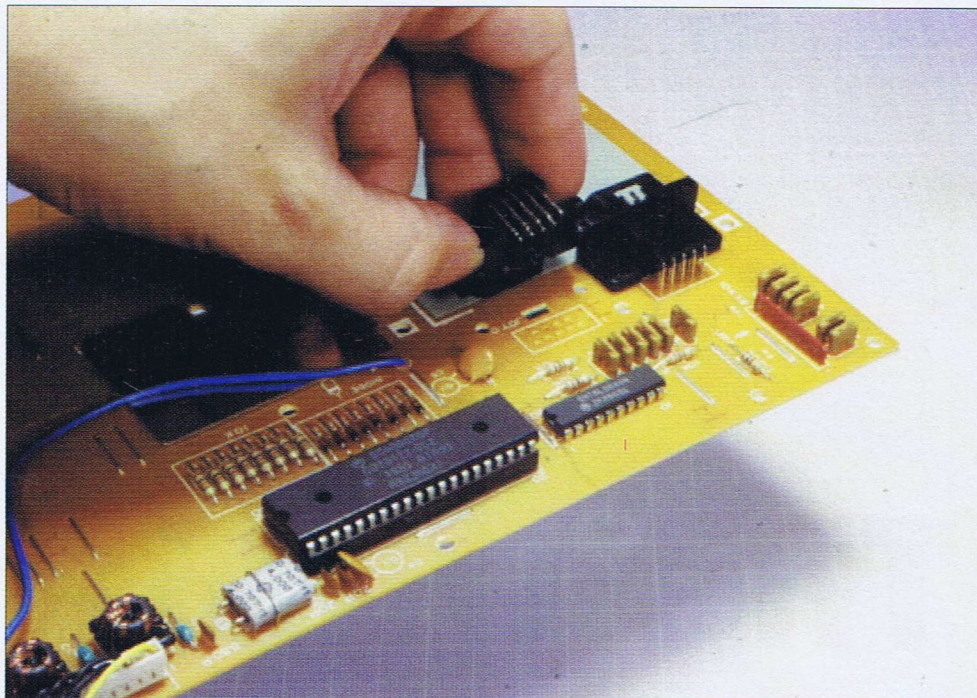
Disk drives, although generally very reliable, can suffer from problems. With prices as low as £39 and easy removal and fitting, it may be cheaper to buy a replacement rather than attempt repairs.

ELIMINATION

If you do start to suffer from problems with loading programs or general reading/writing operations, knowing someone locally with an ST is very useful. If this is the case, take your drive to your friends and swap drives. It should then be a simple matter of figuring out whether the



Having the right tools for the job will make any DIY attempts at repair free of frustration



problem lies with your drive or your computer. See the table "Drive errors and maintenance" for more details.

Of course, any DIY attempts on your part are doomed to frustration if you don't have the necessary tools for the job. Besides the obligatory set of screwdrivers, a soldering iron, solder sucker, solder, long nose pliers and wire cutters/strippers are also needed.

Soldering is a useful skill to learn and having such skills could save you money. Many cables, such as monitor leads or null modem cables for use with multi-player games, cost anywhere from £7 to £15 if bought ready made from a dealer.

Buying the parts yourself and using your soldering iron can cut costs to as little as a couple of quid. If you wish to learn how to solder, which isn't as difficult as it may seem, there are many books to be found which cover basic soldering skills.

Maplins have a range of books that cover soldering techniques from beginners to advanced so they may be worth a

visit. Another more exotic (and expensive) electronic tool that is worth its weight in gold is a multimeter, which is a device for measuring and testing for electronic currents.

Usually consisting of a dial and LCD readout, it allows you to check for such things as breakages in cables and faulty fuses.

If you do find yourself eventually opting for the safe path and sending your ST off to a specialist repair centre, it is advisable to send it securely packed.

Preferably, keep the box it came in and send it in that. Any damage due to improper packaging will only result in delays getting back to you.

Carelessness is another reason why STs sometimes die. You have to look after your machine! Liquids, food crumbs and young, unattended children can all wreak havoc.

The latter are even more deadly when combined with the former, so although young children are to be encouraged to learn to use the computer, make sure they are supervised.

The infamous mouse/joystick ports can cause annoying problems with the mouse.

Re-seating the port pins will probably cure the problem

Opening time

If you do decide to open up your ST for a spot of DIY, here's the procedure. Be aware however that such an action will immediately invalidate any existing warranties. Make sure the power lead is unplugged first though. If in doubt, send it off to the experts.



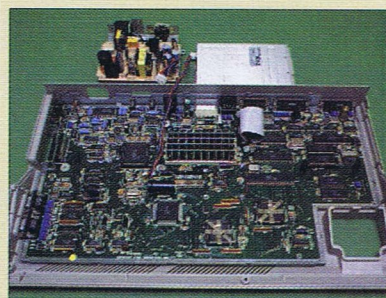
1. Turn over your ST and undo all the screws using the correct size screwdriver making sure to put the screws in a safe place



2. Turn the ST back over and gently tilt the lid from the left side being careful about the disk drive eject button



3. Move the keyboard out of the way or complete unplug it, then, preferably using long-nosed pliers, twist all the retaining lugs on the shielding and power supply cover



4. Unplug the drive first and then remove the shielding to reveal the ST's circuit board. The power supply is held down by two screws and has a power lead connected to the circuit board which can be unplugged

Quick chip fitters

If the thought of opening up your ST and fiddling with its innards makes you queasy, there are a number of repair centres who will do the job for you.

Most give a 90-day warranty on all parts. With varying repair charges and available services such as insured courier pickup/delivery on offer, shop around for the one that suits you.

● **System Solutions, The Desktop Centre, 17-19 Blackwater Street, East Dulwich, London SE22 8RS.** Tel: 081-693 1919 or for Windsor service centre call 0753 832212
● **Silica Systems, 1-4 The Mews, Hatherley Road, Sidcup DA14 4DX.** Tel:

081-309 1111
● **Ladbroke Computing, 33 Ormskirk Road, Preston PR1 2QP.** Tel: 0772 203166
● **HCS Engineering, 144 Tanner Street, London SE1.** Tel: 071-252 3553
● **Evesham Micros, Unit 9, St Richards Road, Evesham**

WR11 6TD. Tel: 0386 446441

● **The Upgrade Shop, 37 Crossall Street, Macclesfield SK11 6QF.** Tel: 0625 503448

● **ACS Electronics, B.E.C Eldon Street, South Shields NE33 5JE.** Tel: 091-455 4300

● **Analogic Computers (UK) Ltd, Unit 6, Ashway Centre, Elm Crescent, Kingston-Upon-Thames KT2 6HH.** Tel: 081-546 9575

● **Gasteiner, Unit 2, Millmead Business Centre, Millmead Road, London N17 9QU.** Tel: 081-365 1151

There are quite a few art packages available for the ST with Degas Elite and Deluxe Paint being the most well known. So what does HiSoft's package offer that the others don't?

Well, for starters, not many art packages can boast compatibility with all STs, the TT and the Falcon030 - TruePaint can. Also, with the many software and hardware upgrades available that can extend the colour capabilities and resolution of a standard ST, such as the Crazy Dots colour graphics card from System Solutions, not many can claim to work in any screen resolution provided by such products; TruePaint does.

In fact, TruePaint is one of the most flexible and easy to use art packages I have yet used on a ST, and, with the eventual release of the Falcon030, TruePaint can claim to be the first art package designed to take advantage of the enhanced graphics features such as overscan, VGA and true colour screen modes that the Falcon offers.

BUILT-IN ROUTINES

Programs that can adapt themselves to such enhanced screen modes offered by graphics cards and the TT or Falcon generally do so by making use of the built-in VDI routines (found in all STs) that form part of GEM.

Unfortunately, most programs that I have used that utilise the VDI for it's graphics output tend to be extremely sluggish. This is due to the fact that the ST's operating system, and hence the VDI, was written in a language called C.

C is a powerful language, but is relatively slow compared to a program written in machine code. Therefore the actual screen output routines are not exactly optimised for speed.

I was therefore expecting a certain lack of performance from TruePaint compared to custom written art packages such as Deluxe Paint. However, my fears were soon dispelled.

Upon loading TruePaint, my first test was to see if it could keep up with quick drawing movements using a fairly large brush. Many programs find themselves

The whole truth - in colour

Darren Evans
takes a look at
TruePaint, HiSoft's
art package for

the ST, which claims to be the first to take advantage of the Falcon 030's true colour capabilities

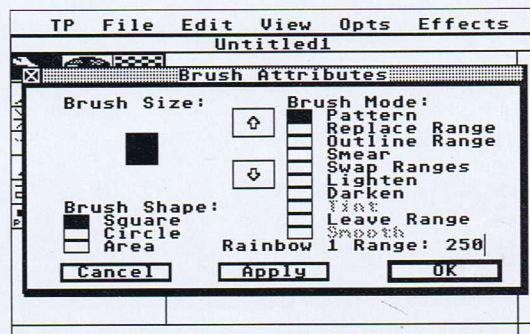
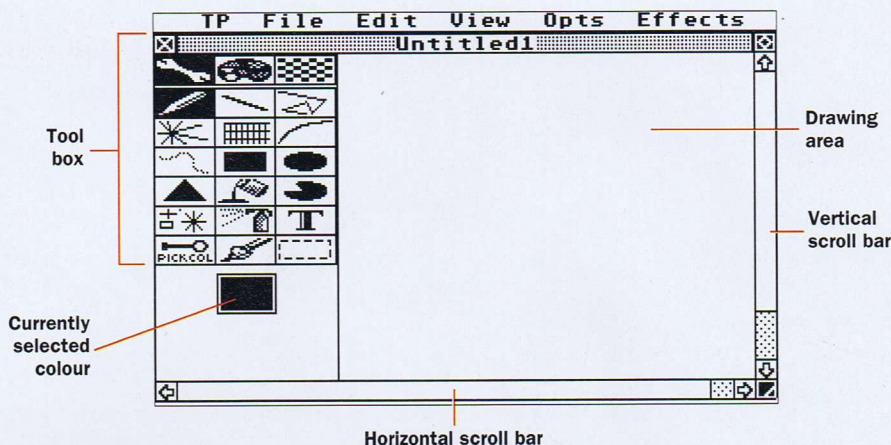
unable to cope, with the result being that the actual line being drawn cannot keep up with the mouse, lagging behind considerably.

Trying to quickly draw a circle often results in a triangular shape because of this.

TruePaint managed admirably compared to other packages which only goes to show that some effort has gone into making the graphics routines as fast as possible while maintaining compatibility.

While on the subject of speed, TruePaint's usage of the ST's native graphics routines means that programs such as NVDI or Warp 9, which are software utilities that dramatically increase the speed of VDI screen output, can be used to speed up screen output. I tested TruePaint with both NVDI and Warp 9 and the increase in performance was amazing. It has to be said at this point that TruePaint was written with ease of use in mind

and those looking for masses of complex features and effects, such as those found in Deluxe Paint, will be disappointed. However, the fact that Deluxe Paint is restricted to low



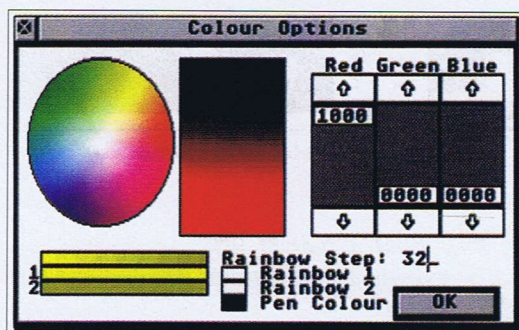
Various brush modes allow for some powerful image manipulations such as smoothing and smear

resolution and 16 colours makes TruePaint a lot more desirable in terms of visual quality thanks to its multi-resolution capability, coupled with the ability to use the extended colour modes of the Falcon and TT.

Even so, TruePaint's range of features is still nothing to sneeze at.

One of this most impressive features that immediately grabbed my interest was the range. The wide range of picture files supported is made possible by HiSoft's External File Management System (EFMS) which is a collection of programs which understand how to





In TrueColour mode, the normal palette type colour selector is replaced by a more versatile and intuitive colour wheel

load and/or save particular image formats.

When you run TruePaint, these external File Managers (EFMs) can be loaded into memory and will then allow you to load and save in the picture format which the program supports.

The drawback of EFMs is that they take up memory and with some of them being 200k or more, some users may find themselves running low. Fortunately, you can enable and disable them from within TruePaint so that you are only using the ones you need for a particular session.

The major advantage of the EFMs feature is that should any new picture formats appear, it will simply be a matter of writing a EFM program to cater for it.

PICTURE CONVERSION

Also, with a few restrictions, TruePaint's ability to handle various picture formats allows a certain degree of conversion from one format to the other. This conversion ability alone makes TruePaint a art program that should be in everyone's software collection.

Actually using TruePaint is a joy. Full use is made of GEM to ensure a friendly and very easy to use environment. As many pictures as memory allows can be opened, each being assigned their own window. Images larger than the current resolution can be scrolled using standard scroll bars.

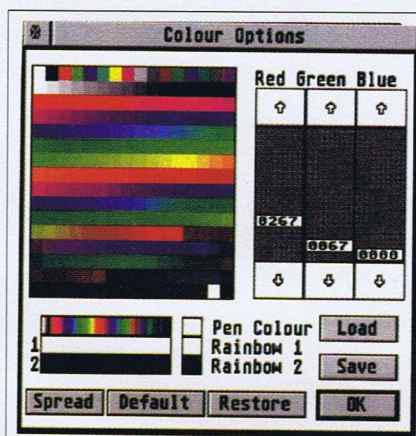
In fact, each window is identical to those used on the normal Desktop with open and close boxes, re-size box and title bar.

This multi-window ability makes for some pretty powerful cut and paste facilities which allow you to copy or cut parts of a picture from one window, into the window of another.

Another excellent feature is the fact that you are not limited to the current resolution when drawing. Selecting New from the main menu brings up a requester box with numeric values showing the width and height (in pixels) of the current resolution.

These values can be changed simply by entering new values for the screen size required. Conversely, this also allows pictures with a greater resolution, such as mono, to be loaded on a colour monitor and subsequently scrolled around to view the entire image. Besides viewing images in their own specific windows, there is also a full screen mode allowing a larger view-

If you are lucky enough to have a Falcon, the quality of images in TrueColour mode are excellent



In palette modes, the colour selection tool makes use of the RGB slider method as found in many other art packages

ing area. Again, any images loaded which are larger than the current screen resolution can be scrolled around using the cursor keys.

Although TruePaint does not have the quantity of functions found in Deluxe Paint, it does have more than the average art package. All the basic drawing tools such as spray can, line, freehand and rays are present, each with their own alterable settings such as line thickness, line pattern and others.

Other standard tools include the rectangle and circle/disk tools which can either be filled or outline, and also the polygon tool. All tool functions are instantly available at the click of a mouse button or via alternative keyboard equivalents.

Some of the less common drawing tools available include Bezier curves, arc, segment, dot, airbrush and text to name a few. TruePaint's text tool is especially versatile as it also allows outline fonts as well as bitmap fonts to be used.

Outline fonts are more versatile than bitmap fonts in that they can be scaled (enlarged or shrunk) to almost any size

without becoming "blocky". However, either Speedo or Font GDOS is required for this ability. There is also a full range of text effects available such as skew, underline and bold.

The brush tool allows the artist to be most creative. Here he or she can apply a number of effects to the image. Some examples are smooth, pattern, lighten, darken and tint.

BLENDING TOOL

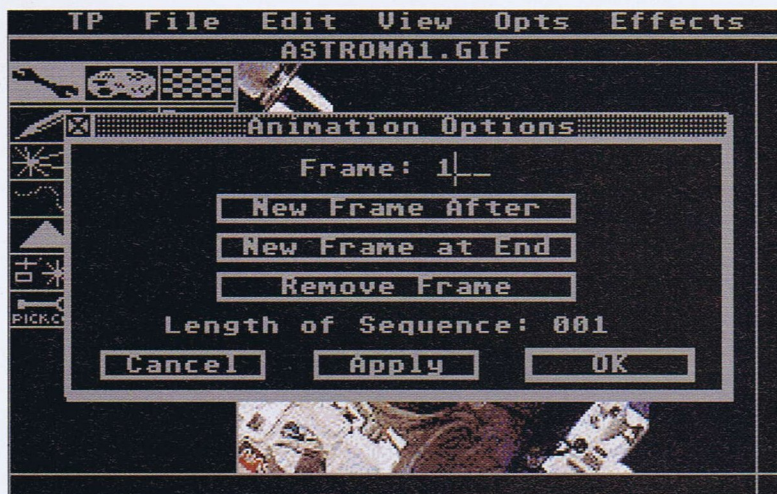
Smooth is only available in true colour mode and is especially useful for blurring or smudging the area under the brush. This is deal for blending colour boundaries for shading and so on.

Selecting a colour which to draw with is achieved by selecting the palette tool. On a standard ST, the colour selector is in palette mode. The colour display is divided up into rectangles, each representing a different palette colour.

Select a colour is simply a matter of clicking on one of the boxes. Each boxes colour can be altered by changing the Red, Green, or Blue (RGB) slid-



TruePaint also takes advantage of the Falcon's enhanced abilities such as Overscan, which increases the screen resolution by getting rid of those space-wasting black borders



Although not exactly feature packed, TruePaint's animation ability is still quite good. There is a sample TrueColour animation on the disk to show just what can be achieved

ers. It is also possible to set up a colour range which blends smoothly from one colour to another.

Things are very different in the true colour mode found on the Falcon. Because there are a greater number of colours to choose from (262,144 to be precise), the display is not restricted to a fixed amount of colours from a static palette.

To cater for this difference, a colour wheel and shade bar is used. Around the edge of the colour wheel are the pure colours of the spectrum. They become progressively paler as they move towards the centre of the wheel.

To choose a colour, you simply click anywhere in the colour wheel. The shade bar then allows you to select a particular shade for the colour selected.

Another key feature is an animation facility. Unfortunately, it does not have any tweening ability, which is my only gripe. In classical animation, tweening is a technique whereby a senior animator produces the key frames of an animation.

For example, a cartoon character walking would be produced by the senior animator drawing the first frame of the character at the beginning of the walk sequence, then a middle frame would be drawn showing the character in mid walk and finally, a frame showing the character at the end of the walk

TruePaint key features

- Works in all screen resolutions including 768 x 480 True Colour
- Extensive range of drawing tools and effects
- Comprehensive support of picture file formats including JPEG, TIFF, Degas and more
- Plus animation, FSM/Speedo GDOS support and multi-window capability
- Zoom, full screen mode with edit, colour picker and Bezier curves

would be drawn. These key frames would be passed to a junior animator who would draw all the in-between frames to complete the sequence.

When translated to the computer, tweening ability means that you need only specify certain positions of an object and the computer would then generate the rest of the frames automatically.

This does make creating an animation less easy but then again TruePaint does not claim to be the final word in animators. However, creating good animations is well within TruePaint's capability, it's just that a little extra work is required.

TruePaint's animation facilities include comprehensive frame editing tools such as insert and delete frames as well as co-ordinate, ruler and snap-to-grid facilities, which are useful when precise placing of objects is required.

As with all HiSoft products, the packaging is superlative. Inside the sturdy box you get a disk wallet containing three disks and a 164-page manual. The manual is extremely well presented and structured.

Sections include system requirements, getting started, detailed tutorials and full reference to all of TruePaint's tools and features. The manual also features some full colour illustrations showing off the 256 and true colour modes very nicely.

As well as superb packaging, TruePaint comes with 30 days of free technical support which begins from the date of registration.

If you experience any problems with it, you can phone the support helpline and get advice from the experts.

MORE TO COME

One thing you can be assured of if you decide to add TruePaint to your software collection is the continued improvement of the product, which is evidently a firm philosophy with the majority of HiSoft products.

David Link – head honcho at the firm – announced that v1.02, which will be available by the time you read this, is to include some additional features over v1.01 reviewed here.

As well as numerous performance tweaks, v1.02 will also include the ability to save in IMG and XIMG image formats, as well as to turn off the toolbox, visible in the image window, thereby freeing extra viewing and drawing space.

The latter improvement is particularly useful when using TruePaint in the lower resolutions as the toolbox tends to occupy a substantial part of the screen area.

In conclusion, TruePaint's ease of use and versatility, and the quality of support that HiSoft are renowned for, mean that it qualifies as a must for anyone's software collection.

It is also a positive indication that software support for the Falcon is indeed underway.

BOTTOM LINE

FEATURES

Lacks a few useful tools found in other packages but its versatility and true colour capabilities more than make up for it.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

This is a program with the emphasis on ease of use. Makes use of GEM to the full with excellent mouse and keyboard control.

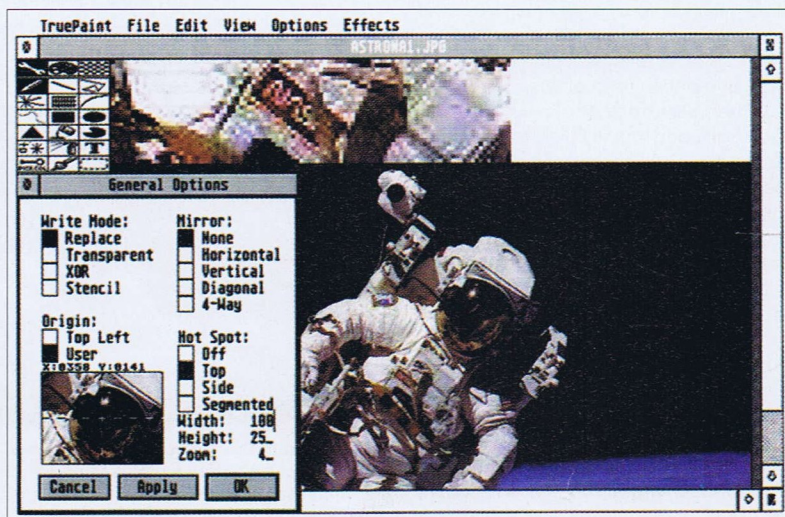
Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

With its multi-resolution, multi-image format support and Falcon compatibility, TruePaint is well worth the asking price.

Excellent
Good
Average
Bad
Appalling

Here you can set up the hot spot to edit fine detail. You can also change the writing mode and change the way the mirror feature works



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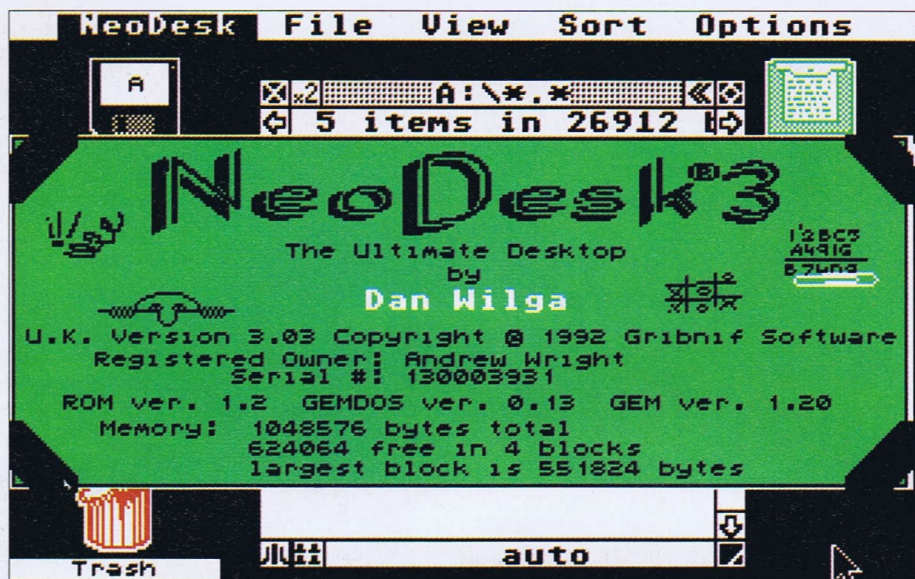
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**ANALOGIC
ANALOGIC
ANALOGIC**



NeoDesk has long been regarded as the perfect replacement for the ST's Desktop. It has certainly proved the most popular, with upgrade after upgrade and feature after feature being added, many in response to users' requests.

With the advent of competing replacements like the public domain Teradesk and the latest, much improved versions of TOS, the pace seems to have slowed somewhat.

On the other hand, NeoDesk is now so full of features that it's hard to imagine what else could be added, a fact that might go some way towards explaining the lack of recent activity.

EXTRA FEATURES

As if to prove me wrong, Gribnif have just released v3.03 of the desktop and v2.1 of the command line interface. The new version comes on one disk complete with a special installation program to install NeoDesk onto hard or floppy drives.

It automatically configures NeoDesk for autobooting, depending on which version of TOS you are running.

If you're buying NeoDesk for the first time you get a useful 134-page manual.

Neo perfect?

Andrew Wright looks at the latest upgrade to the NeoDesk replacement desktop

If you're upgrading, you only get the disk and you have to reinstall the whole thing again.

It's a good idea to make backups of your old installation, as the program doesn't make any attempt to use your existing configuration files. The seem-

ingly insignificant change in the version number of NeoDesk belies the number of changes – there are scores of improvements, including the all-important compatibility with the Falcon and MultiTOS.

Support for high and extended (2.88Mb) density drives has been added, although the hardware has to be present along with any patch programs supplied for those without built-in high density support. This is a little disappointing as programs like Fastcopy Pro can certainly manage without.

DISK HANDLING

Extended floppy disk formats have been included too, such as the Fast-11 format for nine-sector disks and Twister for ten-sector ones. Floppy drive seek rates can also be set from within NeoDesk.

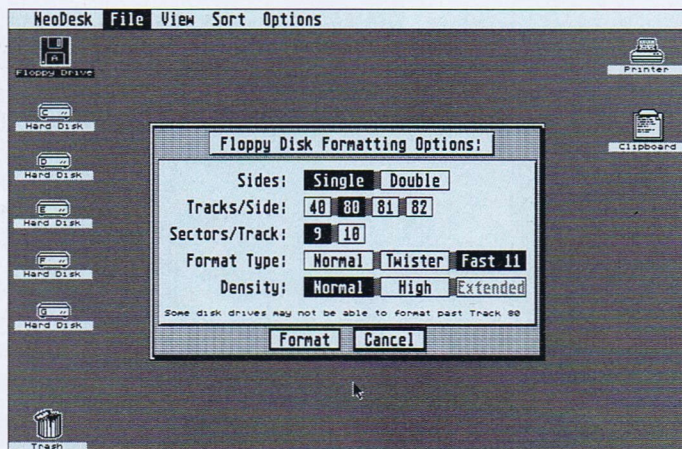
When copying disks, you can now specify a number of copies to make when copying from one floppy to another. If an error occurs during reading the source disk, the entire disk is read again.

Disk copying without formatting is also possible, provided the number of

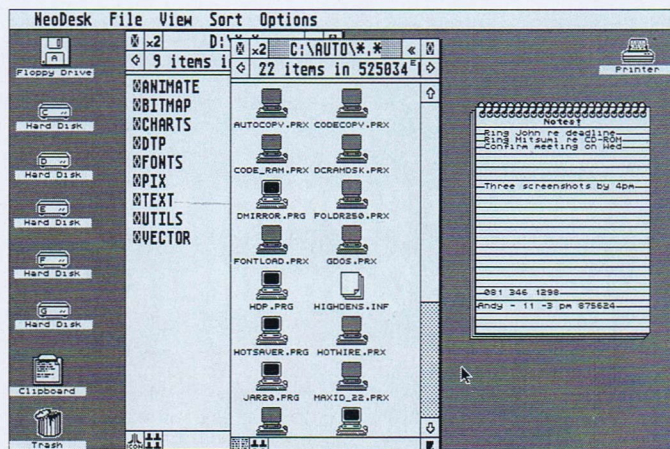
sectors per track on the destination disk is greater than that on the source disk. This means you can copy a nine-sector disk onto a disk that was formatted with ten sectors.

File copying has also been improved and speeded up. If an error occurs while files are being copied, any files which are in memory but have not been written to the destination disk can be automatically moved to the clipboard for safety.

The NeoDesk control panel can also be run as a program, simply by renaming it. There are also more functions for different computers, such as extra sound options for the TT/STE and various CPU cache controls for TT, Mega STE and



Formatting options have increased



NeoDesk in mono – note the desktop notepad and different window displays

Adspeed owners. Sometimes it's the little things in life that add up to the best. In the new version of NeoDesk, when a folder is opened, the position of the window scroll bars are saved. When the folder is closed, the old scroll position is restored. This makes navigating round the Desktop much easier.

A Delete Item menu option has been added to make it easier to delete files and folders when the trashcan is hidden beneath open windows. It is permanent, however, and doesn't use the recoverable trashcan accessory.

The Show Information function works for multiple items on the desktop or in windows although if a large group of files is selected, each one has to be shown before you can get back to the desktop. There is no way out of the loop and the cancel button doesn't act as expected.

A quicker Show Information facility is also available. If the left Shift key is held, the total number of files in a partition or on a disk will not be checked, speeding up the process when you only want to know how much free space there is.

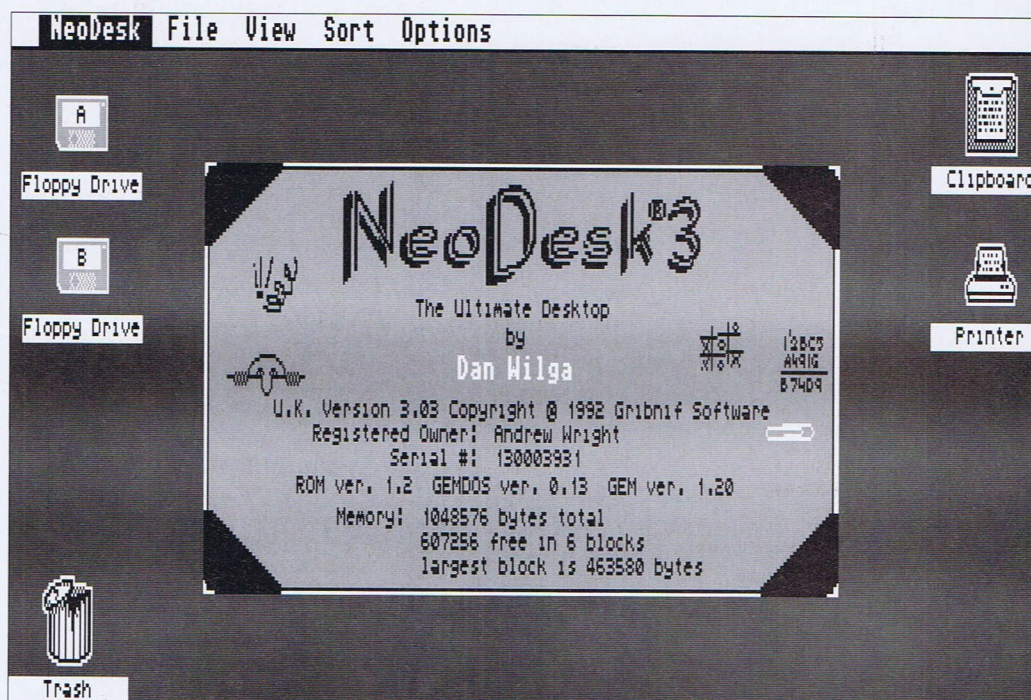
VERSTILE DIALOGUE

Show Information has much more functionality when used with executables and accessories. The dialogue allows you to set certain flags, including the troublesome fastload bit that can cause so many problems on standard STs, whether or not to use TT fast RAM and several MultiTOS-specific functions.

There are minor cosmetic changes to the Set Preferences dialogue too, including a second level of preferences under More.

The *.INF files option in the Set Preferences dialogue has also changed.

It now controls whether or not VDI graphics are used for a particular resolution. If the button under VDI is selected, then when NeoDesk first runs, it will load a different set of graphics



routines from those it normally uses.

The VDI graphics mode must be used with extended graphics hardware like the Crazy Dots card and the true colour modes on the Falcon. Screen accelerators like Warp 9 also provide a greater speed increase when NeoDesk is in VDI mode.

Some extra keyboard commands have been added too, including Backspace to send a window to the back. If the Control key is held while double-clicking on a file on the desktop, a window will be opened to the path of the icon.

If the right Shift key is held, icons will never become de-selected. This is handy for repeating an operation without having to select the icons again. It has

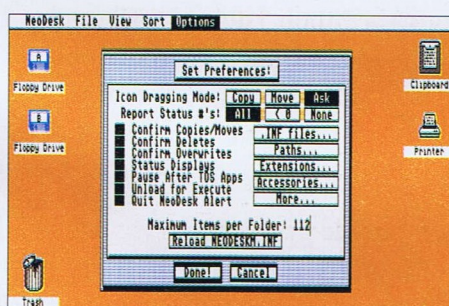
to be said that some of the improvements were undetectable – especially the claimed increase in screen redraws using the new VDI graphics mode.

None of the benchmark programs I tried could demonstrate any difference and there were occasional problems when the screen failed to redraw after some accessories were used.

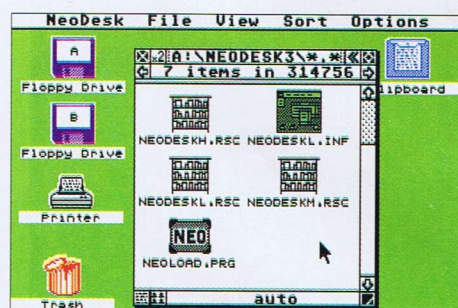
File copying wasn't noticeably faster either – when copying large blocks of data around, v3.03 appeared to be two to three per cent faster, but in most operations the difference couldn't be detected.

However, there's no doubt about the value of NeoDesk 3.03 overall. It's well worth the upgrade fee and if you don't already use it, it should be high on your wish list.

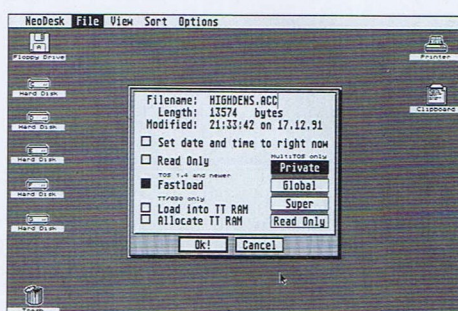
● **Turn over for a full review of NeoDesk CLI.**



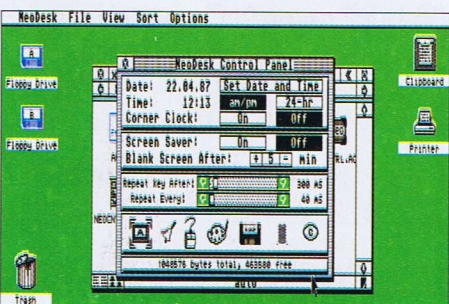
Setting the preferences



NeoDesk 3.03 in low resolution colour



Show Info now does a lot more



The NeoDesk control panel hasn't changed

BOTTOM LINE

FEATURES

Still the best replacement desktop for the ST with even more features.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

The changes are only documented in the accompanying text file but most should be easy to find.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Well worth the upgrade - and still worth considering if you're getting fed up with the GEM Desktop.

Excellent
Good
Average
Bad
Appalling

Product: NeoDesk 3.03

Supplier: Electric Distribution, Meadow Lane, St Ives PE17 4LG

Telephone: 0480 496575

Price: £40.81 (£4.95 for an upgrade)

Configuration: All ST/STE/TT/Falcon models, 1MB recommended

Choosing a memory upgrade for your Atari ST?

The XTRA-RAM *Deluxe* is the answer!

Using industry standard SIMMs (like STE's) the XTRA-RAM *Deluxe* lets you upgrade all the way to 4Mb. It works with all Memory Management Unit (MMU) chip types, whether they are soldered down or socketed. If your ST has a soldered down Video Shifter chip or a 101601 type MMU chip then some soldering will be required.

Each XTRA-RAM *Deluxe* upgrade is supplied with a full two year warranty. Full technical support is simply a telephone call or letter away, whether you live in England or Singapore.

Atari ST Review: "One of the best boards available for the ST."

ST Format: "The XTRA-RAM can be fitted easily ... even by a novice." 87%

<i>Deluxe</i> with 0Mb	£34.99
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<i>Deluxe</i> with 2Mb	£119.99
<i>Deluxe</i> with 4Mb	£189.99
Plus £3 Postage & Packing per order	

Marpet DEVELOPMENTS

Searching for a reliable Clock Cartridge? The Forget-Me-Clock II is the original and best!

With the Forget-Me-Clock II plugged into your ST or STE's cartridge port, the system clock (used by the Control Panel) and keyboard clock will automatically be set at turn on or reset. No longer will you have to waste time setting your ST's clock each day.

Installation couldn't be simpler – you just plug it in and turn on your ST. With a full two year warranty, why not join almost eight thousand satisfied users?

Atari ST Review: "A good, well engineered product. Get one now." 91%

ST Format: "The famous Forget-Me-Clock II Cartridge." 89%

Forget-Me-Clock II Cartridge £21.99
Plus £2 Postage & Packing per order

Buy the Xtra-RAM STE Memory Upgrade!

There are many suppliers of memory upgrades for STE machines. Not all cater for your particular needs. Most STEs require Single In-line Memory Modules, commonly referred to as SIMMs. A number of machines require SIPs – these are like SIMMs but use pins instead of an edge connector.

Each and every STE upgrade supplied by Marpet Developments contains all that is necessary to upgrade STEs requiring either SIMMs or SIPs. This is achieved through the use of a special adaptor. Many suppliers miss these out, causing undue hassle upon receipt of the product.

ST Format Rating: "Easy to install." 86%

XTRA-RAM STE 1/2Mb Upgrade £24.99
XTRA-RAM STE 2Mb Upgrade £89.99
XTRA-RAM STE 4Mb Upgrade £159.99
Plus £2 Postage & Packing per order

Spare SIMM/SIP Adaptors £1.25 Each
Plus £1 Postage & Packing per order

XTRA-RAM +8

Marpet Developments are pleased to announce their latest new product, the Xtra-RAM +8. Available mid to late April, this 8Mb board upgrades and STE; Mega STE or Mega ST to 12Mb! Specially designed and manufactured here in England, the XTRA-RAM +8 represents a considerable investment in the Atari marketplace. Each unit carries a full 12 months warranty and, with participating dealers only, is supplied under a ten day money back offer. For further information contact Marpet Developments today!

Unpopulated (0Mb)

STE	£109.99
Mega ST	£99.99
Mega STE	£149.99
Inc. VAT @ 17.5% P&P £5 extra	

Populated 8Mb

STE	£399.99
Mega ST	£399.99
Mega STE	£399.99
Inc. VAT @ 17.5% Free Courier Delivery	

- Upgrade your 4Mb STE; Mega STE or Mega ST to 12Mb!
- Supports use of Atari TT style memory allocation.
- Supports extended memory allocation in most professional applications.
- Supplied with auto-booting configuration utility.
- Installs beneath shielding on all machine types.
- Solder free installation on most STEs; Mega ST and Mega STE models; fitting service available.
- All versions available unpopulated (use SIMMs).
- Requires TOS 2.06 ROMs – support for earlier ROMs available soon!
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Tel: +44 (0) 423 712600 Fax: +44 (0) 423 712601

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Second in command

To complement NeoDesk, the upgraded Neodesk CLI makes entering commands child's play, says Andrew Wright

The second string to Gribnif's bow is NeoDesk CLI v2.1. CLI is short for command line interface, a method of interacting with a computer that requires typing obscure commands and parameters directly from the keyboard.

Primitive just isn't the word for this kind of interface – most of the earliest computers such as mainframes and minis could only be tackled in this way until the ST and the Mac started to show the way forward in the mid 1980s.

That's not to say that command line-driven computers are obsolete. Far from it. There are still millions of DOS-based PCs in the world and although the GEM-like graphical front end Windows is slowly taking over, there are plenty of users who want and need this kind of interface.

I've always found it vaguely amusing that the company that put so much effort into creating the "perfect" desktop for the ST should also offer a product that swaps the ST's graphical interface for an archaic command line format.

However, NeoDesk CLI is actually intended to complement Gribnif's colourful graphical environment, rather than replace it. It won't even work without NeoDesk.

It is designed to make repetitive tasks much easier and allows complex sets of instructions to be carried out much more quickly than would be possible using icons and windows.

CLI is supplied on a single-sided disk with two manuals, one covering the features in the original release and the second covering the features added in v2, a rather unsatisfactory situation.

An installation program is provided though getting started is pretty straightforward without it. The accessory is copied into the root directory and then installed in NeoDesk in the same way as the recoverable trashcan.

ADDITIONS

Version 2.1 is more of a bug fix release with some minor improvements and enhancements of a technical nature. Upgrading shouldn't be a problem as batch files created with v1.0 will still work, with the odd exception.

The main improvement is a scroll-back buffer listing previous commands and results. General improvements include output from TOS and TTP programs being displayed in the command line window, a new blinking cursor, a wider window up to 80 columns using the normal font, and the

ability to run the accessory as a NeoDesk program with the extender .NPG.

The editor itself has been improved with several new editing commands. The left and right arrows can be used to move from one end of the line to the other when used in conjunction with the Shift key. There are also some new wild cards and assorted changes to existing commands and variables.

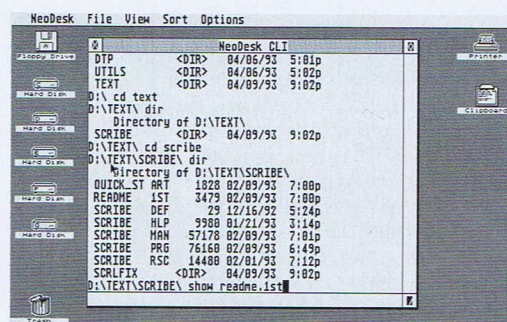
None of this, of course, tells the newcomer what the CLI can achieve. The CLI is best at carrying out complex operations. Consider this – I want to copy a collection of PostScript font files from one directory to another.

Using the GEM Desktop or NeoDesk, picking out only the files with a *.PFB extender would be hard work, especially if there were more than could be displayed in a window. Using CLI, I could type in a line similar to this:

```
COPY F:\FONTS\*.PFB E:\NEWFNTS\PSCRIPT\
```

All the PFB files would be copied to a folder called PSCRIPT. What's more the same command could be recalled, edited and then executed again.

If necessary, I could save the command as a batch file, a simple text file containing commands to be executed in sequence. It could then be



The help menu makes writing batch files a little easier

executed by double-clicking on it from NeoDesk, dragging it onto the CLI icon or running the desk accessory and typing its name as a command.

Or I could make the process much more complex still, including multiple extensions, IF...ELSE statements and interactive user input from the keyboard or mouse.

For the anorak who swears by the command line as the only true interface, NeoDesk is likely to be extremely valuable. For the novice it's something best left well alone, not least because the manual is pretty poor in pointing you towards useful ways of using it.

If you're somewhere in the middle ground, searching for new ways to improve productivity, you might be pleasantly surprised by NeoDesk CLI. Although I'm by no means an avid user at this stage, I'll certainly be trying it out over the next few weeks to see how much more it can do.

BOTTOM LINE

FEATURES

Great for anoraks and experienced users but novices beware.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

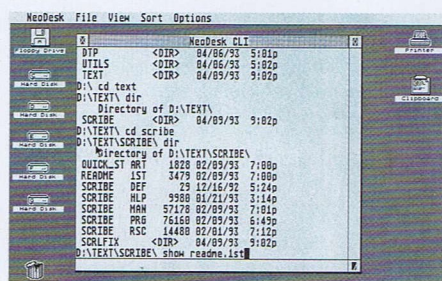
Aimed squarely at the beginner, and accordingly easy to use.

Excellent
Good
Average
Bad
Appalling

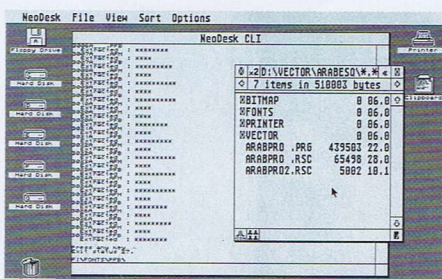
VALUE FOR MONEY

It undoubtedly adds power to NeoDesk and at a reasonable price.

Excellent
Good
Average
Bad
Appalling



Entering commands in CLI



Output from TOS programs is now shown in the command line window

Product: NeoDesk CLI 2.1
Supplier: Compo Software, 7 Vinegar Hill, Alconbury Weston, Huntingdon PE17 5JA
Telephone: 0480 4891819
Configuration: All ST/STE models, any resolution

An unbiased view

After reading your article on the Falcon and the Amiga 1200 I would like to congratulate you for having the most unbiased view I have ever read on this interesting subject.

However, you are still being a little unfair on the A1200. I own an A1200 and a 1040STE, and program in assembler on both machines, so I have a good idea of what they are capable of.

You state that the Falcon are full 32-bit architecture and because it is clocked at a higher speed than the A1200 it will deliver higher performance. But will it really?

The Amiga is clocked at about 14MHz and the Falcon at a faster 16MHz, but there is only one bus and it is shared between the processor and the blitter – I would also guess the DSP.

So if, for instance, you are using the blitter to copy data, the processor must either wait for the blit to finish or share the bus, but the blit takes twice as long to complete and the processor only runs at half speed (8MHz).

And what if the DSP uses the same bus, does that slow the Falcon to a crawl? Evidently, the clock rate argument seems a little redundant now huh? But surely the Amiga suffers the same problem?

Well the Amiga also has two custom processors – the copper and, of course, the infamous blitter – and they can only access the first 2Mb of memory.

These two processors rarely interfere with the CPU on an Amiga, but even when they seldom do, the processor can be running at the full 14MHz when the CPU is accessing data held in fast RAM. The result is no loss in speed at all.

And as far as the DSP being more powerful than all the Amiga's graphics processors, well have you seen what can be done with the copper chip on even a normal Amiga?

Split screen displays, multiple re-use of sprite DMA channels, changing the palette on every scanline, multiple resolutions on-screen at once, mirror effects and horizontal parallax scrolling.

The A1200 has superior graphics, what with Ham8 in 1,280 x 512 mode, which gives up to 262,144 colours on-screen at once, and it only uses eight bitplanes of screen memory.

HAM graphics are so difficult to manipulate that this mode would be no good in an arcade game, although the A1200 is, I think, the superior games machine. The Falcon scores over the Amiga in the sound department, easily though, by having 16-bit sound and ADACs built in as standard, not to mention Midi ports, which I can't believe Commodore haven't included in the A1200.

Don't get me wrong, I really like the Falcon and if it does take off then I plan to try and get one. Until then I'll stick with my 2Mb A1200 and STE.

Francis Bullen, Glasgow

We make our reviews and features as unbiased as possible, especially when readers could spend hundreds of pounds on the back of a recommendation.

It is all too easy to look at products through rose-tinted glasses, but Atari ST User has a clear policy of telling it how it is.

Width disappointment

I am writing to complain about the size of your new style magazine. The width has

**Got anything to say to the ST community?
Then this is your soapbox**

Write Now

reduced by over half an inch.

I have always bought your magazine and have started subscribing, but I am surprised at your latest move. This makes you the smallest ST magazine in the shops.

Why not reduce your price as you can't fit as much information in as you could before? Apart from this I like the mag. Keep up the good work.

James Aubrey, Surrey

There is an old saying, James, that it's not the size of the wand that matters but rather the magic within it. That's certainly the case with Atari ST User.

We save very little cash by publishing the magazine on standard A4 paper, but I'm sure you'll agree it feels a much better publication.

Judging by demos

I am writing to commend you on the inclusion of demo programs on your CoverDisks.

No matter how good your reviewers may be, their own personal likes and dislikes inevitably colour their assessments of a program.

Demo programs, especially those of serious software, are valuable in providing the feel that is often the deciding factor in the decision to buy. It's got to be good too for the software houses.

Here in New Zealand it appears that Atari

have abandoned us completely, and I doubt if users in Australia are any better off.

Users here are, therefore, almost totally reliant on magazine for information and reviews, and on mail order.

Could I take this opportunity to make a plea to mail order firms? If you are interested at all in exporting overseas then you must make provision for payment by international credit cards.

It's just hopeless trying to find the correct amount to nominate for an overseas bank draft, and besides it costs us an extra \$10. If you don't provide this facility you'll just miss out.

Keep up the good work, Atari ST User!

Alwyn Jones, New Zealand

Agreed, there is no better way of judging software than to try it for yourself, and this is sometimes possible though our CoverDisk demos.

There are many more programs released that aren't included on the disk for several reasons, and you should be able to trust our views on them.

The vast majority of our reviewers are full-time journalists, and they have a great deal of experience in picking the good from the bad and making the right recommendations.

But, of course, there are situations when personal likes and dislikes come into the equation – the feel of a mouse, for example.

Programming tips shared

I have just started a non-profitable Atari user group for programmers which enables members to get together and share knowledge, tips and advice on all known ST languages.

The club lets programmers test each others' work on all types of ST – an invaluable service you will probably agree.

I am therefore writing to you as a leading publisher in the ST market in the hope of securing a relationship between the user group and the media.

I am sure that you are constantly asked questions that relate to programming issues that you unfortunately don't have the resources or time to deal with.

A user group like us can, and I would be

**£10
Prize
Letter**

grateful if you could mention the group to those you are unable to help.

Members will also produce higher quality public domain programs, and thus possible CoverDisk material in the future.

Our group caters for all ST programming languages, and for all levels from beginners to more advanced programmers.

There is no membership fee – all the user has to do is send a disk and return postage. The same disk is used to return the disk-based magazine.

Nicholas Bates, Ictari User Group, 3 Bernice Close, Plymouth PL4 7HL

Good luck with the group. With a bit of luck it will encourage more programmers to release software into the public domain.

Whenever this is the case we are happy to hear alternative views from our readers, and we try and publish as many as possible.

Supporting shareware

I am writing to you to show my appreciation for my competition prize from your January 1993 issue. The prize was £300 of computer equipment of my choice from First Computer Centre.

When I rang up for confirmation I was immediately put through to the manager, Mr Brian Cobley, who was very courteous and helpful, and sorted my order without any fuss.

I would like to thank them for all their help.

My other reason for writing is to ask people to support shareware authors. Part of my prize was a modem which included a cut-down version of Freeze Dried Terminal.

Before using the software I used a public domain terminal program which was adequate but when I loaded this new one I was instantly converted.

The program is almost complete with only a few utilities disabled or cut-down, and for only £15 the full program is made available via a software key.

Needless to say I have sent off my registration fee. It is better than all the commercial terminal programs I have seen – even on PC clones – and at a fraction of the price.

If you don't help the authors of shareware then you will lose out on great software, and the demise of the ST is then assured. Help them to help you, or reap the consequences of bad karma.

Again thank you Atari ST User and First Computer Centre.

John Caten, Southend

Shareware is a brilliant way of buying software, and one which we fully endorse. There can be no better way of picking up new programs than to try them before you part with money.

It will not continue as an alternative to full price software unless users pay the authors the small registration fees asked.

Bashing the consoles?

To say that the STFM is aimed at the booming console market is nonsense. How can Atari expect this machine to compete with the likes of the Mega Drive or SNES?

Both have 16 colours on-screen at any one time, and both have stereo output. It would make more sense for Atari to keep the STE and reduce that machine's price.

A year ago I upgrade my STFM – that I'd had for just over four years – to a Mega STE which took nearly three months to arrive from the time it was ordered. I realise now what a dreadful mistake I made. Don't get me wrong, it's a wonderful piece of equipment, but just a few months after it had been released it was dropped. All we hear about now is this new all-singing, all-dancing Falcon. Will it put Atari back in the limelight that they much deserve? I

doubt it very much. On a lighter note, I'm trying to obtain Infocom's Suspended. Is there any reader out there willing to sell me their copy – I'm prepared to pay a good price.

David Rogers, Bath

Of course the reintroduced 520STFMs have no chance of hitting console sales if the buyer has his or her mind fixed on playing games and nothing else.

But the STFM can be used for much more – wordprocessing, home accounting, and a range of other productivity applications. Parents could see it as an educational tool for their children.

So there is a big opportunity for console buyers to be educated on the advantages of choosing a machine with a keyboard and much lower-priced games software.

The situation you find yourself in with the Mega STE is regrettable, although it could have been foreseen. When you bought your computer we were already reporting Falcon.

Although Atari denied its existence, it was obvious that a computer with some outstanding features was waiting in the wings and many of the rumoured specifications materialised.

If anyone offers a copy of the game, we'll forward their details to you.

Australian Falcon gossip

I list below some of the interesting items about the revolutionary Falcon which I have come by in one of the latest issues of the Paragon Report, a publication from Western Australia.

Because your magazine arrives several months late, I have just received the January issue and this information might have already been printed.

A joystick controller is being developed for the Falcon that uses the analogue ports in the side of the machine. It will have 16 programmable buttons as well as three Fire buttons plus pause and reset.

A French company is developing an animation player that will allow true colour animation in real-time combined with CD quality sound, all running as a desk accessory. Kodak have been working for some time on a package that will give the Falcon photo CD capabilities. The camera saves photographs in digital format, which can then be loaded into the Falcon and edited in true colour mode.

Atari have tied up the rights for seven new Warner Brothers movie releases for the 1993-1994 season. These titles will be released for the new Atari Jaguar, rumoured to be a 64-bit games machine.

Thanks for a great magazine, especially the CoverDisks, but would it be possible to supply a converter which changes different picture formats?

Will Mandarin make a STOS for the Falcon030 and 040 machines?

Martin McMahon, Australia

Thanks for the gossip, Martin. I presume some of the reports, such as Jaguar releases, remain rumours because Atari are keeping quiet on their products under development.

But we have now been told of 80 products under development for the Falcon, and one of them is a Falcon version of the STOS program package.

We'll try to find a decent picture converter for a future CoverDisk.

ATARI

ST USER

It's not what you know – it's who you know!

TECHNICAL PROBLEMS

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Please don't send us SAEs, we can't promise to reply to every letter so it really is a waste of your stamp. Sorry!

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Waiting to hear from you...

To join the ST chat show drop a line to The Editor, Write Now, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

With the growth of DTP on the ST, it didn't take long for many users to realise that there were severe limitations to the use of bitmapped clip art.

It is the easiest format to source – whether from PD libraries whose catalogues boast hundreds of disks full of clip art or by scanning with a simple hand scanner.

If you want to print out a bitmap image, whether it's a 9-pin dot matrix or a laser printer, the optimum size of the image (the size at which it will retain its original appearance) will depend on the resolution of the output device.

It will actually appear smaller on a laser but if you then enlarge it, it will look very blocky indeed as the effective resolution drops as the size goes up. Even the smallest alteration in size can create jagged edges and unsightly blocks of pixels.

Do the same with a vector graphic and it will appear at the same size whether you're printing to 9-pin or a 2,540dpi typesetter. It will still look a little jagged on the 9-pin but on a laser or typesetter it will look much cleaner and sharper.

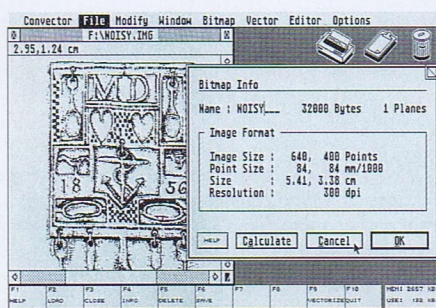
SMOOTH LOOKER

It can be resized at will or even skewed and distorted, but it will still maintain its smooth appearance.

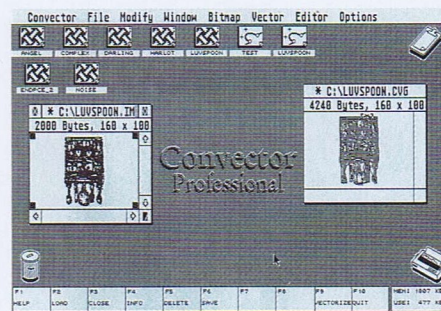
Vector graphics also take up much less space on a disk. For simple images, vectorising can reduce the space required to as little as five to ten per cent of the original although the percentage rises with the complexity of the image.

Thirdly, a point that is often ignored is that minor adjustments can often be made more easily by moving points and reshaping lines than by moving individual pixels.

However, good quality vector clip art, in complete contrast to the bitmap variety, is a lot harder to get hold of. Enter the auto-tracing program or vectoriser – it can take a bitmap image and by using a set of cleverly devised algorithms, turn it into a vector graphic. Convector Professional is the latest auto-



Detailed information from a pull-down menu



Convector's friendly interface

Dots to dashes

Andrew Wright looks at the newest bitmap to vector converter around, Gribnif's Convector Professional

tracing program to reach the UK market. It is supplied on a single double-sided disk with a 69-page, A5 ring-bound manual. It will work on any ST/STE computer in either medium or high resolution, as well as the TT and systems with add-on graphics cards.

Although it will load and run on 520s, 1Mb or more is recommended, especially for large images.

An installation routine is supplied for first time installation, which requires entering personal details, but on subsequent occasions the program can be copied onto a working disk in the normal way. It will work as well on floppy-based systems as on a hard disk.

One of the more unusual aspects of Convector is that it will run as a normal

GEM program or as a desk accessory. When running as a desk accessory, it can be called from within DTP programs or graphics programs like its sister program Arabesque.

It can even grab the underlying screen, either program or GEM Desktop, and save it as a vector graphic. However, there's no menu bar or icons, obviously, and remembered keyboard short-cuts have to be relied on.

When used with Arabesque it can vectorise the buffer or the entire image, though a lot of memory is needed to run it realistically as a desk accessory in this way. Even with a 4Mb ST, I ran out of memory on several occasions.

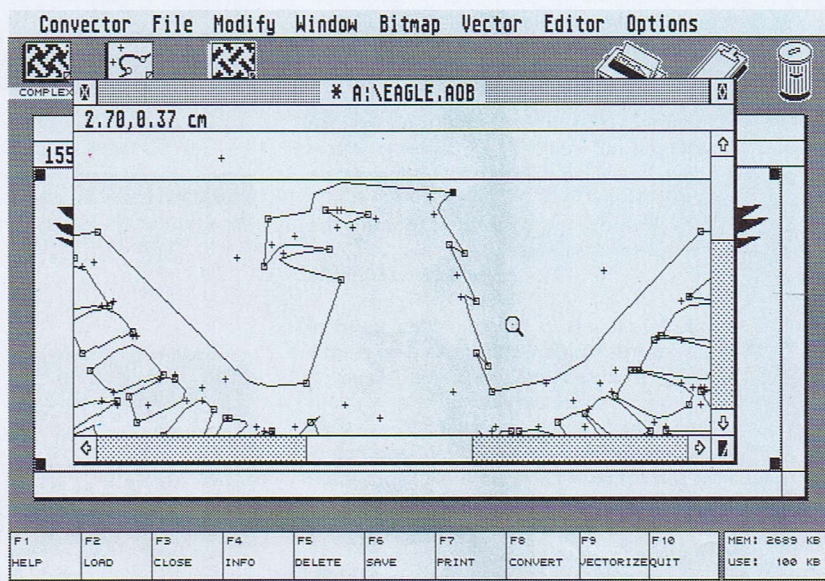
Convector is a little reminiscent of Firstword Plus or K-Data in its appearance, with a function button bar along the bottom of the screen representing the ten function keys, a desktop with three icons and a GEM menu bar along the top.

It is a friendly program to use in more than one respect. Dialogue boxes, which can be moved around the screen, have their own set of keyboard short-cuts – the Help key accesses a help screen for that particular dialogue while there are Alternate key combinations for the other options.

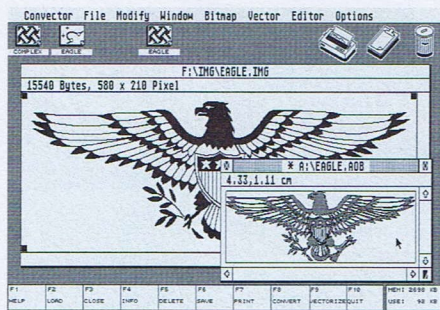
There is also an online help function, accessed via the GEM menu bar. When it is turned on, clicking on any menu item produces the corresponding help screen.

The program is quite straightforward and you can be vectorising within minutes. Essentially it works by loading a bitmap image into a GEM window.

You can then select a rectangular block or the entire image for vectorisa-



A neatly vectorised image



Vectorised version appears in another window

tion. Fourteen import types are recognised including IMG, ABM (Arabesque), PCX, BLD (Megapaint), IFF, TIF, NEO and Degas, although I had a lot of trouble importing some TIFF files which worked with everything else.

It's worth noting, however, that only mono images can be vectorised in the current release.

The bitmap can be modified in several ways beforehand – it can be clipped, inverted or contoured. Even stray pixels can be cleaned up using the noise filter, which is useful for scanned bitmaps.

When the GEM window is closed, an icon with the name of the image appears on the desktop so that it can be loaded straight back again if needed. It makes working with several images is very easy and the program can hold up to 16 bitmap images and vector graphics, depending on memory.

Once the bitmap has been vectorised, it appears in another GEM window and it too can be iconised though with a different type of icon. The original bitmap is displayed in medium grey behind the vectorised version so that you can check the accuracy of the trace.

GRAPHICS SWAPS

Other desktop icons include the printer – GDOS must be installed to use it – and the clipboard which enables graphics to be swapped between applications using the Atari System Clipboard.

The main power of the program, however, lies in the steps you can take immediately before vectorising an image. There are two consecutive dialogue boxes with adjustable parameters to enhance the final result. Happily a lot of thought has gone into the default settings and they should prove suitable for most jobs.

Polygons and lines can be used if speed is required but for best results the Bezier curves option is essential. The vectorisation process is quite complex – first the contours of the graphic are created in memory, the polygon lines are drawn in and then turned into smooth Bezier curves.

The polygons and Beziers can be made very coarse or very fine – or any value in between using the slider bars in the main options dialogue box. Other options that can make a difference are corrected corners (missing corner pixels are ignored) and precision.

A coarse precision setting means that

How the competition fares

Although the ST market isn't exactly awash with auto-tracing programs, there is enough choice for most people. Convector is the only program with vectorisation as its prime function – all the others are vector graphics programs or combinations like Silhouette.

Silhouette comes in at around half the price of Convector (£60). DA's Vector is just that bit more at £149 while Didot LineArt, the top end package will set you back nearly £300.

However all three competitors offer a lot more besides – Silhouette is a combined bitmap/vector program and the other two can create vector graphics as well as trace bitmaps.

To demonstrate that there's vectorising and then there's vectorising, we've put the same images through two other competing packages, timed the results and compared the final output.

The difficulty here is that there are so many changeable parameters involved that it's hard to get a fair comparison. For that reason we carried out the tests on three different images at the best settings we could find.

For a better idea of how the packages themselves compare, take a look at this month's graphics roundup.

Program	Convector	Silhouette	DA's Vector
Simple image (secs)	18	25	22
Complex image (secs)	203	76	140
Noisy image (secs)	403	161	647

The simple image was a scanned character. All three programs carried out the trace quickly and the results were very similar.

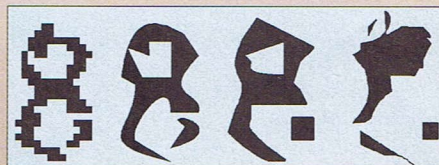
The second image was more complex with curves and fine detail. The third, the noisy image, was a poor quality scan with stray pixels all over the place.

Note that Convector has the facility to remove some of the noise, making the end result better still, but for the purposes of this test, the facility wasn't used.

Silhouette was significantly faster at tracing the more complex images but the quality of the finished graphic is much lower, as can be seen from the accompanying example.

Both Convector and DA's Vector took their time but Convector was the winner by a whisker as the resulting graphic was slightly more accurate and the filled areas were noticeably thinner than those produced by DA's Vector.

Part of the "noisy" image. From left to right, the original bitmap (only 20 pixels high), and the vector graphics produced by Convector, DA's Vector and Silhouette respectively



the trace might not follow the image closely while a fine setting will ensure a good fit. The latter will take many times longer so the five different precision options will come in handy.

Fine settings should be used for small images with plenty of detail while a medium to coarse setting might be preferred for a large, simple graphic.

Although Convector stops short of being a vector graphics package, when the vectorising is over there are several facilities for finishing off. Graphics composed of a number of smaller objects or paths can be joined together to form a whole, or moved and deleted.

Convector can also save groups of graphics such as a character set, saving each as a CVG file in a special indexed folder. In this way, a complete font can be scanned in, vectorised and then turned into a Calamus font using an editor like Genus.

Vector graphics can be saved in seven formats, AOB (Arabesque), CNV (Convector's own), GEM, GEM/3, CVG, EPS and VEK (Megapaint Professional).

Megapaint symbol files are also supported. It's the first program I've come across on the ST that handles EPS files reliably – I was able to load several into other PC and Mac applications as well as PageStream.

Convector has certainly upstaged the

likes of Didot LineArt and DA's Vector, placing itself firmly at the top of the ST's auto-tracing ladder. It's wealth of extra functions and ease of use makes it an excellent choice.

It is clearly intended to complement Arabesque but its support for a wide range of file formats means it will work with just about any DTP or graphics package.

BOTTOM LINE

FEATURES

Excellent range of features that sets new standards on the ST.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Lovely interface – precisely what the ST is all about.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

A bit pricey for the casual user but a very worthwhile investment for the desktop publisher.

Excellent
Good
Average
Bad
Appalling

Product:	Convector Professional 1.00J
Supplier:	HiSoft, The Old School, Greenfield, Bedford MK45 5DE
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Price:	£129
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Over the past two months we have been nibbling away around the edges of the C language. Now it's time to take a giant leap into the unknown. So hold onto your hats and calm the butterflies in your stomach – I'll be along to guide you through the mine-fields.

One quick thing to notice is that comments in C start with `/*` and end with `*/`. If you're using HiSoft C then you'll also need to remember that insists that comments start and end on the same line. All other C compilers are more liberal about this, though.

The first actual leap we'll make, however, involves those memory blocks mentioned at the end of last month's column. If you remember, there are two major uses of pointers: to point to an already-existing variable, or to point to a block of memory.

What we're going to do is convert the Othello program we had last month to use a block of memory, rather than an array, to store the Othello board. We're doing this, by the way, to give us more flexibility as our program evolves.

These blocks of memory are quite straightforward to handle, really. All you need to do is get hold of one, use it and then get rid of it when you've finished with it.

To get hold of a block of memory, you just call a standard, built-in library function by the name of `malloc()` – for Memory ALLOcation.

`malloc()` takes one argument, a long integer, and returns a value, a pointer. The long integer tells `malloc()` how big a block you're after, and the pointer returned will point to the block `malloc()` has created for you. HiSoft C's `malloc()` returns a char pointer, but more modern compilers tend to follow the newer ANSI standard of returning a void pointer. To take account of this, use a cast-to-type with `malloc()`.

As usual, things aren't quite as straightforward as this. You see, it's possible that `malloc()` won't be able to give you a block as big as the one you want – if memory is running short, for example. If that happens, then a special kind of pointer called NULL will be returned. You should always check for this.

Also, you will need to define NULL and declare `malloc()` in your file. Luckily, you can do this quite simply. To define NULL, put a line at the top of your file which reads like this:

```
#include <stdio.h>
```

This will ensure that when your program

C offers an impressive array of looping functions. Roy Stead continues his programming series by looking at some of the language's recursive features



you will forgive a short digression. One thing about C is that virtually everything has a value. The `printf()` function, for example, returns an int which tells you how many characters it actually displayed on the screen.

Variable assignment is another expression. So `x = x + 1` returns a value, in this case `x + 1`. We can use this in our programs.

If `x = 23` returns a value of 23 then we can legitimately write something like `y = x = 23` and set the values of two variables at the same time.

What the `if()` function does is to test the value returned by an expression. If that value is zero then it's called FALSE. If it's non-zero then it's called TRUE. With me so far?

If the value is TRUE then `if()` will execute the statement which follows it. If you've also provided an `else` statement then `if()` will cause the statement following the `else` to be executed if the value was FALSE. If the value of expression is FALSE, and no `else` is given, `if()` will do nothing.

It looks like this:

```
if ( expression )
do_this_if_expression_is_TRUE else
do_this_if_expression_is_FALSE
```

A single statement, however, is not necessarily just one command. In C, you can group statements together into blocks by surrounding them with braces

Round and round we go

is compiled, all of the definitions in the file `STDIO.H` will also be read into the file, and so you will be able to use them in your program. `STDIO.H` is called a header file by the way, and we'll be taking a closer look at those later in this series.

HiSoft C has all of the `malloc()` declarations built in to it, but if you are using any other C compiler then you will also have to read in another header file, called `malloc.h`. `malloc.h` contains declarations of the `malloc()` function, along with all the other functions associated with it.

You've probably guessed, then, that those of us not using HiSoft C will need a `#include <malloc.h>` line at the top of our file, to keep the other file company, as it were.

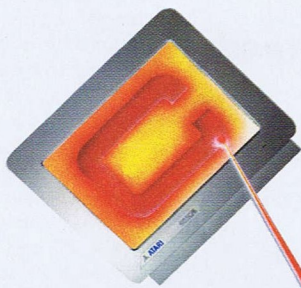
To check the value returned by `malloc()`, we're going to have to use something new – the `if()` statement. Before going into this, however, I hope

(curly brackets). An entire block is treated as though it were all one statement, so we can have any number of things performed if the expression is TRUE (non-zero) or FALSE (zero) just by putting a block of statements into what we have above.

Finally for this bit, there are also a couple of "special" expressions designed to be used in C conditionals to test whether values are equal or whatever.

So, if we have two values of the same type called `a` and `b` then `a == b` is TRUE if `a` has the same value as `b`, while `a != b` is TRUE if they have different values. `a > b` is TRUE if the value of `a` is greater than that of `b`, and I guess you can figure out what `a >= b`, `a < b` and `a <= b` mean.

An exclamation mark – `!` – in front of an expression will make a TRUE expres-



sion FALSE or a FALSE one TRUE, so using `!(a == b)` is equivalent to using `a != b`.

You might have already realised what's coming next. That's right – when we set a pointer to be equal to whatever was returned by `malloc()`, that assignment statement has a value, the same value which was just assigned to the pointer by `malloc()`.

So, we can call `malloc`, assign a value to a pointer to our Othello board and test whether `malloc()` returned NULL or not, all from within our `if()` statement, like this:

```
#include <stdio.h> #include
<malloc.h>
main() { char *board;
if ( (board = (char *)malloc ( 64L
)) == NULL ) { /* Not enough memory
*/ } else { /* Pointer to board set
up */ }; }
```

Notice that L after the 64? That means to treat the number as if it were of type long integer. All numbers without an explicit cast-to-type in front of them are treated as ints by your C compiler. The only exceptions are those that contain a decimal point – they are treated as floats – or are followed by L, in which case they are treated as long integers.

Since `malloc()` takes a long as its argument, we have to ensure that the number it is given is a long integer, otherwise strange and unpredictable things will happen.

So, now that we've got our memory block, and a pointer to it, we'll want to use it. Using memory block in C is very easy. It's very similar to an array, in fact. The syntax is different, but the idea is the same.

I'm sure that you remember how to use the variable pointed to by your pointer by using an asterisk, so all you do is use an asterisk with your pointer's name to look at (or change) the value of the first item in your memory block.

If you want to use the second item then just add one to the pointer, and so

on. Whenever you add to a pointer, by the way, you will be looking at the next item, not necessarily the next byte. So, if you're using a pointer to foo – a block of longs, 32-bit integers – then `*foo` will look at the first long, `*(foo + 1)` will look at the second, and so on.

The final stage is to get rid of your memory block once you've finished with it. To do this, we free up the memory which it has been taking up by calling a function called `free()`, which takes one argument – a pointer to your memory block.

Once we've set up a (char) pointer to our Othello board, which is to be a 64-byte memory block, the next thing we'll want to do is to set the initial contents of the board.

One way to do this would be to set each square individually, though I wouldn't recommend it. Far easier is to loop through the block of memory, and one way to do this is using the `while()` loop.

A `while()` loop behaves just like `if()`, except that it cannot have an `else` statement and it will repeat the statement (or block of statements) over and over again so long as the condition is TRUE. I guess it's not that much like `if()` after all... But, in any case, it looks like this:

```
while ( expression )
do_this_as_long_as_expression_is_TRUE;
```

And so, to loop through our board we could do something like this – after board has been set up as a char pointer to a 64-char memory block, of course:

```
int x = 0; while ( x < 64 {
*(board + x) = '.'; /* '.' is an empty
square */
x++; };
```

Notice the `x++` in there? This is a short-hand way of writing `x = x + 1`, and you'll see it used a lot in C programs. You'll also see its close relative, `x--`, which subtracts one from a variable's value.

Other short-hands exist for similar operations, by the way, such as `+=` which will add a value to your variable – so `x += 5` is equivalent to using `x = x + 5`, and its cousins: `-=`, `*=`, `/=` and `%=`.

But, to return to our `while()` statement. It may have occurred to those of you familiar with other languages that you would probably write the above as a `for...step...next` loop, rather than a `while` loop. Well, such things are easy

enough in C. The above `while()` loop translates into this `for()` loop:

```
int x; for ( x = 0; x < 64 ; x++ )
*(board + x) = '.';
```

Notice the order of the expressions inside the brackets? The first one – `x = 0` – is performed just once, and it's called the initialiser. The second expression – `x < 64` – is the conditional, and if its value is TRUE then the body of the loop – `*(board + x) = '.'` – is executed and then the third expression – `x++` – executed.

After this, the conditional is tested again, and if it is still TRUE the body is executed, and so on until the conditional becomes FALSE (in this case, when `x` reaches the value of 64).

So, the general form of a `for()` loop is:

```
for ( initialiser; conditional ;
final ) body;
```

You are free to omit any of the statements in brackets, but make sure that you put the semicolons in to let the compiler know which one(s) have been missed out.

For example, this will loop forever, doing nothing whatsoever (don't try this – it will lock up your computer and you'll have to reset it):

```
for ( ; ; ) ;
```

There are lots of examples of these loop control structures in the OTHELLO2.C source code on the CoverDisk, where they are used for such things as checking the validity of characters typed by the user and finding out which moves in Othello are legal and which are not.

● Next month we'll be taking a look at the `#define` statement, and using C structs and unions to invent our own C data types.

Try everything once...

Here are a couple of examples of the `do...while()` loop control statement. A `while()` statement will test your condition and then execute the body of the loop as long as the condition is TRUE. A `do...while()` loop will execute the body of the loop and then test the condition, and repeat as long as the condition is TRUE.

The difference, as you can see, is a seemingly minor one. For a `do...while()` loop, the main body of the loop will always be executed at least once, but it's possible for the body of a `while()` loop not to be executed at all. And that's all there is to it.

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STOS 3D Made Easy

Arming the aliens

Sadly, this is the final instalment of the present series. All that's remaining is to add a few simple routines to control the laser, power up the shields, and arm the attackers.

But first, we'll round off the section on attack patterns from last month. As you'll recall, we exploited the TD FACE command to target our objects towards the players spaceship.

Unfortunately, TD FACE wasn't compatible with our original GAME_SHIP, because it made dangerous assumptions about the way our objects had been stored on the disk. So we were limited to boring objects such as ROCKET or DICE, which had been saved in just the right orientation.

In order to sidestep this restriction, we'll have to forget about TD FACE completely, and control the flight pattern directly from our program.

Our new routine should perform the following tasks. First, it will have to find the angles from the source object to the destination point. Then, it can then use these angles to turn the source object towards our intended target.

We'll can accomplish this procedure using a combination of the TD BEARING and TD ANGLE commands.

TD BEARING takes an object and calculates the bearings and range from the selected target area. The bearing is supplied as two angles. Angle A holds the vertical elevation, and Angle B returns the horizontal swivel.

We can think of the source object as the barrel of a gun. This can be aimed either horizontally (left to right), or vertically (up and down). You can see the idea from Figures 1a and 1b.

TD BEARING can be called up in a variety of ways. The simplest version is:

```
BA=TD BEARING A(object,target) : Rem
Gets the vertical elevation.
BB=TD BEARING B(object,target) : Rem
Gets the horizontal rotation.
BR=TD BEARING R(object,target) : Rem
Returns the range, just like TD RANGE
```

These functions provide the bearings between any two objects in our game. It's also possible to get the bearings from an specific point in the 3D universe, using a second, more advanced version, of these commands:

```
BA=TD BEARING A(object,wx,wy,wz)
BB=TD BEARING B(object,wx,wy,wz)
BR=TD BEARING R(object,wx,wy,wz)
```

In the final part of his STOS 3D tutorial, Stephen Hill shows you how to shoot and be shot at.. and gives you a shield for your safety!

wx, wy, wz now represent the world co-ordinates of the selected target.

Each TD BEARING function automatically calculates all three values in advance. So after we've chosen the initial target area, we can read out the other bearings directly:

```
BA=TD BEARING A(object,target)
BB=TD BEARING B(0)
BR=TD BEARING R(0)
```

Once we've found the direction, we can then turn our attacker using the TD ANGLE command.

Here's how this might look from our Basic program:

```
2000 BA=TD Bearing
A(MISSILE,TARGET):Rem MISSILE and
TARGET are object numbers
2010 BB=TD Bearing B(0):Rem using the
fast form of the instruction
2020 Td Angle MISSILE,BA,BB,0:Rem Turn
the missile to the new orientation
2030 Td Forward MISSILE,100
```

TD ANGLE should already be pretty familiar, as we've used extensively in our previous examples. Its action is to rotate an object through the selected angle.

Used together, TD BEARING and TD ANGLE have exactly the same effect as a single TD FACE command. So they can be substituted straight into our existing attack sequences without any fuss.

What's more, since we've taken control over the current movement direction, it's now trivial job to fix up our aiming system so that it's compatible with our original GAME_SHIP.

All we have to do is flip our objects by 180 degrees before they are displayed and return them to their original headings after the final TD REDRAW command.

We can reverse our objects with:

```
td angle OB,TA+180*182,TB,0
```

Where TA and TB hold the new heading we've chosen for our attacker.

Now that the attacker is facing in the correct direction, we can propel it

towards our target using TD FORWARD. But as it's been flipped around, we'll have to reverse the distance value like so:

```
Td Forward MISSILE,-100: rem Moves the
object BACKWARDS!
```

If we left the system as it stood, we'd get into real trouble the next time we took our bearings, as the TD BEARING command would read all our values from the newly reversed object. So it's a good idea to turn the object back to its original heading at the start of the loop.

```
Td Angle OB,TA,TB,0
```

Here's an example of this system for you to play around with. It's adapted from last month's example.

```
1371 Rem Turn OB so that it's facing
its original heading.
1372 Rem I'm afraid I missed it from
last months example!
1373 Td Angle OB,TA,TB,0
1374 TA=td bearing a(OB,VX,VY,VZ) :
TB=td bearing b(0):Rem Get the new
bearing
1375 Rem Turn the attacker so that
it's facing AWAY from the player!
1376 td angle OB,TA+32767,TB,0 :Rem
32767=180 degrees in Voodoo Rotation
units
1377 td forward OB,-200 : Rem Move the
attacker BACKWARDS!
```

This listing is slightly different from the original demo, as I'd forgotten to include the vital TD ANGLE command at line 1373. Whoops!

Well, that's the attack patterns taken care of. Let's return to our program, and quickly develop it into the finished game.

We'll begin with the shields. Each object will be surrounded by an imaginary force-field, which will provide limited protection from enemy laser fire.

After a few shots, the shields will be worn down to nothing, leaving our object completely vulnerable. So the next successful hit will destroy it utterly!

First, we'll define a few arrays to hold the required shield values:


```
56 dim
SHIELDS(NOBJECTS),MXSHIELDS(NOBJECTS),
TSHIELDS(NTYPES)
```

The SHIELDS array will hold the number of hits remaining to our shields. If it gets below zero, the object will be destroyed.

MXSHIELDS will contain the maximum shield strength of our current object. This will be used as part of the regeneration routine I'll be showing you later.

TSHIELDS will store the maximum shield strength of each TYPE of object in our game.

We'll handle the shields by redefining our original firing system:

```
530 If BEAM and TARGET then Gosub 1500
```

This calls up a brand new subroutine at 1500. Its job will be to deal with an attack, and take the appropriate action.

```
1500 SHIELDS(TARGET)=SHIELDS(TARGET)-1
1510 boom 1514 rem Check for a kill
1515 if SHIELDS(TARGET)>=0 then return
1520 inc HITS : rem increase score!
1522 rem If the object is a gravitic
mine, it will explode violently!
1523 rem see lines 1560-1570
1525 if TACTICS(TARGET,0)=PROX then
gosub 1560 else locate 26,23 : print
"Target gone!"
1530 play 40,0
1535 screen swap : wait vbl : wait 50
: rem Display messages
1536 rem DESTROY attacker, and gener-
ate a new one
1540 td kill TARGET
1541 rem Randomly choose a new ship
type and move it into position
1542 rem Ensure that there's a maximum
of one mine per wave
1543 if OBTYP(3-OB)=1 then
OTYPE=rnd(NTYPES-1)+1 else OTYPE=1
1545 DIST=22000 : REP=TARGET : gosub
1800
1550 return
```

Lines 1541-1545 replace the defeated opponent, and execute a new routine at 1800 to position it in our 3D game world.

The TD KILL command removes our target object completely from the game. But it leaves the definition in memory, ready and waiting for the next attack run. Just to be on the safe side, we'll rewrite our original scanning routine like so:

```
480 for OB=1 to NOBJECTS
481 rem Stops the scanner displaying a
DEAD object
485 if SHIELDS(OB)<0 then goto 510 :
rem NEW
486 VIS=td visible(OB) : rem NEW!
490 RANGE=td range(O,OB) : rem Get
distance between objects O and OB
500 if RANGE<=MRANGE then gosub 570
501 rem NEW! Moved from 716 so that
the movement routine is called
502 rem even if an object is out of
range.
505 gosub 1000 : rem Jump to combat
routine
510 next OB
```

We can now call up the shield regenerator I promised you earlier.

```
380 if timer>250 then gosub 1600 :
timer=0
```

TIMER is a STOS Basic function that increases by one every 1/50 of a second. The routine at 1,600 will therefore be executed at regular five-second intervals.

```
1590 rem Replenish shields
1600 for OS=0 to NOBJECTS
1610 if SHIELDS(OS)<MXSHIELDS(OS) and
SHIELDS(OS)>=0 then inc SHIELDS(OS)
1620 next OS
1630 return
```

While we're at it, we'll also provide a visible read-out of the player's shields on the control panel.

```
404 locate 26,18 : print "Shields";
405 if SHIELDS(0)>0 then ink 5 : bar
264,144 to SHIELDS(0)*5+264,150
```

We'll now add a small restriction to our laser. This will ensure that the player can't kill off an attacker by simply holding down the Fire button. In real life, lasers get very hot after use, so it's fair to assume that there's an absolute limit to the number of continuous shots by the player.

We can simulate this effect by defining some new variables:

MXHEAT will hold the maximum number of successive laser bursts.
HEAT will store the number of shots remaining to our laser.

```
37 MXHEAT=7 : rem Sets the maximum
number of continuous shots
```

We'll then include these factors into our original firing system with:

```
235 if fire and HEAT<MXHEAT then
BEAM=true:inc HEAT:wait 5 else
BEAM=false
```

And cool down the laser at regular intervals using:

```
375 inc COOL : if COOL>7 and HEAT>0
then dec HEAT : COOL=0
```

Lastly, we'll display the HEAT indicator on the screen with:

```
421 locate 26,19 : print "Laser "; :
rem NEW LASER read-out
422 if HEAT>0 then ink 5 : bar 264,152
to HEAT*7+264,158
```

The final step, is to give our aliens the ability to fire back! A shot will be fired if the following two conditions have been met.

1. There's been a reasonable delay since the last attack.
2. The player's ship is directly in front of our attacker.

The firing rate can be limited in several ways. One obvious possibility is to use

a simple RND function, such as:

```
If Rnd(100)=RATE Then....
```

However, it's more fun to adjust the firing rate depending on the range. This will require us to generate a fancy decision value such as:

```
ACC=(RANGE/5000)+7
If rnd(ACC)<=THRESHOLD Then ...
```

ACC varies between 7 and 11. It's used with the RND function to control the probability of a shot being fired.

The THRESHOLD can be anything you wish. The higher the value, the more likely the attack will be launched. In my example, I've set it to two, so the odds of an attack will vary between 3/7 and 3/11.

Note that there's absolutely nothing special about the ACC or THRESHOLD values used in this example. They were chosen purely by experimentation, and can be adjusted to produce your own individual firing patterns as required.

We'll now have a bash at checking whether the player is actually in front of our attacker. This can be tested with the TD VIEW function, which converts a series of world co-ordinates into the equivalent local versions.

We'll use it calculate the local Z co-ordinate of our ship as seen from the attacker. If it's greater than zero, we'll immediately know that the player is in under the enemies sights. So the attack can commence!

Here's the full routine::

```
1401 rem NEW fire control!
1402 rem FIRE off a laser if the
conditions are met
1403 ACC=(RANGE/5000)+7:INFRONT=td
view z(OB,SHIPX,SHIPY,SHIPZ)
1404 if rnd(ACC)<=2 and INFRONT>0 then
gosub 1700
```

Once we've fired off a shot, we'll naturally want to check whether it's hit our ship. We'll link this to the RANGE by adapting the previous firing routine like so:

```
1700 shoot
1710 ACC=(RANGE/1000)+1: rem ACC
varies between 1 and 25
1716 rem SCOL flashes the screen to a
new colour
1717 rem The chances of a hit vary
from 100% to about 12% depending on
range
1720 if rnd(ACC)<=2 then SCOL=15 :
SHIELDS(0)=SHIELDS(0)-1
1730 return
```

And that's it! You can find the completed game on next month's CoverDisk. I appreciate that it's not exactly up to Elite standards, but then again, it's only a tiny fraction of the size!

If you're prepared to add in your own attack patterns and ship types you should be able to generate some amazing games with this system. Best of luck!



The TT is considerably stronger in Germany than in Britain

Atari in full effect at a German show

No boundaries!

Within the Atari community it's a well known fact that the ST has always done much better in Europe than on the other side of the pond and nowhere more so than in Germany.

This is also one of the reasons why early Falcons sported German keyboards, even when they made their initial appearances at British computer shows.

As last year was drawing to a close Germany was also the first country in the world where Falcons were available for everyone to buy, albeit in limited numbers.

So why is Europe in general and Germany in particular such a heartland of all things Atari? There are a number of reasons for this. Some among you who are long in the tooth may recall that at one time Jack Tramiel headed Commodore.

SIZEABLE QUANTITIES

As we all know it was Commodore who produced the C64 which continues to sell in sizeable quantities even today. The price/performance of the C64 was hard to beat and many Germans fell in love with it.

So when Tramiel left Commodore and purchased Atari it was only natural that they carried over that enthusiasm to their new baby, the ST. And the people followed. The ST was particularly attractive to students because of its low price and the high quality mono monitor.

The ST was always more successful in Germany as a "serious" computer than as a games machine which reflects the favoured configuration of an average German user.

This comprised a Mega ST, a mono monitor and a laser printer. A number of companies, especially in CAD and DTP areas, also use big 19in monitors.

Since its advent the TT has taken over as a machine of choice but only because of its raw power. However, its looks have won it more enemies than

With the continued dissolving of trade barriers between us and our European neighbours, Don Maple reports on the states of the ST markets in Germany, Holland and France

friends. The computer magazines still refer to the TT as "the butter dish". The Mega STE didn't fare any better either. Let's hope Atari has learned from this when hatching future Falcon chicks.

German developers are proverbially pedantic and every minute detail is meticulously discussed on bulletin boards until consensus is reached.

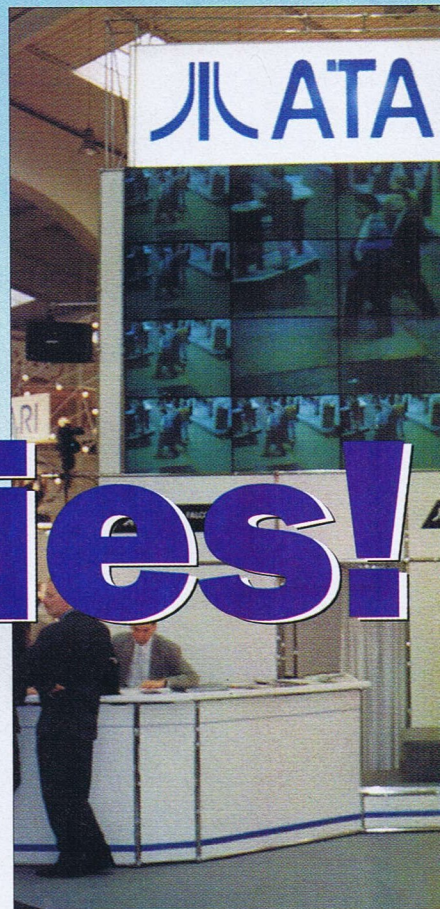
This is then followed by establishing a formal definition of a new standard and from then on everyone complies with it. Some of us with a "free spirit" approach to software development may find this a bit of an overkill, maybe even getting in the way, but you can't argue with success, as they say...

Originally, professional software in German used to be almost exclusively written in high resolution. However, with the introduction of the TT, the colour modes are getting more support.

The colour also opened up a number of other application areas for the ST/TT range such as image processing and colour DTP.

When it comes to external devices, in Germany it's quite common to see various scanners, plotters, video and audio digitisers connected to the ST. What might surprise an outsider are certain devices which even the ubiquitous PC doesn't dare approach.

An example of this is provided by DMC, the makers of now legendary Calamus, with their hardware interface



for Linotype printers. Linotype is a 2,000dpi (dots per inch) professional typesetter, with a £30,000 price tag, producing the high resolution output needed to create publications like the one you are holding now.

Thanks to this interface, various design studios now provide a service where anyone can walk in with an ST disk and they will print it out for you! In my town alone there are two of those, one of them only three houses away.

So after I used Calamus to design my own calling cards all I needed to do was put on my slippers and walk over with my ST disk in hand. And out comes a 200dpi master. Believe me, it doesn't get any better than this...

LEGENDARY

The story of Atari in Germany would not be complete without mentioning one dominant computer show – the yearly show in Dusseldorf. With an average of 30,000 visitors and held in two large halls, this legendary event is a must for any serious Atari fan.

It was international from the very beginning but it started out small. However, it went from strength to strength. Walking the corridors of high resolution monitors and every application you can think of you could be forgiven for thinking you're at some PC exhibition.

The Dusseldorf show also organises various seminars offered simultaneously at multiple locations with subject ranging from DTP to Midi to exotic programming techniques.

Telecomedians. That's what the



being very versatile (data, fax and digital voice recording!) – has a commendable policy regards user support.

Sporting a 68000 and two DSP chips, the modem is effectively run from software which makes upgrades to new features a matter of replacing the ROMs.

Unlike their competitors, ZyXEL are not paranoid and allow ROM upgrades to be uploaded to any bulletin board so people can burn the EPROMS themselves! Now that's what I call service!

Although Compuserve has local numbers here, it's not very popular and there is also no home-grown CIX equivalent in Germany. This is clearly due to restrictive German Telecom policies and pricing. Instead, the grassroots networks run by amateurs are much more common and due to German efficiency just as professional.

MOUSNET

The most respected of these is the MausNet. Originally set up by electronic students in the city of Aachen many years ago it spread all over Germany and is today to a large extent full of Atari enthusiasts.

The MausNet also has gateways to various other worldwide networks. For example, on my local node KR in Krefeld I can read CS.ST.TECH or CS.ATARI. Anybody who's somebody in the Atari community in Germany is on the MausNet.

The icing on the cake is Atari Germany BBS which is also a node on the Maus network. This BBS has a number of confidential conferences to which only developers have access.

For example, this is where I download my latest TOS versions and developer documentation from. I'm not alone in this either, as the board also serves as a hub for the rest of Europe's Atari subsidiaries.

The sysop is Normen Kowalewski, an Atari employee with a considerable ST

history. His accomplishments as a developer have resulted in Atari Germany offering him a job as a developer support person a long time ago.

Normen is an Atari fan and it shows – you can talk to him about anything and he knows what you're talking about. Another good reason why developers in Germany come up with such software miracles.

For the serious Atari user there are three major magazines. *ST Computer* and *ST Magazin* are the old-timers. The new kid on the block, recently celebrating its third birthday is *TOS* (no I don't know how they get away with that name either).

The German magazines are quite different from the British ones. In a way that is understandable since all magazines reflect their local markets up to a point.

A magazine here is usually very technical and extremely competent. Although there was a recent move away from assembly to C, the magazines still contain a lot of "nitty-gritty" articles which magazines elsewhere would most likely consider too exotic or too technical.

Obscure programming subjects and hardware projects are not uncommon, on the contrary, they are regular features! It just reflects the higher techni-



Music software still streets ahead on Atari computers

Germans call their telephone company Deutsche Telekom. This monopolistic dinosaur with its legendary user hostility would make even the most arrogant Communist regime look pretty tame.

But in spite of all that and a relatively slow start, today the BBS beat in Germany is very healthy. The most popular modem (unapproved, of course) is without any doubt the ZyXEL.

The what, I hear you cry! This American high speed modem – besides

Holding on in Holland

The Dutch ST market is very similar to the German one. Being very talented polyglots the Dutch are at ease with both German and English software getting the best of both worlds.

The ST is usually used as a data entry machine at various universities and research centres. This exposes the people to the professional side of the machine. Today the Dutch are just as keen on the Falcon as the Germans are.

The Netherlands is also the place where the original Galactic Hacker Party was held. With participants from all corners of the galaxy, well... Earth at least, this party is a mix between a computer show and a hacker gathering.

I must point out that I use the word hacker in its true meaning, ie a programmer who explores and pushes the machine to its limits. Among other events, the Party has long programming sessions with people competing to create the best demo in a given amount of time.

Although the Galactic Hacker Party is not limited to any one computer, the ST always features prominently.

All in all, the ST has been suffering from cheap PC competition in the Netherlands just like everywhere else but it's still holding its own in the music stores. There are still quite a few Atari dealers around.

The ST magazines in the Netherlands are quite numerous for such a small country which only indicates that support is still strong. *Atari ST*

Nieuws is a tabloid-sized newspaper published by the Atari ST Computerclub Nederland every month. Even though it's printed on plain newspaper it's extremely well informed and a good read.

I often joke that it has the news even before it happens. *ACN* also has one of the largest public domain libraries with new disks introduced in each issue.

ST is published by the non-profit making Stichting ST (which roughly means The ST Foundation). It's an independent magazine covering everything from applications to games. At about 60 pages per issue, it comes out once every two months.

Start is an all-round magazine also appearing every other month. It can be subscribed to with or without a floppy. This one also averages about 60 pages per issues and seems to be the favourite among programmers because it contains in-depth articles on various aspects of ST programming.

The ST is also well supported by a number of Dutch companies. To name only a couple: Compo is one of the biggest, already selling a Falcon program called Musicom for sampling of music in CD quality and hard disk recording with a number of effects including the karaoke mode.

Mopro is another with a range of products, the most interesting of which is probably a mini hard disk the size of a car radio with capacity of up to 240Mb.

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cal knowledge of the average reader here.

TOS is the only mag to come with regular disks glued to its front. It used to be generally looked down upon since it's much lighter reading than the other two. However, it has been considerably maturing of late and also catching up with very thorough and comprehensive articles presented in a several series.

Most German companies, both hardware and software, developing products for the ST have only about ten employees. The German market is large enough to support this type of company quite comfortably.

In many cases, the software is written primarily for the local German market with the English versions created only after a foreign distributor has been found. This has been changing of late as more and more software is also made available in English in order to expand the market.

The new EC regulations also make it easier to sell products directly from Germany into any other EC countries like the UK without the hassles of customs.

Users outside Germany are not often even aware of the fact that the software they are using is German in origin. Some big hits are well known such as Calamus, Tempus or GFA-Basic but did you know that Abacus books are translated from the originals published by Data Becker?

So here's a brief look at some German companies and their greatest hits. GFA-Basic, from the company with the same name, was one of the earliest success stories from Germany. Currently supported by Richter, the program is being completely rewritten to support all of the new Falcon features.

And the Falcon was still wet behind the ears as Trade iT released two programs for it. Chagall is a high-end image processing program using Falcon's True Color mode among others, while DigiTape is multitrack sampler/recorder with a number of

effects using Falcon's sound capabilities and the DSP.

Calamus and its colour sibling Calamus SL are the main products to come out of DMC. When the original Calamus was released it was given away for free with every purchase of early Mega STs. This Atari-organised promotion was perhaps one of the reasons why both were so successful in Germany.

CCD (Creative Computer Design) are not only responsible for Tempus which is well known in the UK, but also for a number of other programs such as Diskus (disk editor) and Tempus-Word (a full wysiwyg wordprocessor).

3K Computerbild concentrate on image processing. The flagship products are Didot Professional and Retouche Professional. This is another company that takes professional DTP seriously.

An outfit called tms (their lower case) also have a focus on images. Their most impressive programs are tms Vektor and tms Cranach Studio. tms programs handled true colour and 24-bit images even before the TT or the Falcon made an appearance, all thanks to third-party graphic cards.

Images are nice but STs are in an



Atari:
Holding out
against the
PC market

French go for colour

France is another thriving Atari market. The French are extremely computer literate, partially due to a deliberate policy of the French government.

For example, each telephone owner has a choice of a telephone book or Minitel. If you choose Minitel (effectively a small computer terminal) you also get instant access to various online services.

However, the French Atari market bears more similarities to the British than to the German. What this means is that a sizeable number of STs are used for playing games and the number of colour systems is very high.

However, there is also a solid developer market of professional software. The prime example of this is the development tools for programming the DSP chip in the Falcon.

A company called Brainstorm have written a DSP debugger utilising all features of GEM. The first public domain DSP programs also came from France such as the DSP Fractal program.

There are two major ST magazines in France. *ST Magazine* is the independent monthly which includes a disk with each issue. It's professional in outlook and tends to be aimed at developers and programmers.

The other is a relative newcomer, *STart Micro Magazine*. I say relative because this used to be the official Atari France publication called *Atari Magazine*. However, about six months ago it went independent. It covers all aspects of the ST and is half glossy, half newsprint – the latter is the middle section with program listings.

A healthy PD scene

This is where individual ST developers really shine in Germany. Many PD programs often match and supersede commercial equivalents. One area where this is the case is telecommunications. Programs such as Rufus by Michael Bernards and Connect by Wolfgang Wander are leaders in this category, and both are shareware.

There is also GEMRZSZ by Michael Ziegler for Zmodem downloads and uploads at speeds beyond those which the normal ST allows.

All this is now extending to the Falcon as quickly as the birds became available. A prime example of this is SUPER_78 which forces the Falcon into displaying higher quality picture by programming undocumented video registers.

And the authors are not even registered developers! There are also a number of other PD Falcon programs such as hard disk recording systems and graphic image converters for all Falcon modes.

even stronger position when it comes to sound. The absolute leader in this are Steinberg with their Cubase range of products. The new impressive reincarnation of the program for the Falcon is Cubase Audio.

But individual ST developers also make an impact. Take for example XBoot by Tassilo Nitz, now in its third reincarnation, which is quite popular in the UK.

It might come as a surprise but STs can occasionally be spotted on German TV doing a variety of tasks, from tabulating local election results to a Mega ST complete with a laser printer behind a stock market analyst during the news. And sports enthusiasts can still spot the Atari logo at various events.

CUT-THROAT

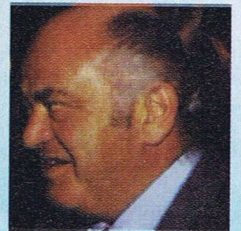
However, like all other non-industry standard manufacturers, Atari have lost some of their shine in Germany over the last couple of years.

The cut-throat competition in the PC market has made no-name PCs an attractive alternative in spite of a plethora of disadvantages that come with that unwieldy contraption.

But there is light at the end of the tunnel. A hardcore group of developers, those who made Atari the success they were the first time around, have taken to the Falcon in a big way. A number of other developers are also migrating over to Atari, such as orphan NeXT programmers.

Extending this to global markets, Jack Tramiel, the patriarch of the family, has taken a closer interest in the business of late and after some consolidation during the last year the things are back on track with Atari poised to rise again.

● From next month, Don Maple will be reporting from Europe on all that's new in the German, French and Dutch ST markets.



Jack Tramiel



With just a few minutes' instruction I created this masterpiece. Good eh?

Paintpot

Programmed by: Andrew McOwan

Available from: Goodmans International • Disk No GD1917

Picture this scene. You are an artist, a computer artist no less, but alas all the art packages are far too fancy and more to the point far too expensive for you to own.

You are now a frustrated artist and your artistic juices are just going to flow down the drain if you don't quickly find a cheap art program to exercise your talents on.

Fear not all you would be Da Vincis and Dalis, because if you own an ST then you are in luck. Paint Pot is a cheap and easy to use art package and almost embarrasses a lot of professional £80 paint programs.

Paint Pot has a lot of features that you would expect to see in an expensive, commercial package. Features like the fill, the pencil and the spray paint are all fairly basic, but Paintpot



The main control panel packed with more features than your average paint package

does include some more original features like the shatter effect which when used makes your picture look like a window that just been smashed. Not entirely useful, but a rather novel and interesting idea.

This program scores highly on the easy-to-use-o-meter. If you're a beginner at all this computer drawing and painting lark or a parent who is fed up of the kids scribbling all over the walls then Paint Pot is ideal. But be warned – by the time you've mastered it you'll want a blonde and busty paint package like Deluxe Paint that's all dolled up to the nines with features that you can only dream about.

Paint Pot is nevertheless an ideal program to introduce you into the world of ST art and as it'll only cost you a couple of quid you'd be a mug to miss it.

Video Base

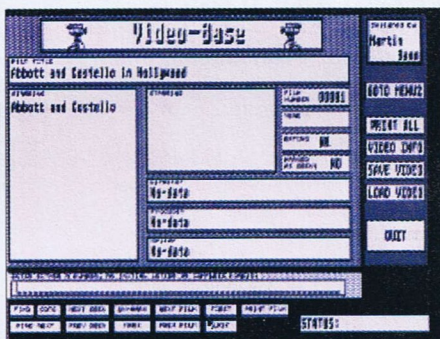
Programmed by: Martin Bann

Available from: Goodmans International • Disk No GD1907

Have you ever been sat watching a video and forgotten the name of the actors/actresses starring in the film you're watching? Or seen a competition in a magazine where one of the

PUBLIC

Cheap and cheerful. That's this month's selection of ST PD wisely scanned by the eyes of Jonathan Maddock. Sit back and enjoy!



Over a thousand videos are included on this demo packed with more information than you can shake a stick at

questions asks you about a film and you can't think of the answer? Well, bang goes that dream holiday and expensive sports car.

Well don't be a loser any more! You need never again forget that Sharon Stone once appeared in Police Academy because Video Base could be the PD program you and your square eyes have been looking for.

Martin Bann, the creator of Video Base says the reason he wrote the program was so that he could easily find information about a film.

Martin also says that you can use Video Base as a reference source as it is quicker than a reference book, and you can do global searches. This version, which was released into shareware, contains approximately 1,000 film titles and will work in mono or colour with a minimum of 0.5Mb of memory.

Each film title contains the following information – the film's title and certificate, the year it was made, the main cast, and finally the direc-

tor and producer. The full-version contains over 3,500 films and will cost you a fiver. If you would like to see Video Base changed in any way, you can write and drop Martin a line. But to save the price of a stamp I'll tell you what needs changing to make the program even better.

The most noticeable omission is the fact that you can't edit any of the information and you can't add your own film titles, although among the thousand that are included are a whole bunch of classics such as The Empire Strikes Back, Easy Rider, King Kong, Jaws and even the complete series of Emmanuelle videos.

If you're a film and video buff and your thirst for movie information is killing you then send off for Video Base today. But if you're just quite keen I'd hang on for a bit and see if a version comes out that lets you add your own films to the list.

Recipe Box

Programmed by: Anthony Watson

Available from: Goodmans International • Disk No GD1918

In last month's PD column there was a program called Assistant Chef, and now this. Just like buses, you don't see a PD cook book for ages and then two or three come along at once.

Well never mind, it's always good news for those people who yearn for something different to fill their tums instead of baked beans on toast.

The Recipe Box might not be as colourful as Assistant Chef, but it's more comprehensive and has a few more interesting features.

Each of the recipes on the disk can be classi-

Fatemaster

Programmed by: Animalsoft

Available from: L A P D • Disk No G251

Animalsoft, the creators of SimPig and Colour Clash are back this time with a spaced out alien fantasy role-playing game entitled Fatemaster. The action centres around the world of Tanoi where there is a war raging on between the evil Swocki and the harmless Gallucks.

The leader of the Swocki is called Phenocles and he plans to take over the universe. The Galactic Council decided to put a stop to Phenocles's plans and send their best agent to save the universe.

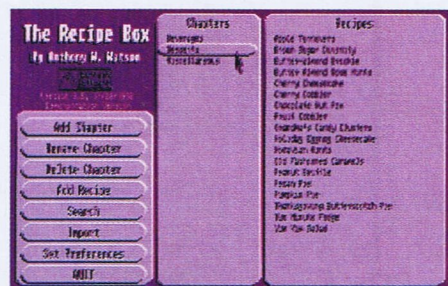
Tsin-Fei is the hero – he's sort of like James Bond, except he has blue skin, and with his blue trunk he looks a bit like an elephant in a trench coat.

The graphics are really basic, but don't let this put you off – they do look really nice especially when Tsin-Fei finds a bunch of slaughtered Gallucks with disembodied heads flung all over the place. Everything is well drawn and looks rather like a cartoon. There are a few nice touches in there such as Tsin-Fei lighting up a cigarette while you are busy looking in his inventory. You get to



Here's Tsin-Fei – the hero of the game. Shame about the blue trunk though

sector



The essential PD program for those with a healthy appetite

fied and put into a chapter. This means that you can put all your dishes altogether under one heading, so that they are easy to find. For instance you can put all your desserts together, so that you don't have to search through the whole program looking for a dessert to make.

Right, let's say you want to prepare a dessert. First thing you do is look through the chapters until you find desserts and click on it. On the right-hand side of your screen appears sub-menu which lists all of your desserts.

I want to make Pumpkin Pie, so I click on it and after five seconds of loading the recipe is flashed up in front of your very eyes.

The recipe is set out very clearly and is easy to read. The ingredients list appears of the left of the screen and the actual instructions on how to make the dish appear on the right.

If any of the lists are longer than the screen then you can scroll up and down through the recipe using the mouse. At the top of the screen are a set of buttons which when clicked on enable you to modify, delete and print the recipe. They also let you search for other recipes and go back to the main menu.

One of the best features is the import function which lets you use recipes from other cook book programs such as Assistant Chef.

Unfortunately it is disabled on this version, but send some money to the author and you

will receive a fully updated version with all the features included.

If you're into cooking the Recipe Box is the ideal program for you. Now for a feast.

Football Tactician

Programmed by: Camy Maertens

Available from: Goodmans International • Disk No GBU113

If you're football mad then this PD package will keep you entertained and happy while you're sat in the asylum doing nothing.

The program is very similar to Championship Manager, but doesn't have half as many features and is not as stylish. Remember Football Tactician is PD and for a couple of quid you can't beat it for sheer value for money.

It's well presented even if it is on the basic side. It features the First Division clubs rather than the more popular Premier Leaguers, which will no doubt please a lot of genuine football fans.

It is controlled via the mouse and centres around four menus which are situated at the top of the screen. The first allows you to save and load your game and start a brand new season. You also have the option to edit the game in



Some hot action from the First Division in this great PD management sim

fight other creature such as spiders using a method that is commonly used in actual board game role-playing. When you touch an enemy, you are flung into battle and you have the option to fight or escape, though you only get a 50/50 chance of running away from a battle.

If you decide to battle then you have to choose a weapon to fight your enemy with. You start off with a pistol and a couple of grenades, but more weapons can be found later on.

Each character has a certain amount of hit points and each attack takes points off the creature. You continue to do this until the creature dies and you get some gold.

Tsin-Fei starts off with 20 hit points, but these can be replenished via a vitality potion that can be bought off dodgy aliens that hang about in the alley-ways on the world of Taofoi.

Fatmaster at first looks incredibly bad, but spend more than five minutes on it and you'll become engrossed. It's just as playable as anything else on the PD market and if anything is a lot more fun than some commercial games.

Animalsoft games just seem to keep getting better and better. An essential purchase.



Fun-packed action is guaranteed



Wait a second, this is called Shipwreck, where did all the snow come from?

whatever way you wish.

The action menu lets you join, select and leave the club you're managing. It also lets you play friendlies, start the forthcoming match and – once you've played – it lets you replay it, so you can watch the action all over again.

The other menus let you change the options. You can examine the league tables, forthcoming fixtures, the transfer list, top scorers and, of course, the all-important results.

One the best little features is the teleprinter which tells you a whole host of information about other clubs and so forth and also includes a few witty comments about football in general.

Football Tactician is one the most impressive football manager games I've seen on the PD market and is highly recommended.

Shipwreck

Programmed by: Rob Hackett

Available from: Emerald City PD • Disk No SE5

PD education software is slowly becoming more and more popular with parents and teachers alike. Shipwreck is the only education package I received this month, but it's one of the best examples I've seen for a while.

Originally Rob Hackett invented the program to stop his daughter from always asking him to give her some sums to do. The program is basically a interactive story about a shipwreck.

For instance, the first stage is getting the passengers from the sinking ship to the desert island. The passenger will progress each time the child gets a sum correct. A wrong answer triggers something terrible – in this case a shark is involved! Anyway, it means you have to start again.

There are a number of difficulty levels. As an example, level one has a sum like $5 + 1$ while level five has a sum like $1262 + 1132$. The graphics aren't earth-shattering, but are more than adequate for this type of education package.

The whole thing was created using popular programming package STOS. Shipwreck is well worth buying and is a good introduction into the world of education PD.

Where to get 'em

- Emerald City PD, PO Box 28, Southampton SO9 7HS – Tel: 0703 672577
- Goodman International, 16 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent ST3 1SW – Tel: 0782 335650
- LAPD, 80 Lee Lane, Langley, Hleanor DE75 7HN – Tel: 0773 761944

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GENERAL

- GEN-02 ST-Tour (Specially for beginners) 'S'
GEN-04 Your 2nd ST Manual (A MUST) 'S'
All the little things (and some not so little) that our friends at ATARI should have told you but didn't. This is the manual that should have been supplied with your computer (at least in our humble opinion).
GEN-05 Adventure Writer/Skymap + 4 more 'D'
GEN-06 Archive Suite (back-up in less space) 'S'
GEN-09 ZX-81 Emulator + lots of programs 'D'
Back to those halcyon days of the ZX-81
GEN-12 Emulate (if you must) this forgotten unit Formfinder 2.1 (find a winner?) 'S'
If you like a flutter on the horses then maybe this program can help to make it profitable!
This is a Working Demo. Full version available
GEN-16 60 assorted samples (SPL Format) 'D'
GEN-20 Firstbase DB+7 more good programs 'D'
GEN-22 E-Plan (Electronic Circuit Designer) 'S'
GEN-24 Joke Database (Laugh with us!) 'D'
GEN-25 Quartet Samples II (730k of samples) 'D'
GEN-30 Film File Enquiry 'D'
With this unusual Database you can keep track of all your favourite Films, Actors, Directors etc. Lots of classic films inc
GEN-31 Data File (TV Titrer/Asst. Chef/Party) 'D'
Great value on this one: A Video Titrer and extensive Recipe/Instruction Database + a bevy of alchemical cocktails!!
GEN-34 Sozobob 'C' (language) 'D'
GEN-35 Spectrum Emulator (with programs) 'S'
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DEM-95 Wings of Death Music Demo
DEM-97 KLF Demo (House hit + dancers) 'D'
DEM-98 Star Wars Rap 'D'
DEM-101 Spinning Dolls + Shiny Bubbles
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DEM-84 Things Not to Do (EXCELLENT) 'D'
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DEM-67 Fish & Chips (GET THIS ONE) 'D'
Loads of excellent demos with some very funny interludes between them
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DEM-44 Kick Row (2 DISK SET £2.75)
DEM-43 Punish Your Machine (2 DISK SET £2.75)
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DEM-75 Dark Side of the Spoon 'D'
DEM-82 Wasted Years 'D'
DEM-70 Lifes a Bitch 'D'
DEM-54 Gateway to Hexland 'D'
DEM-48 Summoning the Spawn 'D'
DEM-100 The Run (animation from T. Richter) 'D'
This one is so much better than the original AMIGA version
DEM-55 Art Machine 'D'
Sit back and enjoy this stunning artwork

BUSINESS

- BUS-02 ST Writer Elite (Good Word Pro) 'S'
This is still one of the very best WP's around written and released into the Public Domain by ATARI themselves. This vers.4 is a must
BOS-03 EZ Text+ (Working DTP demo) 'S'
Working demo of excellent DTP program (Full Version Available) see ad for ZZ Soft
BUS-06 Opus (Professional Spreadsheet) 'D'
Best S'sheet available without a mortgage!
BUS-11 Deskjet Drivers (loadsadivers) 'S'
If you've got a Deskjet Printer and are in need of drivers, specific or general then this is the disk you're looking for
BUS-12 Fastbase (Excellent First Database) 'D'
BUS-16 Calamus Fonts (28 extra fonts) 'D'
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BUS-26 Organiser/S'sheet/Word pro +7 others 'D'
BUS-27 ALICE... Excellent Text Editor 'S'
BUS-28 Publishing Partner Fonts (8 + editor) 'D'
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- STE-05 Mental Hangover, Amiga Conv, 1 meg 'D'
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STE-07 Fantasia (not Tos 1.62/1 meg) +3 more 'D'
STE-08 Boing STE + Mini-Movie 'D'
STE-09 Slime Balls + An Cool Demo's 'D'
STE-10 The Tobias Richter Art Show 'D'
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MIDI-03 Create an album from 43 SNG files 'S'
MIDI-04 42 SNG files with CZ101 player 'S'
MIDI-05 to 08 Each disk has 40 SNG files 'S'
MIDI-10 CZ & DX editors & librarians 'S'
MIDI-11 Picture show with 10 midi songs 'S'
MIDI-14 Name That Tune + 111 midi files 'S'
MIDI-16 Sound Shifter... Yamaha PSS editor 'S'
MIDI-18 DX & FB01 editor & librarian 'S'
MIDI-21 Feeling Partner & EZ Track demo's 'D'
Working Demos of these two great commercial MIDI packages
MIDI-22 Super Conductor sequencer + utils 'D'
MIDI-09 32 Track Sequencer + utils 'S'

COMMS

- COM-02 Galactic Empire... Get on-line game... You'll need two ST's & null modem cable 'S'
COM-03 Vanterm 4.0 (best PD comms prog) 'S'
Still the best PD TERM program!!
COM-04 Uniterm (Excellent terminal prog) 'D'
COM-07 Freeze Dried Terminal 'D'
COM-08 View D/L files when off-line + 4 'D'
COM-05 D-Term with Z-modem module 'S'
COM-06 Mo-Term Elite (for buffs) 'S'

ART & GRAPHICS

- GRA-26 Crackart 'D'
No.1 in STR's PD Top Ten! This prog will process your pics in ways you will not believe: Curve, Twist, Wave, Tube, Palette edit, Dither, Animation and far more. Uses Degas, Neo & Tty format
GRA-24 Paintlux (full feature paint/art prog) 'D'
GRA-20 Kozmic (needs 1 Meg) 'D'
Create fantastic, colourful psychedelic patterns on your ST & save to disk
GRA-17 PAD (Mono Art program) 'D'
Absolutely the best Mono art package we've seen to date, many commercial features and the ability to hold many screens in memory (1 Meg min)
GRA-27 Mono Pictures (43 high-res pics) 'D'
GRA-10 Colourburst II (+ 5 other programs) 'S'
A very good little Art/Paint prog also on the disk: MAC to Degas converter Fine Line: art prog using Bezier/Spline
GRA-11 A.I.M. (Atari Image Processor) 'D'
Exactly what it says, if you can create an image on your Atari then you can process, add or alter it with A.I.M.
GRA-14 Ani-ST 'S'
Excellent Art & Animation package that started life as a commercial art program costing £89.95!!
GRA-31 Kid Publisher & Master Doodle 'D'
A DTP package + Art/Paint program both good starting points for the kids
GRA-32 Colourspace 'S'
This is another program that started life as a commercial package now released as Shareware by Jeff Minter. Create your own colour & light show. Turn up the music, sit back and be amazed
GRA-33 Sprite Works 'D'
Art Prog geared towards creation of Sprites for use in your own programs
GRA-28 Hi-res Art 'D'
4 programs & pictures for Mono users
GRA-1 Picswitch 7.0 (needs 1 Meg!) 'D'
Converts your pics between various formats and all screen resolutions
GRA-2 Play - IT 'D'
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☆ C-FONT

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TRAX-48 STOS Tracker (for STOS users) 'D'
TRAX-37 MUG AMIG 3 'D'
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technical letters • problems • suggestions

ADVICE service

Darren Evans, Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

Falcon questions

I, probably like many other ST owners, am considering buying a Falcon030 but have many questions which need answering. I intend to buy the 1Mb version when it is available and would be grateful if you could answer some queries:

1. Can I use my Protar 50DC hard drive with the Falcon or will I have to fork out for another hard drive?
2. I have a Stereo Master sampling cartridge and wonder if I will be able to take advantage of the Falcon's stereo abilities as is currently the case with my STE?
3. Considering the Falcon has a 1.4Mb high density drive, will I still be able to use standard, 720k disks with it?
4. Just how compatible are games with the Falcon? Can we expect major problems with compatibility?

J Heath, Warrington

Let's get right down to business with these questions shall we? Luckily for you, the Protar 50DC has a standard 50-pin SCSI output port and connecting it to your Falcon will simply require that you obtain a cable which connects the smaller SCSI 2 port of the Falcon to the larger SCSI port on the Protar.

It is doubtful that any cartridge software will work on the Falcon. The dongles that are supplied with Cubase and Notator are not recognised by it.

Anyhow, you don't need a sampling cartridge for the Falcon. The built-in ADCs and DACs can sample up to CD quality and only require software to use them. Also, although the developer version of the Falcon (the one that looks like an STE) has a cartridge port, do not count on the consumer version having one.

The 1.4Mb drive can will work perfectly with standard 720k disks. However, do not format

1.4Mb HD disks to 720k as they will not be reliable at the lower storage capacity.

When the Falcon arrived in our office, I immediately came up with an excuse for taking it home with me. When I got home, I dived into my games collection and pulled out two games at random.

These were *Dungeon Master* and *Ultima VI*. Both worked perfectly, with *Ultima VI*, which is rather slow when moving your character around on a normal ST, being a lot more playable due to the increased speed of the 68030.

There will be some games that don't work but there is a positive side to this. Consider the situation when the STE, with its enhanced sound, colour palette and hardware scrolling, appeared. There was some initial incompatibility with certain games but as time went on, newer games were written to work on both machines.

Unfortunately, because they worked on both machines, the extra features of the STE were ignored because there would essentially have to be two different sets of programs on the disk, one using the STE's hardware to scroll a screen for instance, and the other using slower software routines due to the lack of such hardware in the STFM.

Not only would development costs increase a little but more disks may have been required. So, the only cost effective option was to write games which worked on the most machines.

With the Falcon being a drastically different machine, software developers will probably take advantage of its capabilities immediately.

L-plate manual

Is it me (at the ripe old age of 54) or is the manual provided with the ST not very informative? I am totally new to computers and I was wondering if there are any books for beginners

available that can teach me more about how to use my ST.

B Matthews, Edinburgh

There aren't a vast number of books to choose from when it comes to understanding your ST but two of the best are *Your Second Manual to the Atari ST*, available from ST Club for £7.95, or, *The Atari ST Explored* by Kuma at £8.95.

ST Club can be reached on 0602 410241 and Kuma are available on 0734 844335.

Differing disks

I have recently upgraded my internal single sided disk drive to a whopping double sided model and also splashed out on an external double sided drive. However, I have a number of single sided disks which I now want to copy onto double sided.

Unfortunately, when I drag the disk A icon onto the disk B icon, I get a message saying that the disks are not the same and it refuses to continue.

The only other way to copy my files to a double sided from a single sided is to drag the files off the single sided by hand. This is more time consuming because there are lots of files on my single sided drive and the window isn't large enough to list them all so that I can drag a box around the lot and drag them to the disk B icon. Is there some way around this problem?

P Allen, Yorkshire

The reason the drag disk A to disk B copy method doesn't work is that this instructs the ST to duplicate the disk rather than duplicate the files. The net effect is that the destination disk must be formatted identically to the source disk.

There is a way around this though. With your destination disk in drive B and your source disk in drive A, double click on the disk B icon to open its window.

Next, drag the disk A icon into disk B's open window and the entire contents of disk A will be copied to disk B without any hassle.

FAT man speaks

Forgive my ignorance but when listening to conversations about drives and files at my local ST computer club, I keep coming across the term FAT. I am a struggling beginner trying to learn all the techno speak which is bandied about at the regular club meetings and if you could tell me what it stands for and what it actually is, maybe I can impress one of the many young ladies who attend.

K Richards, Plymouth

Well Mr Richards, to put it simply, the term FAT

Got a problem?

Are you at the point of taking an axe to your ST? Do you want to pulverise your printer? Well just count to ten, take a deep breath, then jot down the problems you are having, along with a detailed description of your setup.

Include information on the type of ST you have, the TOS version (if known), what peripherals are attached and any extra hardware that lurks inside your computer (accelerators, graphics cards and so on) and I'll do my very best to come up with a solution.

For those who have had problems and overcome them, chances are that someone somewhere is having the same problems and would benefit from your advice. So, get in print and send any tips or suggestions that other users may find helpful.

Send all tips and cries for help to: Darren Evans, Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP.

Printer drivers explained

From all the letters I receive about printers, the majority of the problems encountered can be attributed to two, usually combined, reasons. First, the printer in question is second-hand, and did not come with a manual. This, more than anything is an immediate problem.

For one thing most printers come with DIP switches which, in general, determine the initial mode which the printer powers up in. Therefore, if the manual isn't available, it's not possible to know how to configure the switches to the appropriate settings.

Then there is the problem of support. If the printer is being used with a wordprocessor program, the correct printer driver (they come with most wordprocessors) must be selected.

Now printer drivers are, in the large, misunderstood by many people, so I hope that the following explanation clears things up a little. First, some background.

There are many, many type of printers available – dot matrix, daisywheel, inkjet, laser, bubblejet, electrothermal, electrostatic. Furthermore, these groups may be subdivided. For example, dot-matrix printers are available in 8,9,18, 24 or more pins.

A 9-pin dot-matrix printer has, funnily enough, nine pins on its printer head, which strike an ink ribbon to form an image on the paper beneath. Compared to a 24-pin printer head, a 9-pin head will produce larger dots, therefore, a printer head on a 24-pin printer will be able to move, vertically

or horizontally, in smaller increments than a 9-pin. Such aspects determine the overall resolution of the printer.

In a crowded market, printer manufacturers will often endow their model with extra features over those of its competitors. Features such as different fonts, either built-in or available as a plug-in cartridge, are one example. Also, text attributes, such as italics, bold and underline are common to most printers.

With all these features offered by the printer, the computer has to send control codes in order to select the various fonts and attributes. In the case of dot matrix, a subset of Epson's escape (ESC) code sequences are used.

There are some universal escape codes, for example, ESC 4 switches on italics, but a code to move the printer head a specific amount will be different given the various number of pins a head can have.

Programs such as wordprocessors offer various ways of inputting the control codes necessary to change the layout or text attributes of a document. Most tend to accept the commands via keyboard but mouse selection is also used.

Also, these codes are usually embedded in the text and are represented either by a specific character or even by a wysiwyg display, which actually shows the font or attributes in effect, such as bold, on screen.

With the even more acute diversity of programs, including their equally diverse human programmers, it is hardly surprising to find that they all have different ways of

achieving the same thing.

For a hard example, the excellent word-processor program Protext uses an inverse letter b on screen to signify text which is to be output as bold.

If you save the document and subsequently view the document file using a disk editor, which shows hexadecimal values, you would see that the numeric value for this 'bold on' code is 05 E2. If you then took it upon yourself, armed with your faithful disk editor, to investigate the many other documents saved by other wordprocessors, you will inevitably find they are not the same.

It therefore becomes apparent that some method is needed for programs to communicate with printers and their many differences. Hence, the need for a printer driver.

One common misconception is that a printer driver is an active program controlling the printer. This is not so – a printer driver is merely a data file and is best thought of as a translator.

Most quality programs which output to the printer come with a collection of printer drivers and most programs allow the user to specify which driver is to be used.

So, if you find yourself buying a printer, first of all make sure the program you wish to use it with supports it. If you are getting a second-hand one, make sure the manual comes with it too.

As a last resort, check out the public domain libraries for disks which have a collection of third-party printer drivers for the program you are using, there are quite a few available.

stands for File Allocation Table and is a data structure which represents a map of all the disks clusters (a cluster is the smallest unit of storage used by TOS and equates to two sectors, or 1,024 bytes). This map enables TOS to know where to look for a specific file.

Try quoting that to one of the ladies at the club and you may indeed impress her. But be sure not to mention your floppies or things may get embarrassing.

More disk info

I am familiar with the various components – FATs, boot sector, directory and so on – but where are they placed on a disk?

M Mills, Felixstowe

I say, there's a sudden interest in disk structures this month. I will assume that you are referring to double sided drives Mr Mills, as single sided drives are practically extinct by now.

Position	Description
Side A, track 0, sector 1	Boot sector
Side A, track 0, sector 2-6	FAT 1
Side A, track 0, sector 7-9	FAT 2
Side B, track 0, sector 1-2	FAT 2 again
Side B, track 0, sector 3-9	Directory
Tracks 1-79, sides A and B are where file data are stored.	

Desktop capers

I am led to believe that you can change the name of the trashcan on the Desktop from TRASH to a more British version. How do you go about this?

A Wilkes, Gwent

All you need is a text editor. Simply load the DESKTOP.INF file into the editor, search for the word TRASH and replace it with your own version. Then save the file and when you next boot up, hey presto, TRASH has been trashed.

GDOS mystery

What does GDOS do?

E Masters, Newcastle

Well this is what I call a succinct letter. GDOS, Mr Masters, is an extension to the ST's operating system which allows multiple fonts to be used and also output to a variety of output devices. Without GDOS, you are restricted to the three system fonts that are built-in to the ST.

Das Boot

I am learning to write in assembly and hope to create my first demo soon. I would like to know the structure (in byte offsets please) of the boot sector so I can create bootable

disks for my demo.

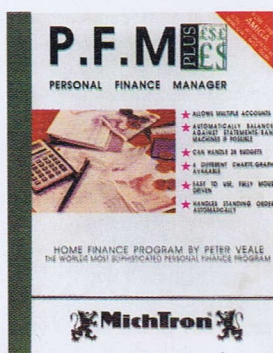
C McCormick, Dublin

Hope you are pleased with our CoverDisk giveaway of Devpac 2 Mr McCormick, I'm sure you will find it a great improvement over Devpac 1 which you mention you are using. Now here comes that boot sector info:

Byte	Description
0-1	Boot program branch instruction
2-7	"Loader" or formatter name
8-10	24-bit serial number
11-12	Sector size in bytes
13	Cluster size in sectors
14-15	Number of reserved sectors
16	Number of FATs
17-18	Maximum number of directory entries
19-20	Total number of sectors
21	Media descriptor byte (not used)
22-23	FAT size in sectors
24-25	Number of sectors per track
26-27	Number of sides
28-29	Number of hidden sectors
30-509	Space available for short boot program
510-511	Executable checksum flag

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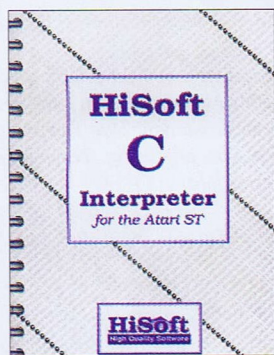
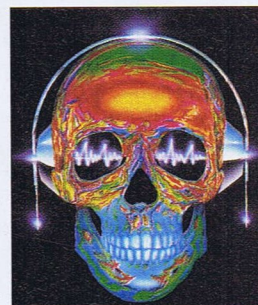
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The release of the Falcon has been surrounded by much talk of its audio capabilities and the vast number of applications for its on-board DSP chip.

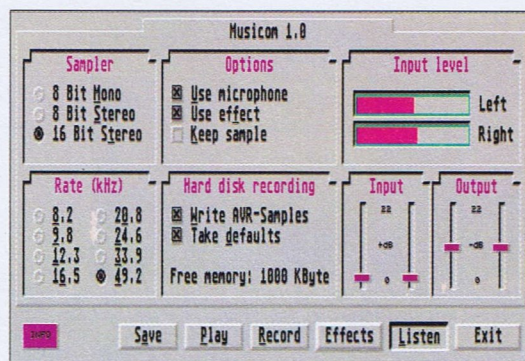
Indeed, the DSP can be used to generate sound effects like reverb and echo in real-time. When used with a hard disk, it is possible to record, or sample sound direct-to-disk.

This opens many opportunities for recording studios and musicians who previously could not afford a digital recording system.

Compo, a company renowned for high quality products like That's Write and Write On, did not have professional musicians in mind when they developed Musicom. Instead, they created a music program for everyone – digital recording and sound processing for less than £50!

GETTING STARTED

The main screen is a colourful dialogue where all the major options can be accessed. Musicom is already set to use the best possible settings as far as sound quality goes, so getting started is simply a case of plug-



The main page – all main functions are only a button or a key press away

Analogue recording gets another nail in the coffin, as an affordable 16-bit direct-to-disk system arrives for the Falcon.
Ofir Gal reports

The digital solution

ging in your CD player or personal stereo.

There are various options enabling selection of sampling rate and file formats as well as access to the most exciting feature of Musicom – the digital effects section.

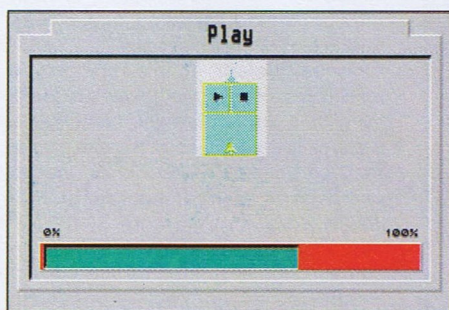
Just like an ordinary cassette recorder, input levels must be adjusted to obtain optimum sound quality. This is done by pressing the Listen button and adjusting the sliders on the bottom right of the dialogue box.

A stereo level indicator is available to help you judge the sound level. The Falcon's built-in speaker can be used to monitor the music, but much better results can be obtained by plugging in

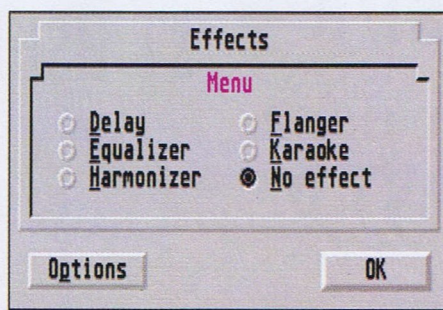
a pair of headphones or by connecting the audio output of the Falcon to a hi-fi system. Any distortion resulting from too high level settings can be heard before recording. The effect of changing the sampling rate, for example, can be heard instantly without having to record the music first.

LARGE FILES

Pressing the Record button opens the file selector where you can name the sample file. Audio sample files can be alarmingly large – a ten-second stereo sample at the maximum sampling rate of 49.2kHz requires 2Mb of disk space which must be on a single partition.



The fuel gauge shows playback progress. The left button starts playback and the right button stops it



A selection of digital sound effects are available both when recording and on playback

Needless to say, a hard disk or a very large RAM disk is required; a floppy will just be too slow anyway. Following that, a small dialogue box appears and clicking the left mouse button starts recording.

This will continue until you press the right button or no more disk space is available. Playback works in a similar way and the sound quality is truly astounding – it simply has to be heard to be believed.

Karaoke is going to be a very popular feature of Musicom. Using some clever digital signal processing trickery, vocals can be almost totally removed from existing recordings.

This only works on stereo material, especially when the vocal is panned to the middle and most instruments are panned left and right.

The process is not automatic and requires the user to adjust two sliders which can be a little tricky at first. After a little practice, I managed to considerably reduce the level of a lead vocal track.

Unlike the manual claims, the Karaoke mode affects the overall sound of the music. After all, completely removing any part of the music is impossible. You can then plug in a microphone and sing over the music.

FRIENDLY INTERFACE

Musicom is a nice little program that utilises the new features of the Falcon rather well. It also provides users with a friendly user interface – simple dialogue boxes, keyboard short-cuts and on-line help. It is also very stable and did not crash even once during the review period.

The manual is quite good but the English translation from German be better. It does explain rather well and in simple terms what sampling is and how each effect works.

Some of the effects like the flanger could benefit from a few more parameters to play with and digital reverb should have been included. Next update perhaps?

BOTTOM LINE

FEATURES

To be commended for its effective use of the Falcon's special features – not to mention the exciting digital effects.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

A badly translated manual does little to detract from the clear way the programmers have thought this package through.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Digital recording direct to disk for just £50... now that's what I call value!

Excellent
Good
Average
Bad
Appalling

Product: Musicom
Supplier: Compo Software, 7
Vinegar Hill, Alconbury,
Weston, Huntingdon
PE17 5JA
Telephone: 0480 891819
Price: £49.95
Configuration: All STs and TT

Until now, the only choice for those wanting bitmap and vector graphic capabilities in a single program has been Megapaint Professional. There is good reason for combining the two – you only have to learn one interface and you don't need to exit and reload if you want to create different types of graphics at one go.

Megapaint, however, stops short of being able to combine both types of art in a single file – it is a program with two distinct modes and no sign of an autotracer to help bridge the gap.

Arabesque Professional, on the other hand, introduces a new graphics format called AOB. Though primarily a vector format, bitmap images can be included as objects, although only mono images are supported at present.

Arabesque isn't new – I was given an early version at a show in 1991 – though it hasn't been distributed and supported in the UK until now.

It is still being developed further, however, and the manual promises true colour support, multiple windows and advanced font handling in a future release, presumably in a Falcon-compatible version.

TIME-SAVERS

The manual is a comprehensive 171 pages of A5 in a smart ring binder with a matching box. It is well laid out with effective index and contents pages. There is also a list of keyboard shortcuts at the back to save you wading through the bulk of the manual itself. It's surprising how many programs don't include these rather obvious aids.

Up and running, Arabesque displays an unusual interface. The drawing area is a window with horizontal and vertical scroll bars and a status line along the top with cursor position and page size.

It isn't a GEM window though, and it can't be resized. As there's no menu bar, you can't access desk accessories except via the toolbox icon.

There is no GEM menu bar either, only a floating toolbox accessed by clicking the right mouse button. It pops up wherever the pointer happens to be, which is a neat touch.

The toolbox is also much the same whether you're in bitmap or vector mode, which can be confusing at times, and some of the icons take a little time to get accustomed to. Another nice



Well-behaved program – memory options in Arabesque

Finding it hard to decide whether you need a vector or a bitmap graphics program? Andrew Wright looks at Arabesque, a new package that offers both

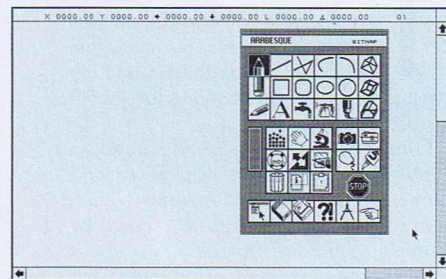
feature is the custom file selector that lets you erase, rename, move, and copy files and format disks. It's almost as good as the others like UIS, so the fact that you can't use your normal replacement file selector shouldn't be a problem.

There is also an extensive list of keyboard shortcuts for those who prefer them and a novel facility for choosing the exact size of the page to match your printer's resolution.

All the drawing tools are accessed by clicking the left button, but clicking the right button brings up related dialogues. For instance, left clicking on the draw circle tool, in either mode, results in a dialogue box that offers options for line width, ending (three types, including arrowhead), style, fill pattern, and drawing mode, including replace, transparent, XOR or inverted.

This holds for both bitmap and vector modes and the two are so similar it's often easy to forget which mode you're working in.

Drawing aids are confined to a user-definable grid but there are no help lines as in Didot Lineart, which is a pity as they are extremely useful tools for aligning objects and constructing regu-



The toolbox in bitmap mode showing a range of composite tools

Best both

lar shapes. In bitmap or paint mode there is a wide range of composite tools, including squares, rectangles, rounded rectangles, ovals, polygons and triangles.

There are two different types of smoothed curve, elliptical arcs and standard Beziers. In the preferences menu you can select 3D mode which lets you add an apparent third dimension to polygons, squares and triangles.

There is a much wider range of fills than any other art package I've come across. There are three fill palettes of 36 fills, the first being the standard GEM selection and the other two represent various shades of grey.

The second provides a range of greys from around five to 95 per cent, while the third palette contains similar shades made up of much coarser dots, almost like halftones.

BLOCK TOOLS

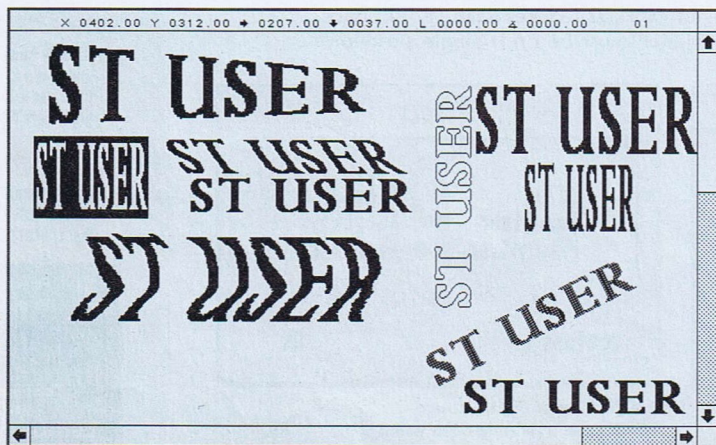
Arabesque's block buffer is a powerful tool for messing around with images and creating some rather good special effects. It works in a similar way to the block function in Degas Elite – once a block is selected, it can be distorted, resized, skewed, rotated or otherwise manipulated.

More unusual features include smoothing to eliminate jaggies, contouring, patterning, bending and pulling (just like adding perspective).

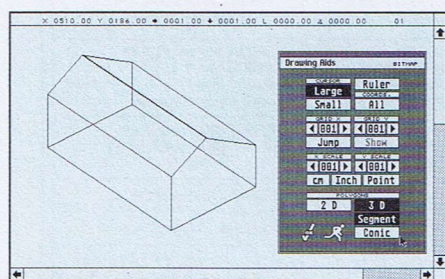
Arabesque can handle only bitmap fonts (three are supplied) which is something of a disappointment. Nonetheless it can utilise high quality Signum format fonts or standard GDOS ones, though only five can be used at a time, or six if you include the system font.

A separate utility is provided to convert Signum fonts into the correct format.

Perhaps the most exciting facility is the gradient and image fill function. Any shape, regular or freehand, can be

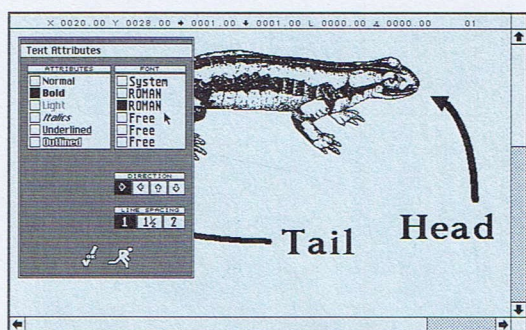


Some of the block functions that are available at the press of a button



Three dimensional objects can be drawn very quickly in bitmap mode

of worlds?



The text handling is restricted to 2, 4 or 16 times although page views are possible too. Other features include a spraycan with up three combinations each of speed and size, a paintbrush with up to 24 different brush patterns (you can create your own too), a pencil, eraser and lasso function. There's also a limited undo feature for mistakes.

filled not only with a pattern, but with a gradient fill or even another image.

Gradient fills are "washes" of grey that change shade gradually from one end of the filled object to the other. In Arabesque they can be horizontal or vertical gradients in either direction. Holding down the Control key even produces radial gradients!

Magnification is restricted to 2, 4 or 16 times although page views are possible too. Other features include a spraycan with up three combinations each of speed and size, a paintbrush with up to 24 different brush patterns (you can create your own too), a pencil, eraser and lasso function. There's also a limited undo feature for mistakes.

Apart from Arabesque's own ABM bitmap format, it can import and export GEM IMG, Degas, IFF (mono only) and NEO plus STAD and Art Director files. The lack of TIFF or GIF support isn't critical as Arabesque works in mono, but it would still be useful.

In vector or object-oriented graphics mode, much the same tools are available although they work in a slightly different way.

All the familiar composite tools such as squares, circles and lines are there, plus editable Bezier curves. There are also Bezier polygons with different precision settings. Despite this, the vector mode has less exotic features

Getting started

The first surprise is that Arabesque comes on a single disk. There's plenty crammed onto it though, including several GDOS fonts, printer drivers and sample files. Installation can be carried out manually, by copying the required files across, or via a custom installation program that does it for you.

The installation is a little unhelpful. For example, it displays printer driver options one at a time so you have to make a decision there and then rather than glancing through a list to find a match.

Happily, the program runs just as well installed on floppy drive-based systems as on a hard drive. It only requires a 1Mb machine to run on but you will need a mono monitor.

This restricts the market slightly but makes it ideal for the serious home user as well as others looking for a DTP add-on or an all-in-one illustration package.

You can configure Arabesque to use all or some of your available RAM, storing up to 20 bitmap pages or six vector ones in memory at one time. This is particularly useful if you're running desk accessories, an Atari laser or perhaps even other programs in the background under one of the multitasking versions of TOS.

including autotracing, but they can't create bitmap images. Megapaint Professional costs an awful lot more and lacks some of Arabesque's more exotic features like gradient and block image fills.

I do have some reservations about the interface, though. Personally I like the GEM interface – it's what the ST is all about. Every time someone comes up with a clever alternative it only means a new set of commands to be learned and a different way of working.

Most programs can combine a GEM menu bar with a separate toolbox on the side quite successfully (look at PageStream and Hyperpaint, for example). With Arabesque you have to use the floating toolbox or nothing – there's no menu bar and no online help if you get stuck.

Although the program is undeniably fast – thanks to it bypassing the GEM screen draw routines – it isn't particularly easy to use and the reliance on a crowded and rather obtuse toolbox makes it very hard to get to know.

It's only an opinion though, and if you like the sound of it, there's a demo available from the ST Club on disk DEM47. I suggest you try before you buy – if you can master the interface, you'll be hard pushed to find a graphics package that will do as much as Arabesque.

POWER-PACKED

Unfortunately there is no icon – you have to remember to hold down Control, press Help and then follow the onscreen instructions – and there's no online help to remind you.

One very odd feature is the ability to convert vector graphics to bitmaps! Odd indeed.

In vector mode, Arabesque can load and save in GEM/3 or Calamus CVG formats as well as its own proprietary AOB one. The former option is a little too advanced for its own good as many ST packages like PageStream and Timeworks have problems with this revision of the GEM object format.

In overall terms Arabesque is a very classy product at a competitive price. Some of the tools, such as the 3D polygons and fills, are extremely powerful.

Didot Lineart and DA's Vector both have better vector graphics features,

BOTTOM LINE

FEATURES	Excellent	Good	Average	Bad	Appalling
Wide range of features and integrates vector and bitmap formats very neatly.					
EASE OF USE					
The interface is awkward and there's no help in sight, though the manual is fine.					
VALUE FOR MONEY					
Good value for a combined vector and bitmap package.					

Product: Arabesque Professional v2.15
 Supplier: HiSoft, The Old School, Greenfield, Bedford MK45 5DE
 Telephone: 0525 718181
 Price: £149
 Configuration: All ST/STE models with 1Mb and mono monitor

Eagle Software



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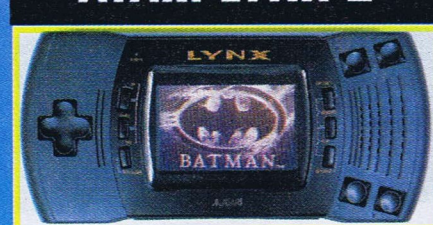
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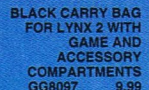
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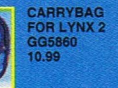
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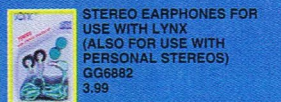


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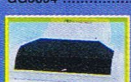


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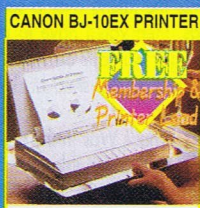
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Gamer GLOBE

Gamer ran down to London and, err got lost, but on the way they stumbled into the ECTS and took a swift look at all that is coming this year in the ST games world

Better late than never!

The biggest ST games news from the ECTS was the fact that Gremlin Graphics are making a version of Zool - Ninja Of The Nth Dimension for the ST.

This is great news for all Atari owners because it just goes to show what can be achieved on the ST. Why Gremlin didn't release it at the same time as the Amiga version is beyond Gamer.

Zool was released in September 1992 and rode on a wave of critical acclaim, receiving accolade after accolade. It rocketed straight to the top of the UK's Gallup chart, out-selling the number two game by four to one, and quickly became one of

the best-selling games of the year.

As far as arcade platform games go, Zool is by far the biggest and best released in recent times. On the Amiga, Zool featured stunning cartoony graphics, amazing and funky tunes, great sound effects, brilliant playability and was incredibly fast.

Zool was the platform of 1992 elsewhere and will undoubtedly be the best platform game of 1993 on the ST.

The levels are all different. The first is the sweets level which is made up of jellies, cakes and lollies such as Chupa Chups who incidentally were

the sponsors of the game. Expect a free lolly in your box - yum.

Other levels include the music



level which is made up of notes, hi-fis, trumpets and other various musical instruments. There is also a shoot-'em-up level where Zool can accumulate loads of points by collecting bonuses.

Zool - The Ninja From The Nth Dimension will be exploding onto your ST in September.



Empire strikes back!

Empire have returned with a couple of follow-ups to some old favourites.

The first is the sequel to Campaign, the Gamer Gold-rated World War sim. Wittily named Campaign 2, the game promises to be bigger, better and quite simply the military simulation of the year.

The whole system has been updated to include all the post-war vehicles - over 100 new 3D shapes from Abrams to T72s. All modern weapon systems such as guided missiles, rockets, homing missiles, laser range finders, gun stabilisers and night



sights have been added.

It also features animated infantry who can be deployed from personnel carriers into the battlefield. Also, you can now drive all of the vehicles in an improved 3D environment - including helicopters.

The real strength of Campaign 2 is in its strategy. Empire have been in long consultation with actual military strategists to improve the game to make it as real as possible. You now take charge of the whole campaign and view the progress of each of your armies.

Now you can control an army and manoeuvre your divisions within it, and also command your regiments.

Plus you can either control the whole battalion or you can just control one vehicle in a 3D battle situation.

Campaign was a massive success, but if you're a military simulation fan then it looks as though Campaign 2 will be the definitive war game for you.

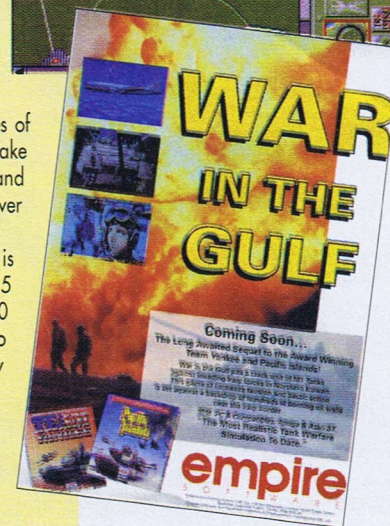
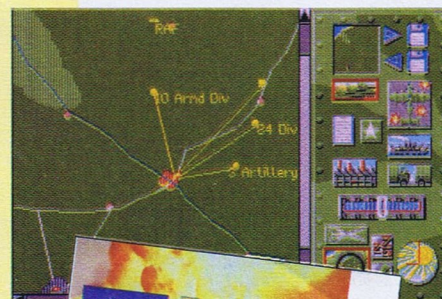
Empire's other "sequel" is War in the Gulf, the latest game in the Team Yankee/Pacific Islands

series of tank warfare simulators. It's due to be released any time now, so expect a review of it in the immediate future.

The game pits a crack unit of M1 tanks against invading Iraqi forces in northern Kuwait. War in the Gulf utilises the same computer technology which was previously used in Pacific Islands.

The player takes control of four groups of four armoured vehicles. The first mission involves the taking over a series of islands, then you'll have to retake two major Kuwaiti oil fields and push the Iraqis pushed back over the border.

Be warned! War in the Gulf is massive and it will take over 15 separate tank battles in the 400 square miles of oil field to achieve success - only the very best games players will succeed. Keep those binoculars scanned over the Desert because War in the Gulf could well be massive.



Fodder for the masses...

Virgin Games are out and about on the ST games scene with two releases hitting the streets before Santa comes and pays you all a visit.

Arriving this Autumn is Cannon Fodder, wonderfully sculptured by those wacky lads down at Sensible Software.

The handy press release has the caption: "If war is hell, get ready to play the devil." Cannon Fodder is a war game, but knowing Sensible Software it definitely won't be heavily strategy-based and, hey, it could even be a bit of fun.

At your command are over 300 conscripts with different skills. The idea is to choose a platoon of crack troops and send them to their deaths, err I mean battle.

There are 100 phases of action with 30 different missions and five terrain types, including an English country village.

Missions include rescuing the President from an enemy base to negotiating Arctic wastelands to find the scud missile factory which is surrounded by booby traps. It's all in a day's work for these troops.

You play the part of a military big cheese, who just like real-life gives out the orders to his troops from the comfort and safety of an armchair.

You can select a leader or simply send a lone soldier into battle and watch him get obliterated by machine gun fire!

When it comes to the sound front, Cannon Fodder gets top marks. Every single event has an associated noise and it's packed full of spot effects and spoken words galore. You can even



hear the parrots squawk in the jungle.

This looks like being a winner and will probably sell loads of copies on the back of Sensible Soccer's success.

Virgin's other release, scheduled for the summer, is the much-awaited

Apocalypse. The idea is simple - you take to the skies in a super-sleek helicopter and brave everything the enemy can throw at you.

There are five levels of hot shoot-'em-up action where bullets, flak, missiles and even the kitchen sink fly thick and fast.

This mindless mayhem is made even more incredible thanks to a range of stunning sound effects, such as machine gun fire and screams.

There is also a brilliant parallax effect which includes background and foreground objects to further enhance the unique depth of realism.

Miracle Games are handling the development of Apocalypse and they say the game will be a product almost worthy of appearing on a arcade machine.

The price is yet to be announced, but make sure you put it near the top of your list when you go out shopping for games this summer.



I'd just like to thank...

The ECTS Award winners were announced on Sunday April 4 at the Limelight Club in London. The only ST game which won an award was Formula One Grand Prix which happily received the award for Best Simulation.

Although ST games had nine nominations, the console and Amiga/PC markets dominated the awards.

The only award which applied to the ST was Software Publisher of the Year which Electronic Arts won despite being put against some tough opposition from Konami, US Gold, Microprose and Virgin Games.

The whole ceremony was hosted by Violet Berlin, presenter of ITV's fantastic *Bad Influence* television programme who Gamer learns did actually drop one of the awards by accident, ho ho.

Also present were various members of top re-formed pop combo Madness and almost everyone who's anyone in the computer games industry.

Let's hope next year that Atari, thanks to the Falcon, get one step beyond those consoles in the award stakes.

INNARDS

Summertime rolls...

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GRAHAM GOOCH'S CRICKET69

Happiness is a cigar called Hamlet...

INTERNATIONAL RUGBY CHALLENGE70

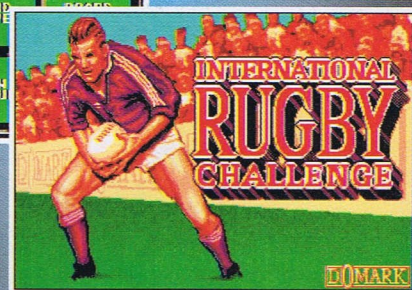
Sellotaped ears and bitter abound

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An athletic collection of sporting faves from Grand Slam

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Paul's favourite game gets an update



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All the latest news from the bustling Amiga games scene

CHEAP SEATS71

Get down the local discount shop with that Giro

BLAST FROM THE PAST77

The Pakistani cricket team might be interested...

CHEAT MODE78

We dish the dirt on Krisalis's war classic

Carry On up the Cyber

Cyberspace by Empire is a 3D role-playing game set in the year 2090 where massive corporations dominate the city. The name of the game in the future is survival and cybernetic implants are the norm.

Cyberspace uses the acclaimed bitmapped and vector 3D technology that was first pioneered in Team Yankee and Pacific Islands.

A full-screen, 3D view is overlaid with a head-up display that can be

used to display any information that you require. Inventory, weapons types, skill levels, latest video releases, football league tables – all can be looked at in detail.

The city where Cyberspace is set is spilt into 500 zones each with its own function. Each zone contains about 100 buildings that range from hotels to offices to shops. Each and every building can be entered and explored.

Net-running capabilities enable you to log on to computers and enter Cyberspace, the virtual reality representation of all computer-controlled systems in the game.

Surreal 3D objects represent computers, electronic doors and security devices, all of which can be manipulated by the experienced net-runner.

Yep, we don't know what the hell

it means either, but the screenshots Gamer saw at ECTS were certainly impressive and I expect we'll be previewing it very soon.

So, keep tuned to Gamer and you'll find out what this Cyberspace stuff is all about.



Fiery helicopter

Codemasters are back on the ST software scene and can you believe that the game doesn't feature that loveable egg Dizzy? Firehawk was originally one of Codemasters' smash hit American video games and involves players in daring land, sea and air rescue scenarios as they pilot the awesome helicopter known as the Firehawk.

Players use their skill to pilot the gunship through seven tough and challenging missions. The objective is to rescue paratroopers in conflict with armed forces, which are controlled by megalomaniac drug barons, on the Lafian Islands.

Firehawk is packed with power and bonus armaments can be accumulated as enemy installations are eliminated. It is viewed from overhead and features 360 degree scrolling.

Codemasters' Richard Eddy says: "Firehawk is certainly one of the most challenging games Codemasters has published as it combines many different game play skills – quick reactions, logical planning of missions and stealthy manoeuvring."

One notable difference between Firehawk and previous releases is the fact that it's not a budget game and actually costs £19.99. Firehawk should be available in the immediate future, so keep watching those skies.



That'll be D-Day

US Gold's D-Day was created by the same development team who were responsible for perhaps the ST's greatest beat-'em-up, Panza Kick Boxing.

This is a totally original combination of strategy and simulation. D-Day allows the player to re-enact Operation Overlord, when the combined sea, land and air forces of the Allies were used in the assault of the Normandy Beaches, heralding the liberation of France.

In D-Day the player takes over from General Eisenhower on the evening of the June 5 1944 to command the Allied forces in this challenging operation. The game includes four simulations – bomber raids, parachute landing, tank manoeuvres and infantry engagements.

Each of these has a train-

ing mode consisting of seven different missions of increasing complexity. The campaign itself involves 144 different locations, 129 of them to be distributed between the troops and 42 simultaneous engagements managed by the computer.

If you want to succeed in Operation Overlord then you'll have to participate in up to 100 missions, including ten bomber raids, 15 parachute landings, 35 tank engagements and 45 infantry engagements.

D-Day should be available as you read these words for around £30. It is 1Mb only.



Now before you turn off or turn over the page, just have quick look at the score box at the bottom of the page. Yes that right, it's a cricket game that's got a good score – a very rare animal indeed. Not only is it a good cricket game, it's probably the only one on the market at the moment.

I'm not really a cricket fan, mainly because I don't fully understand the rules of the game, so I wasn't the really the best person to do the review. Nevertheless I do understand the basic rudiments of the sport.

To begin with you have to choose the different players who are going to be in your team. The vast majority you will have heard of but in the event of your having no idea what they are like there are various statistics to back up your choice. Failing that, there is an icon you can click on that will choose the best 11 players.

It was this ease of use that attracted me to the game. You could pick it up without ever having seen a game of cricket and be able to play.

You can choose from any of the main cricketing countries so you don't have to play the England team and get beaten all the time. Plus you can make up your own teams if you don't fancy the look of any of the others.

Once you are well into the game, as with any sport, you can go to a little more depth. All of the batting and bowling averages are listed for you so you can plan what order your squad will play in and who will play and who won't.

It's all very civilised as cricket is supposed to be – to decide who is going to do what in the first innings you have to toss a coin.

What first drew me to Graham Gooch's was the fact that it was easy to play. In the past cricket games were reserved for fanatics because there was very little playability. Here the control methods for bowling and batting are very clever and well thought out.

When the other team is batting you have to control the speed and the angle of the ball. To start with you have a



It's flip the coin time...



Choose the best players from their batting averages

GRAHAM GOOCH WORLD CLASS CRICKET

In true English country gentleman style, Ben Styles chills out to the sound of leather on willow

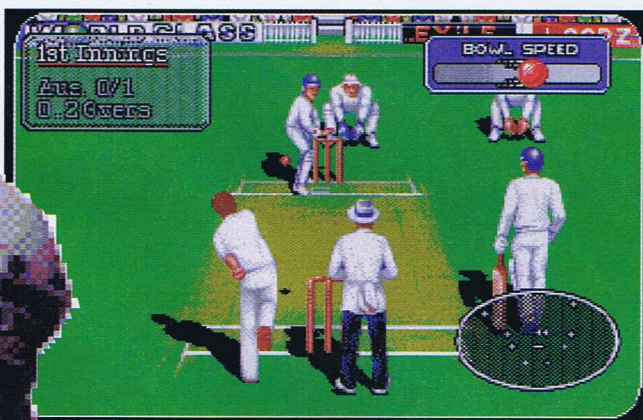
the incoming ball and press Fire and forward at the correct time.

It wouldn't be fair not to mention the hilarious tune complete with steel drums. Proper cricket music! The rest of the sound is just spot effects, nothing startling.

I liked Graham Gooch's because it

strikes a good balance between the arcade and strategy sides. It could have been a painfully dull and slow game but with some flashy graphics and not too many facts and figure it deserves a fair innings.

BEN STYLES



I don't know about you but I'd rather play cricket on the computer than have someone hurl a ball of leather and cork at me at 80 mph



The overhead camera shot – watch in glee as your shot orbits Pluto

VISION
GGGGGGGG

AUDIO
GGGGGGGG

DIFFICULTY
GGGGGGGGGG

LASTABILITY
GGGGGGGGGG

To me this is the definitive cricket game. If you like sports simulations then there is no other cricket program to get.

75%

Publisher > Audiogenic
Developer > Audiogenic
Disks > 1
Price > £29.99
HD Install > N/A
Size > 1 meg

Team Disk: Internationals 1			
1	England	12	
2	Australia	13	
3	West Indies	14	
4	Pakistan	15	
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8	Zimbabwe	19	
9	World XI	20	
10	South Africa	21	
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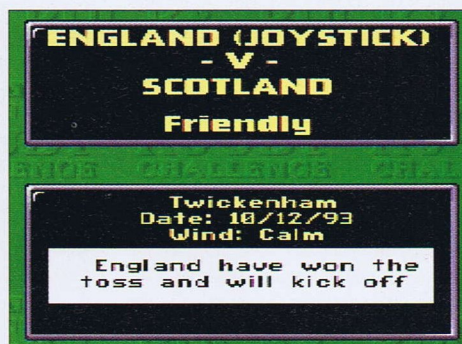
Choose you weapon, all the best cricketing countries... and England



The control screen - functional but not flashy



The managerial bit, in-depth enough if you want to get into the game but not to much to bog the gameplay



England's new all-stars team, England (Joystick) take the pitch

INTERNATIONAL RUGBY

Sellotape back your ears and grunt at people with Domark's latest...

A very timely release indeed this, with England steaming through the Rugby Sevens to win. It seems fitting that we should release a game and have a quick gloat.

But this respectable win doesn't take away the fact that you have to be six foot two, 15 stone and drink masses of bitter to be a rugby

player. If you are a ten-stone weakling and a coward to boot like me you don't want to be on the wrong end of huge bloke hurtling through the air with an odd-shaped ball.

So what can you do if you still want the excitement and the gameplay? Get the computer game, of course.

When I first booted up IRC I was impressed by the smoothness with which everything ran. The title screen and intros were very tastefully executed leaving you in a good frame of mind for the game.

The control screen isn't the most detailed I've seen but after a few minutes of fiddling you get the hang of what all the tools do.

One aspect I found very impressive was the use of hot keys on the menus - it's possible to just press the one designated letter of the option you want instead of waiting until your cursor gets over there.

By far my favourite aspect is the fact that you can play the game on different levels, so if you are purely interested in the action, you can completely ignore the management side and vice-versa.

If you just fancy going for a quick knockabout you don't have to take into account that three of your men are



Conversion time, be careful of the wind, it really does make a difference

injured and that you are in deep financial trouble - that is if you don't want to.

As soon as IRC came into the office it was a case of nudge nudge, wink wink, some plonker's made a rugby game.

But as it turns out they have made a pretty fair job of the control method. It's similar to many of the football simulations - the member of the team that you are controlling at one particular time is depicted by an arrow above his head. This changes as the ball move around.

As you probably know, you have to get the ball past the line at the end of the pitch and as near to the posts as you possibly can. Once this is achieved you can convert your try and gain more point. The conversion entails you kicking the ball from a set distance away over the crossbar but still between the two upright poles. In Rugby the conversions control is very similar to a golf sim - you have to click at the right time for the speed and power then you have to click for the aim.

To pass to other players on your way down the field there are two methods. You can either click your button quickly and your player will make a pass in the direction where a team member should be, or you can hold down the button and a target will appear.

You have to do this pretty quickly and aiming takes a bit of getting used to but it works in the end. As far as we could tell the

rules and the gameplay were almost perfectly faithful to the real thing.

There was the occasional discrepancy or niggle, for instance when the opposition kick the ball back into your half you men seem to run around it and not pick it up until the opposition have caught up with it. But apart from that IRC is a winner! Well done Domark.

BEN STYLES

VISION	GGGGGGGGGG
AUDIO	GGGGGGGGGG
DIFFICULTY	GGGGGGGGGG
LASTABILITY	GGGGGGGGGG
A fun and very playable sports simulation. It must have been a tricky thing to do but Domark have made a very good job of it.	87%
Publisher > Domark Developer > Domark Disks > 1 Price > \$25.99 HD Install > N/A Size > 1 meg	

The CHEAP seats

As we have been told for the last two years, the recession is ending. But we're all still skint, so Ben Styles gives us his three best budget buys for this month



International Truck Racing Zeppelin Platinum ■ £7.99

Could you really take a game seriously that boasted Realistic Tractor and Trailer Behaviour and Aerodynamics? I mean, come on, racing 38 tonnes of truck around a race way? It's not sport, it's a cross between suicide and a demolition derby.

When I sit back and look at ITR I think that it could have been made very fun. If the programmers had bothered to make it a bit more arcade and included bonuses or power-ups, maybe it would have basically been a Super Cars-type game.

But no, it's deadly serious – you even have to do a practice lap before you can race against the other trucks and you actually race on quite accurate circuits from around the world.

When you finally get to race the other trucks you notice that they barely fit on the track. This may be very realistic but it doesn't do the game justice, and there are loads of penalties to pick up – I got disqualified for cutting cross country which is sometimes necessary.

To finish off the serious side of the program there is a league which you truck participates in. I'm sorry but I just can't take it seriously.



Shoot-Em-Up Construction Kit GBH ■ £7.99

The program that launched a thousand PD games. Yes the infamous S.E.U.C.K. is finally on budget so you too can knock out your own vertical scrolling shoot-'em-ups.

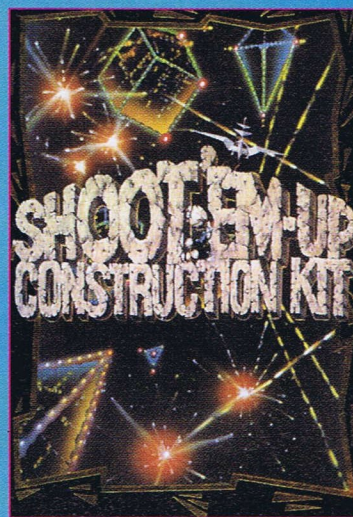
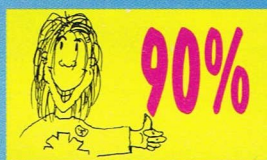
It was a brilliant idea for a program. It's not quite a game although you can play any of the games you create within it and it's not quite a serious package because of the nature of the thing.

It enables you to make overhead multi-directional scrollers and vertical scrolling shoot-'em-ups. Once you have used the package for a bit you get used to its capabilities. You can make some really good stuff, but your early attempts are invariably crap. Biff wrote a really playable vertical scrolling car game, for instance.

Once you have chosen which style your game is going to be in you can go the sprite editor. When it comes down to it the program works on very basic principles but it's effective all the same.

Editing the sprites is a very time-consuming process. Each character has to be altered, and all the different directions which this character can face also have to be taken into consideration. You can edit the colours too.

By far the favourite part of the S.E.U.C.K. is the sound. You have a list of samples which you can assign to any event in your game. Better still, you can load in your own samples, but you have to create them on sampler and save them as IFF files. S.E.U.C.K. comes way up in our Top Ten Budgets of the Year.



Break out the Led Zep albums, it's ghost and goblins time again. Hero quest is a fantasy role-player where you play either a Wizard, Barbarian, Elf or Dwarf.

As you would imagine they all have their strong and weak points. The Dwarf wouldn't make a very good high jumper and the Barbarian wouldn't be a brilliant Physicist. Joking aside, Hero Quest is one of the best role-play adventures around.

There is loads of scope because you are not just tied down to doing one or two missions – there are loads.

There can be up to five players on the board at once so it's a good one to play with your mates. In this version the computer plays the evil wizard (for a change) but apparently there is a board game where you can play the role of the nasty guy.

As you play you collect all sorts of goodies, gold jewels – the usual stuff. These you can trade in and buy things with, like weapons and armour, which come in handy because you are always getting into strife.

A definite thumbs up from me for this – many games try to do what Hero Quest has done and fail. A good buy.



Hero Quest GBH ■ £7.99



The lone skier admires how workmen got those letters on the hill!

Superski 2

This game was originally released last summer and it has to be said that it didn't exactly set the games world alight. Whatever happened to Superski 1 was the question that we asked last year and we still don't know what happened to it or whether it actually existed at all. Answers on a postcard please...

Superski 2 is definitely here though and it features six events for you to test your skill on and an ideal opportunity to go and get out on the piste. Hic!

The events start off with the downhill, the exciting chance to ski down a hill at

90 mph and see if you can make it to the bottom without breaking both your legs.

The next is the slalom which is similar to the downhill except you have to ski in and around a set of blue and red flags. Giant slalom follows and as the name suggests it's almost identical to slalom, but the hill you ski down is a lot bigger and thus a lot faster and you've probably got a better chance of seriously injuring your skier.

Ski jumping is one of the most fun

events and involves throwing your death-defying skier off a massive ramp and then watching him/her hit the ground and hoping that he/she lands safely.

The last event is the unusually titled Hot Dog. Despite popular belief this is not a meaty sausage served in-between two baps with tomato sauce and onions on top, but is in fact similar to the downhill except it's a lot slower and more importantly you do lots of tricks.

Perform back flips, front flips, flip flops, err, flipper the dolphin and so on to impress the fussy judges.

The only non-skiing event is the bob

sleigh where you and a couple of mates sit in a metal tube and ride round an icy course at a 100 mph.

It's sort of like a ride at Alton Towers, but unlike a theme park ride there is an massive chance of killing yourself. Hey, it's fun, fun, fun all the way when you try out winter sports.

The graphics are really good, the sound is fairly reasonable and the gameplay is all right. Some events are far better than others, but if you want to waste a few hours and your in that wintry sports kind of mood then Superski 2 is a worthy inclusion on this compilation.



Choose your event and get down to it

ACTION

Grand Prix 500II

Grand Prix 500 II

Hmm, now I think I recognise this game and it definitely wasn't called Grand Prix 500 II. Ah, yes I remember it now, it's all coming back to me. Way back in September 92, Gamer reviewed a game called Hot Rubber and despite its title it was a very poor motorbike racing game which only received 43 per cent - quite simply it was a bag of crap.

In fact, the only notable thing to be said about Hot Rubber was the fact that on the cover of the box was a photograph of a nubile, scantily-clad girlie partly wearing bike leathers while straddling a hot throb-

bing motorbike. If that wasn't enough then inside the box was a poster which was indeed incredibly sad and would only appeal to the most perviest of pervers.

Hot Rubber was a bog standard motorcycle racing game for one or two players. When the two-player mode was in opera-

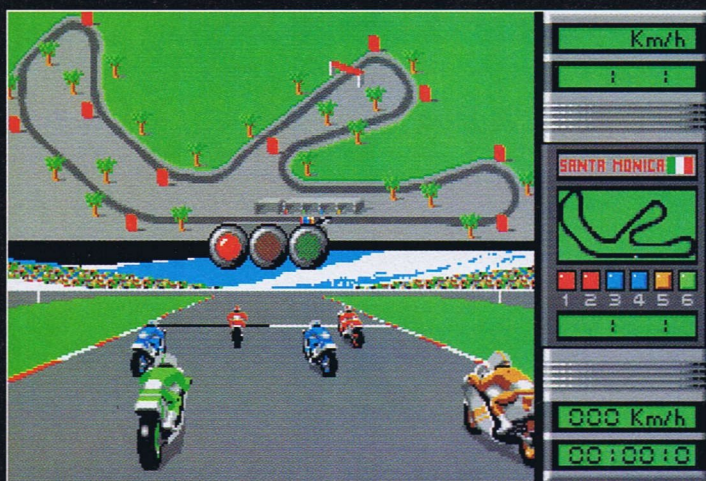
Strapped for cash? Is your wallet bare? Well why not examine this recession-beating four-in-one game compilation from Microids?

tion the screen split in half allowing, err two players to play simultaneously. This was perhaps the most interesting feature of the game and I think that speaks volumes about it.

The sound is pathetic, the graphics are not bad, but they jerk along like a confused

tortoise, and the gameplay is non-existent.

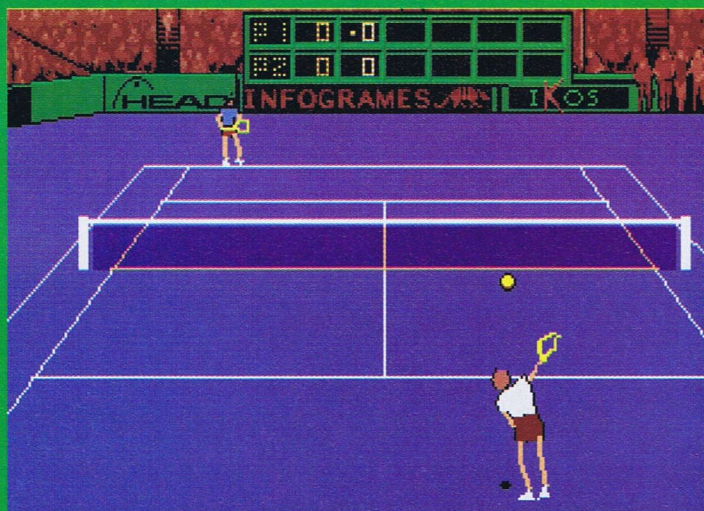
This is the worst game out of the four and I advise you never to even load it up if you buy this compilation. Rubbish, but then almost every compilation has an absolute stinker in it and Hot Rubber/Grand Prix 500 II, no matter what you call it, is no exception.



The engines roar and zoom off around the track. Woo, hold me down



He's off... his bike and his trolley by the looks of things



Advantage Tennis, one of the most underrated games of all time

AdvantageTennis

This is undoubtedly the best of the bunch – the highly underrated Advantage Tennis. Pro Tennis Tour has dominated the tennis games world for too long. Advantage Tennis is the most realistic, smooth, playable and enjoyable tennis game I've ever played. I was wary at first

because the game was made by Infogrames and the French aren't known for their prowess in the sporting department, but all my fears were put aside as soon as I played it.

It does look strange because of the graphics. The tennis players look like little



I never knew Boris Becker was that skinny!

stick men, but as soon as they start moving they are very impressive, and because the graphics aren't very detailed the game runs very fast and smooth.

All of the tennis shots are included such as the smash, the forehand and even the fancy and downright poncey between-the-legs-shot.

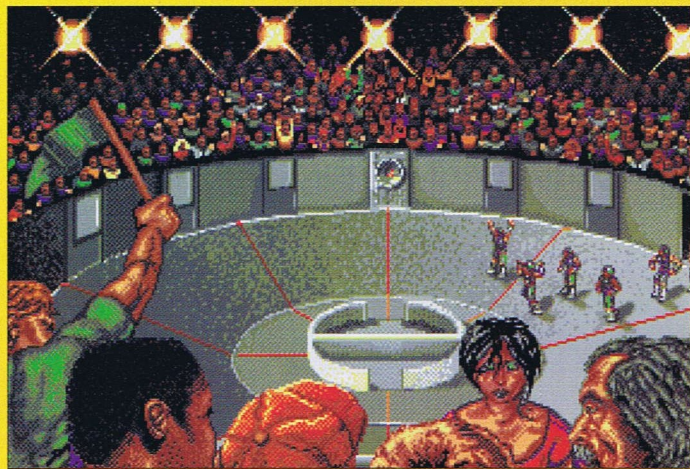
There is a brilliant practice option where you can return balls to your heart's

content thanks to the automatic ball server. Once you've practised you can compete against professional tennis players such as Becker and Agassi and go all around the world earning tons of dosh.

The actual presentation is amazing, with a good dose of sampled sound and speech. Playability-wise you can't go far wrong.

Advantage Tennis is quite simply the best game out of the four and is worth £30 by itself. All four games aren't massive and weren't that popular first time around, but if you're a sporty fan and you want a decent compilation then Action Sport could well be begging for you to run into your local computer store and grab it.

SPORT



The crowd goes wild, as the killing commences...

Killerball

I personally had never heard of Killerball before I received this compilation, so this game was a totally new experience for me. It takes most of its ideas and it's name from the cult classic film.

The game involves two roller-skating teams whose job it is to score more goals than their opponents. Goals are scored by throwing a small metal ball into a hole in the wall.

You'd probably think that this would

get a bit boring after a while – well it would do if it wasn't for the fact that in a game of Killerball there are no rules.

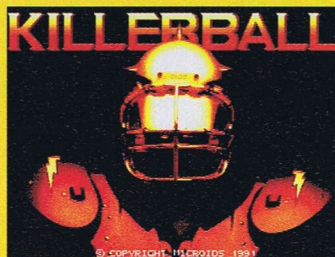
Basically, you can punch, kick, maim

and destroy your opponents and it's all done in good clean fun.

"Sorry old man, I didn't mean to break both your arms and stuff them down your throat, but I was trying to get this blasted metal ball into the hole in the wall."

See, how violence can be fun, but don't forget kids, before you grab a pair of rollerskates and try it out down at the local park I have to remind you that it's not real. Please stay at home waggling your joysticks and the world will be a calmer and more peaceful place.

The game works all right as a one



player, but it really comes into its element with two players – you can invite all your chums around and bash them to bits.

You can get quite addicted when playing against your friends, but Killerball does lack in the graphics and sound department. It's not the best game in the world, but compared to Hot Rubber it's a godsend.

JONATHAN MADDOCK

SUPERSKI 2

GGGGGGGG

GRAND PRIX 500 2

G

ADVANTAGE TENNIS

GGGGGGGGGG

KILLERBALL

GGGGGGGG

Basically Action Sport has one absolutely brilliant game on it, two half decent ones and one that should have been shot at birth, but if this kind of compilation tickles your fancy then you are well advised to check it out.

84%

Publisher > Electronic Arts

Developer > Dinamic

Disks > 1

Price > £25.99

HD Install > No

Size > 1/2 meg

CHAMPIONSHIP

Could you manage Manchester United and win the Premier League title? Here's your big chance, grab your mouse and get down to it...

The football league season is finally coming to a close. It's now the time of hearty promotion and relegation battles. Manchester United are, at the time of writing, sitting smugly at the top of the league and it looks as though Alex Ferguson has finally achieved league success for the Red Devils for the first time since 1967.

The pressure of controlling a football club must be immense. Not only do you have to run the team and make sure you've got the best 11 players on the park on a Saturday afternoon, but you must also keep an eye on the money situation and the general running of the club.

The question to be asked in this review is, could you have done it? Could you have taken a football club like Manchester United to the league title? Well thanks to Domark you can find out.

As the great Bill Shankly once remarked "Football isn't a game of life and death - it's much more important than that."

There are two types of computer football games. The first is the action/arcade game like Sensible Soccer or Kick Off where you have direct control over your team. There is



Here's the main menu where all the other options are at your disposal

much more to football than just playing it, though, and this is reflected in the second type of game.

The management type has been around since the days of the Spectrum where Football Manager was the definitive football game. Not much in the way of graphics or sound, but the playability was unbeatable.

One of the most recent football games to hit the charts was Premier Manager by Gremlin and a lot of you punters out seemed to have enjoyed it immensely.

A year or so ago, Domark released Championship Manager and it fared pretty well in the cruel world of computer games sales. It was probably the most realistic football management game I'd ever played, so you can well imagine the grin on my face when I heard about the brand new updated version.

Yep, Championship Manager '93 is here and it promises to be the best football management simulation ever in the whole wide world. That's some statement, but I have the sneaky suspicion that Domark fully intend not to break that promise. If I were to detail

every new feature in this updated version of Championship Manager then Gamer would be full up and besides I haven't got time. I'll run through a few of them though. Basically everything has been updated. The Premier League is now included plus all the cup competitions all have their proper names.

All the player data is now correct and when you click on the player's name you get a full screen of statistics. You basically get a full run down on the player in question from number of goals scored to his previous club history to the colour of his underpants.

This information coupled with the player's real name gives CM 93 that edge of realism, simply because you can relate to the players better.

Other features include a brand new scout system, player loans, upgrading of stadia, injury time, manager's salary, own goals, win bonuses, more board comments and many more.

There is also a five-week gap before the start of the season, so that you can organise

friendlies, then select your best team and get your players up to match fitness. This is a nice little touch and it's the first time I've seen it done in a football management game.

As I mentioned before the real names add that touch of realism to the game, but they also have the correct ages, so it's only going to be a matter of time before you have to re-name your team to Parkside Old Folks Wanderers.

To stop this from happening CM 93 generates new players to come into the game, obviously you won't have heard of them, but it's nevertheless a very good idea.

Another big addition to the game is the inclusion of foreign players into the transfer market. There are in fact 100 foreigners and the game includes a wide variety of players and countries.

Unless you're a totally loopy football fan then you will never heard of any of them apart from the odd Italian here and there and that's only thanks to Channel Four's Sunday afternoon TV programme. You never know, you might pick up a Pele or two!

Take a gander at the screenshots and you'll see that CM 93s not graphically fantastic. The whole game is controlled using the mouse and centres around a menu system which involves a lot of clicking.

The only graphic of interest is the choice of pictures which you can have as your backdrop to the game. There are seven or so to choose from.

You can choose a nice picture of the charming Chelsea midfield dynamo Andy Townsend, or you can even leave it totally blank - the choice as they say is yours...

One thing you should know about is the actual match day. Now this is nothing like what I expected when I first saw it. The set-up of the screen is incredibly basic with the time set in the top right corner, the two team names and six little bars at the bottom.

You get a running commentary of the game, but it's all done in broken English. An

Stockport Squad									
Trns		Staf	Leag	Fixt	Accs	Info	Rsrv		
		BARRAS T	D C		MOORE C	M RC			
		BEAUMONT C	A C		PREECE A	MA L			
IJ		CARSTAIRS J	D LC		REDFERN D	G			
		EDWARDS N	G		TODD L	DM R		IJ	
		FINLEY A	D C		HALLACE M	M RLC			
		FLYNN M	D C		WARD P	MA C			
		FRAN D	M C		WHEELER P	A C			
		FRANCIS K	A C		WILLIAMS P	DA LC			
		GANNON J	DM RC		WILLIAMS S	D RC		IJ	
		JAMES M	M LC		WILLIAMS P	DM L			
		KNOLES D	M RLC						
		MCCORD B	DM RC						
		MILLER D	D C						
01	02	03	04	05	06	07	08	09	10
11	12	13	14	15	16	17	18	19	20
GLS	DSF	AVR	MON	PEN	PRV	TCT	OPS		
DONE					DEFS		MIDS		ATTS

The squad in full. Where on earth did I put Paul Gascoigne?

Stockport Accounts		
ITEM	INCOME	SPENDING
GATE RECEIPTS	+0	
SPONSOR PAYMENT	+5000	
PLAYERS SOLD	+0	
INTEREST	+81	
TELEVISION NETS	+5000	
CASH PRIZES	+0	
OTHER GAINS	+6552	
STAFF WAGES		-13775
RATES AND TAXES		-0
PLAYERS BOUGHT		-0
INTEREST ON OVERDRAFT		-0
GROUND MAINTENANCE		-450
LEAGUE FINES		-0
GENERAL EXPENSES		-2350
TOTALS	+16843	-17175
OVERDRAFT 0 (MAX 125000)		
162288 AVAILABLE (-532)		

The other side of football... the accountant

MANAGER '93

example would be "Rush rounds keeper. Rolls it in net. Goal. Goal disallowed. Referee spotted handball offence." It does seem strange at first, but after about five matches you become used to it.

Well I can see the ref signalling to his linesman and we've played two minutes of injury time, so I'll sum up for you.

Championship Manager is the most complete football management sim I've ever played. The sheer amount of detail that's gone into it is unbelievable. Simply because so much time and effort has been put in by the games creators, it deserves a Gamer Gold.

Everything you think should be in a management game is in Championship Manager '93. Internationals, transfers, scouts, penalties and so on are all there. It will appeal to the dedicated football fan, but I also think it could do rather well with other gamers because it is so good. Graphically it's

not brilliant, but I don't think that this type of game warrants amazing graphics anyway. The sound department is virtually non-existent with only a couple of cheers in there when you score a goal, but again it's not the type of game that needs sound. It's positively overflowing with playability and is highly addictive.

There are two ways to buy the game. The first is to run down the shops and pay £29.99 for it. The second is to upgrade your original Championship Manager by sending the disks and £7.99 to those nice chaps at Interlek who can be reached at: Championship Manager '93, Interlek, PO Box 1738, Bournemouth BH4 8YN.

To put it simply, Championship Manager is Ryan Giggs, while all the other management games are Tony Adams. I rest my case.

JONATHAN MADDOCK

Stockport

NEW STYLE	FORMATION
01 EDWARDS	GM
02 WILLIAMS	SMP
03 CASTLE	ARCHER
04 FINLEY	DEF
05 BARRAS	MFC
06 WARD	ATT
07 GANNON	SUPP
08 MCCORD	EIGHT
09 FRANCIS	LEFT
10 BEAUMONT	CENTRE
11 PREECE	CAPT
12 WHEELER	NORM
14 MOORE	FORN
GK REDFERN	BACK

SWIFT WITH WIN BONUS

Hmm, this program is true to life. Look County play the long ball game, just like in real-life, coo!

It's that all important match day and County have won!

Division Two from Edgeley Park

2nd Half

STOCKPORT 2 L. ORIENT 1

Attacking... Defending...

Latest Results

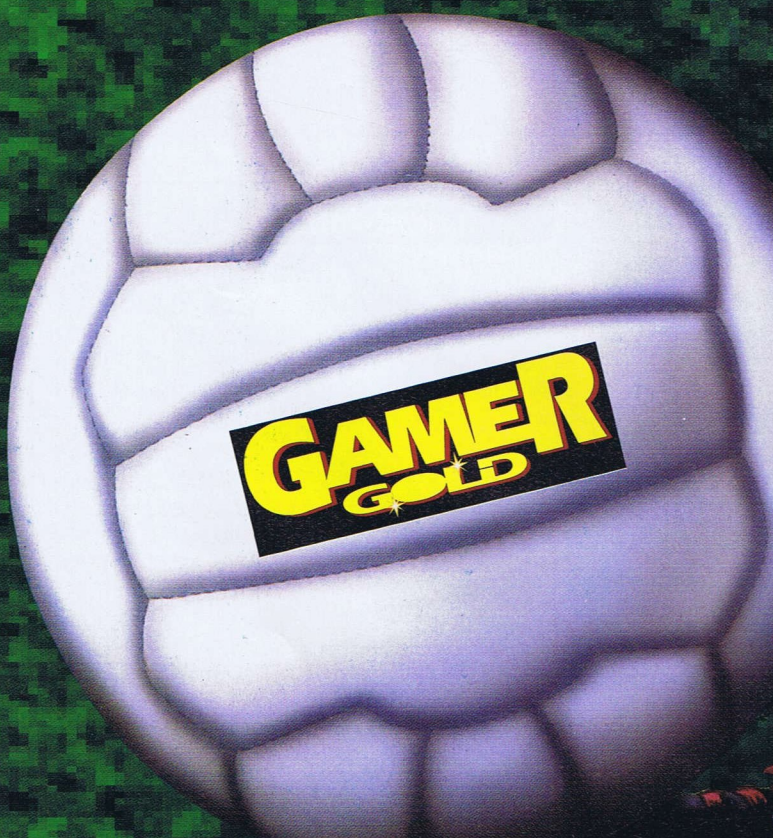
4.43
PREM SHEFF WED 0 IPSWICH 1
03 CHESTERFLO 1 PRESTON NE 2

4.50
03 HANSFIELD 1 SHREWSBURY 2
PREM EVERTON 1 CHELSEA 0
01 DERBY 1 WOLVES 2
PREM SHEFF UTD 2 MAN CITY 2
PREM N.FOREST 0 Q.P.R. 1

4.51
PREM TOTTENHAM 0 WIMBLEDON 1

4.52
01 GRIMSEY 1 TRAMERE 3

The teleprinter just like Grandstand have. Where's Des Lynam when you need him?



Stockport Squad News

JOH GANNON RESUMES TRAINING AT 95% MATCH FITNESS.

There is a brief news flash in-between games which keeps you up to date on the squad and job front

VISION
GGGGGGGGGG

AUDIO
GGGGGGGGGG

DIFFICULTY
GGGGGGGGGG

LASTABILITY
GGGGGGGGGG

This is the best football management game that you can get. Graphically and sonically it won't set your pants alight, but as far as playability and addiction go you can't go wrong. Brilliant.

92%

Publisher > Domark
Developer > Interlek
Disks > 1
Price > \$29.99 / \$7.99
HD Install > N/A
Size > 1 meg

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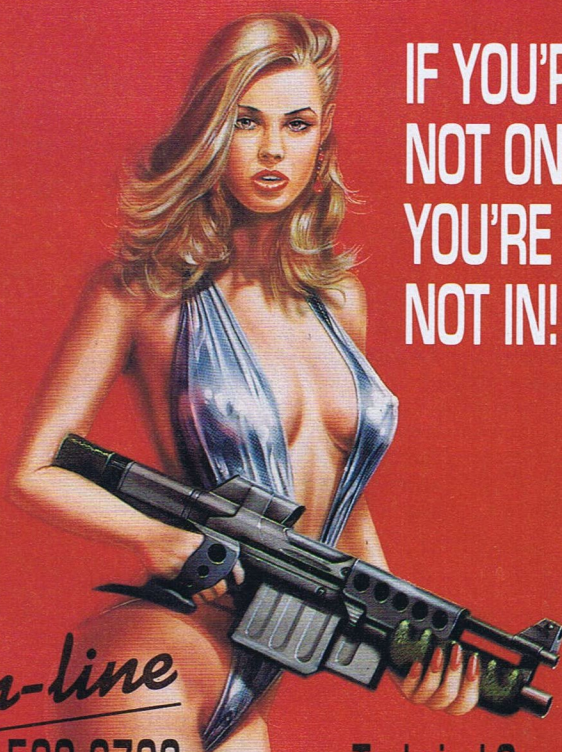
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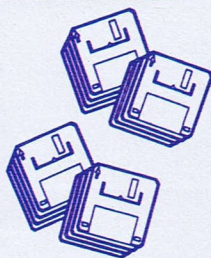
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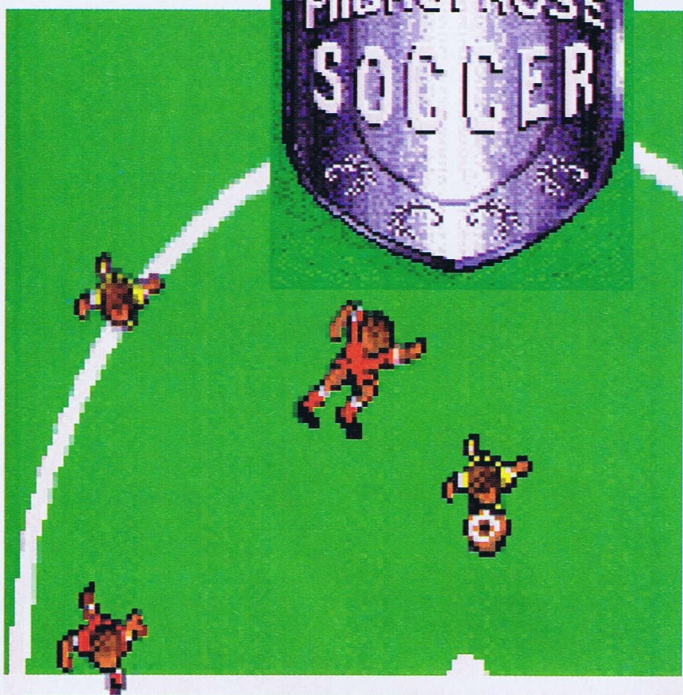
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Blast from the PAST

Yes, it's time again to look fondly back to the days when almost every game was new, exciting and original

Microprose Soccer

Imagine a time when Sensible Soccer was just a mere fidget in a programmer's pants and when Kick Off didn't exist. Yes I know it's hard to believe, but there was such a time and it was way, way back in 1988.

Microprose are now the kings of the flight simulator, but there was a time when they brought out other games such as Microprose Soccer.

Microprose Soccer was the first football game that I ever bought for my ST and boy, oh boy was it fun. Looking back on it today the sound and graphics are very sad indeed, but the good thing was that it was as playable as anything of that era.

Play was viewed from above rather like a certain game programmed by Dino Dini which I promise I won't name for the rest of this review.

Microprose Soccer can be played outdoors, where your opponents are international World Cup teams, or indoors where you compete with professional

teams from the States. Each player has a number of shots which he can perform including banana shots and even overhead kicks. All can be carried out with the joystick.

Four gameplaying options are available, the first being the Microprose International Challenge where you play every World Cup team starting off with, ahem, Oman and if you're good enough finishing with Brazil.

The second is the World Cup tournament where you obviously play out the World Cup. The next is the soccer league and the last is a two-player friendly where if you're lucky enough to have a chum you can play against him/her in a game of bitter rivalry.

Microprose might not look like the world's best football game, but a few years ago it was quite simply the ultimate. Sensible and Kick Off may have superseded it now, but for sheer enjoyment you can't beat Microprose Soccer.



Falcon

The first simulator that I ever had the pleasure of playing was Falcon – in fact it was the first game I ever owned. Way back then Falcon was an unbelievable piece of software guaranteed to make everybody's jaw fall open in amazement.

Even if you didn't like flight sims that much, you had to own Falcon simply because it was that good – otherwise you were frowned upon and labelled "sad" for the whole of your life.

This award-winning flight simulation of the F-16 Falcon was created by Spectrum HoloByte. It featured state-of-the-art 3D graphics and was so realistic that you could almost imagine yourself in the heat of battle.

You could select from 12 missions which varied immensely. One minute you could be shooting down a Mig-21, the next completely destroying whole suspension

bridges. The Falcon's cockpit is as realistic as the real thing right down to the head-up displays and cockpit controls.

The game has five skill levels ranging from Lieutenant to Colonel. Other features included a head-to-head dogfight mode via a direct computer link which is immense fun if you can find a friend to play the game with.

The 3D aspect of the game is particularly impressive with a whole range of multiple views. In fact the whole game is well presented – it's just about one of the most polished flight sims that I've ever come across.

It is an absolute dream to play – modern day flight sims pale in comparison. Looking back on it quite literally brings a tear to my eyes.

If you want a good flight sim then Falcon is the ideal one to start you off, plus there are quite a few mission disks that you can now buy to enhance your original product.

Falcon is an absolute classic and rightly deserves its place in Blast from the Past. Sigh... ahh those were the days.

SABRE TEAM

At long last we can finally dig the dirt on the Krisalis's Sabre Team. We sent in Ben Styles to smoke some embassies and complete the jungle level

First off I will list the four best troops and their main abilities – these are the ones that I found to be tops, but a different combination may work better for you.

W Jones – Trooper



His two most outstanding abilities are his speed and strength. He is very impressive when it comes to grenades as he can throw them much further than any of his colleagues.

Unfortunately, Jones is lacking in the marksmanship department. This can be helped by giving him an L7A2 which will increase his ability.

He also lacks intelligence which plays a part in his ability to notice or hear things. His height can also occasionally be an advantage as he is pretty short.

C Calvert – Trooper



As he is renowned for his speed and perception, Calvert is exceptionally good at hearing and spotting enemy movement. He is quite good with a gun so he is more than capable of

dealing with most situations.

He works best with a G3 which is the lightest weapon with the longest range. Make sure he is kitted out with at least two magazines. This is because he will have more encounters due to his ability to spot trouble

T L Roderick – Sergeant



The leader of the group is also the third fastest soldier in the party. His ability with a gun is incredible so you should arm him with the M16A2.

Although he possesses an average perception rating and poor strength, his other qualities more than make up for it. One final thing to remember! Do not, under any circumstances, expect him to throw a grenade accurately.

This is extremely important when he is accompanied by a hostage.

L P McDonald – Lance Corporal



Although he is pretty much your Mr Average, McDonald has good speed, and when you give him an L7A2, his marksmanship is very good.

As the dodgy saying goes: "Jack of all trades, master of none!" His main weakness is his perception but even in this department he is only second to Trooper Calvert.

Choosing the correct weapons and equipment is also important when you are about to enter a mission. Each player should be given a bullet-proof vest and an S10 respirator.

Give CS gas grenades (no more than two) to Trooper Jones and Lance Corporal McDonald. Give the medical kit to McDonald as well (I'll explain later!) but don't use the spare. This will safeguard you in case McDonald is lost in action.

Make sure you only use one magazine for those guns that have a good capacity. Any more (except in the case of Calvert) are a waste if your soldiers are cut down in action.

Stun grenades are the least effective weapons but they can actually kill an enemy when they are used at close range. They are quite limited, however, so try not to use them all.

WEAPONS AND EQUIPMENT

L7A2

Usually two shots from this machinegun are enough to take out the enemy at a great distance. Unfortunately, only two are available and ammo is scarce. If you find any ammo for this gun, grab it quickly.

M16A2 & G3

These are usually the second choice for guns. There is nothing much between them in terms of close combat accuracy and weight. Three shots will usually kill someone but the G3 leaves a lot to be desired at great distances.

• Do not swap any weapon between the missions as this results in a loss of ammo which is already loaded in the guns.

The medical kit

There are only two of these to begin with but you

can find some more on later missions. It is a good idea to split the team up into teams of two, each can then carry a medical kit, passing it on to the injured person.

CS gas & stun grenades

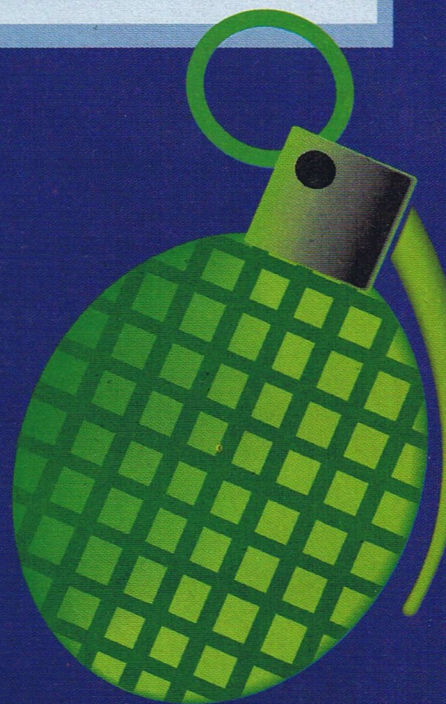
These two items are both very handy in tight corners when you are under attack from all sides. Make sure you have enough action points to throw them or you could end up in a tricky situation.

Gas mask

An essential item and fortunately there are enough to go around.

Bullet-proof vest

Another indispensable item. It cuts down the amount of damage inflicted by bullets.





General Tips

Always collect useful equipment from the deceased members of your team. For instance: gas masks, bullet proof vests, medical kits and any decent weapons. Always grab the medical kit.

Move slowly in teams of two and cover each other's backs. Save at least 20 action points in sticky situations.

JUNGLE TACTICS - LEVEL ONE

Your objective for mission one is to rescue four hostages who are being held within the confines of a prisoner of war camp. Once all the hostages have been rescued you must guide the remaining members of your team to safety.

When reinforcements are called in they usually come through the main gate that you used to enter the camp. It is a good idea if you leave one of your party on these gates to deal with them when they arrive. This acts as perfect protection when your other team members are bringing out hostages.

You'll probably find that McDonald is the best man for the job. You can also leave a medical pack with him as he will be in the best position to aid any of his fellow soldiers.

The first two hostages are in the hut at the bottom left hand-corner of the camp. Trooper Jones is the best man to tackle this as there are quite a few enemy soldiers patrolling the area.

Using his speed, he can get in the door and dispose of the main guard. The main guards, unlike the randomly-placed enemy troopers, are always positioned in the same place. One such guard is always near the main gates at the beginning of this level.

The next hostage is placed in the hut directly in front of the main gates. As this is the easiest hostage to rescue, Sergeant Roderick is best used here as he doesn't quite have the speed of Trooper Calvert.

The last hostage is situated in the hut to the far right of the camp. He is one of the trickiest to rescue because of the surrounding windows and the open space. Use Trooper Calvert to get the hostage out and take him back through the trees.

Don't take him back near the fence as the reinforcements will be able to pick you both off with considerable ease.

When operating your soldiers, always try to leave them with about 15 action points at



the end of their turn. This will give you a better chance of getting an opportunity move.

When you are searching one of the huts and your turn ends, try to leave your soldier with his back to the wall. This way he can see all the camp and it will be easier for him to survive.

If you do get shot and manage to survive, try to head for cover. The two best forms of cover are the trees and huts so try to get to

them if you have enough action points left. Even after you have received treatment, keep well hidden until you have enough action points left to make it to some more cover.

The more experienced players will find this level pretty easy to complete with just two soldiers, namely Jones and Calvert. Although it will take longer, you'll be able to save your other team members for the later levels.



Move into the jungle, but keep an eye out for the enemy



Your team should be spread out otherwise the enemy could end your game in one go

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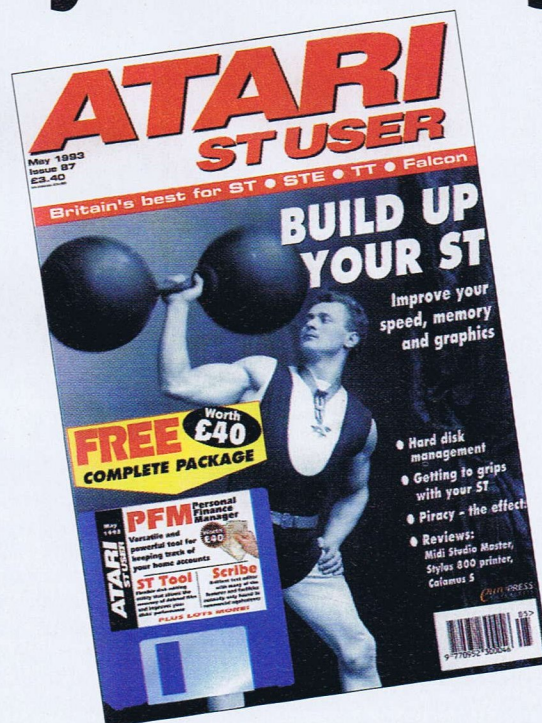
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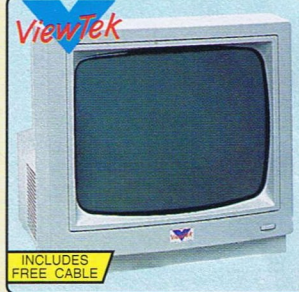
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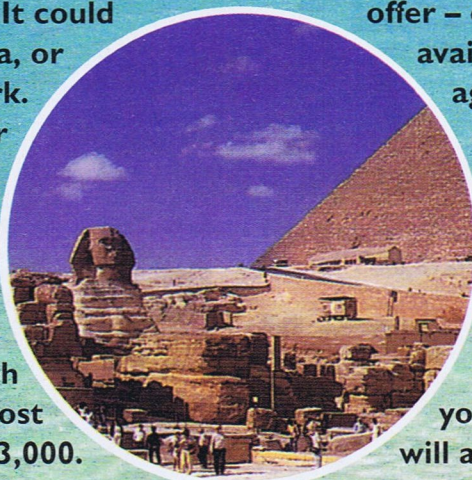
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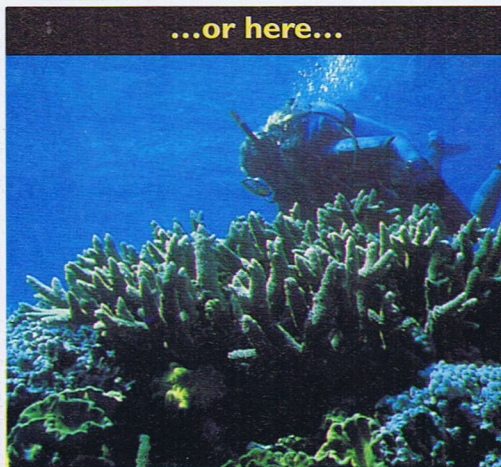
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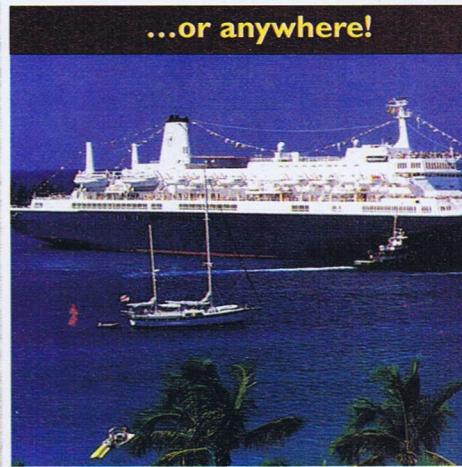
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Atari ST User reader Elspeth Grey from Nottingham has written on the vexed subject of quantisation. Coincidentally, J Barry of Milton Keynes is about to buy a sequencer and has written to ask how important flexible quantisation is.

Elspeth's letter is part comment and part question. As a musician who performs live, Elspeth generally bemoans the heavily quantised recordings some people produce as being far too mechanical with no life or soul.

On the other hand, she would like to know if quantisation can be used creatively to make recordings better without making them mechanical.

Virtually all sequencers have a quantise function. Essentially, it pulls and pushes notes onto certain divisions of the beat, so correcting sloppy timing. For example, if you record a passage containing sixteenth notes and the timing is out, if you quantise it to sixteenth notes it will pull the notes into line.

GREAT LEVELLER

On the face of it, this is a boon to anyone whose playing ability doesn't quite match their musical ideas. In fact, in many ways a sequencer is a great leveller because it enables people with musical ideas to realise them even if they don't have great performance skills. However, as with most aspects of technology, its benefits can be overdone.

The first quantise functions implemented in sequencers were pretty rigid. If you quantised to sixteenth notes, you quantised to sixteenth notes. The result would be a note-perfect recording but one which some people thought lacked that human touch.

So developers introduced partial quantisation, often incorporating a strength function in the form of a percentage setting which the user could adjust. With a value of 50 per cent, for example, instead of pulling a note exactly onto the beat, it would move it from its current position half way (50 per cent) towards the specified division.

This has the effect of tidying up the timing of notes without making them mechanically perfect – a good compromise.

Most quantise functions only act on the start time of the note which is, after all, the most important part. However, some programs also give you the option to quantise the length or duration of the notes.

When you play a run of consec-

utive notes on a keyboard the chances are that some of them will overlap, especially if you are playing legato or smoothly.

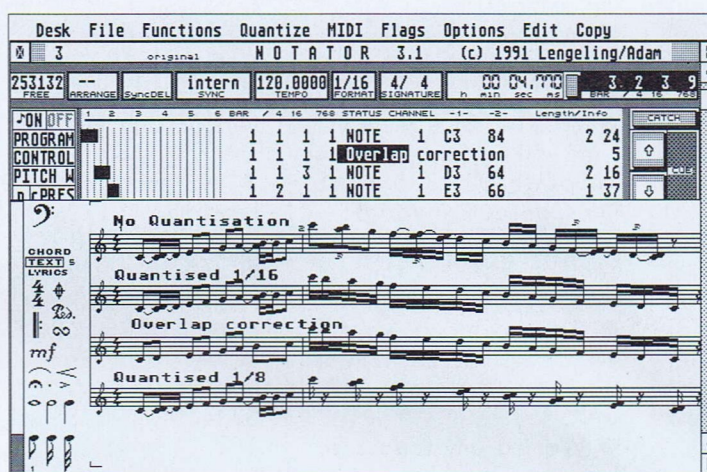
This is often acceptable although if you are recording a monophonic instrument such as a trumpet you may not want any overlap at all. In such cases it can be useful to adjust the length of the notes to remove overlaps.

This is also important when creating a piece to be shown in notation form or printed out. Some sequencers have a display quantise option which removes overlaps from the score display.

Quantisation is more in the ear of the listener than the eye of the beholder. Studies of celebrated classical pianists have shown that what we regard as sensitive "interpretation" is, in fact, slight variations in timing.

In other words, even when listening to classical music being played strictly as it is written, our ears are searching for subtle variations in timing, variations which they interpret as feel.

The illustration shows the effects of various types of quantisation



The effects of quantisation on a recording

Into the groove

on a music line recorded - rather sloppily! - in real time. The first bar is an ascending scale of C in eighth notes, the second bar is a descending scale of C over two octaves in sixteenth notes.

The top line is the raw unquantised recording. The second line has been quantised to sixteenth notes. You can see that the second bar now looks perfect but the first bar is suffering from overlaps.

STEP TOO FAR

The third bar has simply had overlap correction applied to it - *vôilà!* This is a display quantise setting in Notator and in most circumstances you would leave it on.

The fourth line shows what happens if you quantise too far. It has been quantised to eighth notes and you can see how it has affected the second bar of sixteenth notes.

This brief foray into quantisation only touches the surface of the subject. In common with many top-end sequencers, Notator has a wide range of additional quantise functions. Many are very sophisticated, others are quite esoteric. For exam-

ple, the Groove Design and Adaptive Groove functions can turn a run of straight eighth or sixteenth notes into a swing. They let you take tracks you have recorded and use them to correct the timing of other tracks. They can also recognise a mixture of eighth and triplet notes and quantise them correctly.

So, to answer the questions, if you're a keyboard whizz you may well be able to produce good recordings without quantisation. But even so, if you want a really tight sound, quantisation can help.

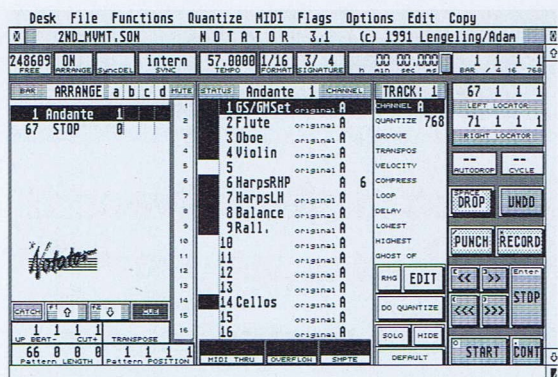
Partial quantisation can tighten up a recording without robbing it entirely of its human feel so when checking out a sequencer package, make sure it has some sort of partial quantise option. Specialised Groove settings can also be used creatively to alter the feel of a track.

Quantisation is also vitally important if you want to show the score in notation form and/or print it out. Display quantise settings are particularly important here as they affect the appearance of the score and not the actual note data.

If you are exporting the music to a separate scorewriter package you'll probably find it's a good idea to quantise it heavily first.

Used carefully, quantisation can be used by beginners and professionals alike to good effect without compromising their musicianship and without robbing the music of human feel.

**Ian Waugh brings the latest news
from the ST music world, and
answers some readers' queries**



Oscar's rendition of Bach's Brandenburg Concerto No 2, complete with a GM setup

Back to Bach

Every few months or so a disk comes through the door from Oscar Music. The latest one is Bach's Brandenburg Concerto No 2 in F Major BWV 1047. Bach sequences very well which is probably why he's so popular.

Most musicians who like classical music end up recording Bach at one time or another and Oscar could obviously resist the temptation no longer.

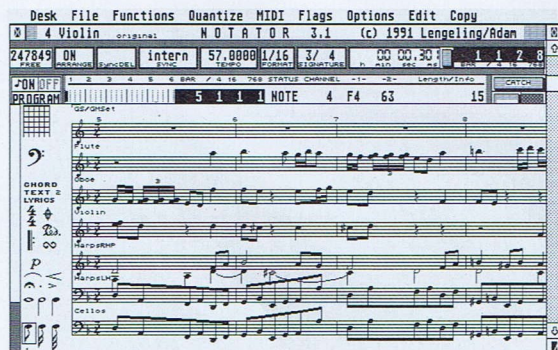
The other Oscar productions were configured for the Yamaha SY77. So is this one but the disk also includes a GM (General Midi) setup which makes more sense as far more people have a GM instrument than have an SY77.

I must confess, the SY77 performance is better but I wouldn't complain about the GM performance at all. A bit like comparing Beecham with Rattle.

There's not much to say about Oscar sequences other than they are absolutely excellent! They are as close to the original score as it's possible to get and contain superb feats of programming.

In fact, so realistic are the pieces that Oscar is supplying snippets to the music industry for use as jingles and so on – far cheaper than hiring the London Phil!

Impressed? You bet!



The score from Bach's Brandenburg Concerto No 2 shows how much care has gone into the arrangement

Heavenly editors

Heavenly Music, purveyors of drum patterns and makers of Midi music files, have released two voice editors. Easel is for Roland's SC-55 and SC-155 Sound Canvas machines and Sound Scope is for the Dr. Synth DS-330.

Easel consists of several screens, each controlling one of the functions of the instruments. The Voicing screen lets you select an instrument for each Midi channel, reserve a certain number of notes for it, adjust the level, the reverb, the split point and so on.

The Master screen contains tuning, volume and transpose controls. The Effects screen lets you select the effects and adjust their levels.

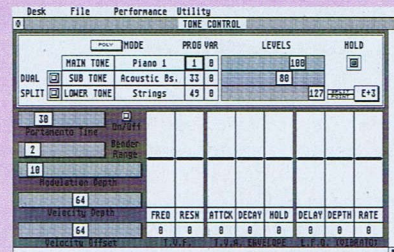
The Edit screen lets you alter voice parameters such as the filter and envelope. There's also a Drum Map page in which you can alter the effects levels and the pitch of the notes which is useful for toms and bass drums.

Operation is very graphic. Most parameters can be altered with a click and a drag although there are keyboard shortcuts, too. The cursor is a square rather like a TV screen which you place over the parameter you want to adjust.

It's great for selecting numeric parameters but I'm going to be picky and say I still prefer the arrow pointer for picking up and dragging things – but perhaps that's because it's what I'm used to.

The instructions are supplied in a read.me file on disk and the whole program is very easy to use although you do need to know a little about the architecture of the Sound Canvas.

Unlike the Sound Canvas which is basically in a permanent Multi mode, the



Sound Scope's Single mode editor gives you control over basic sound parameters

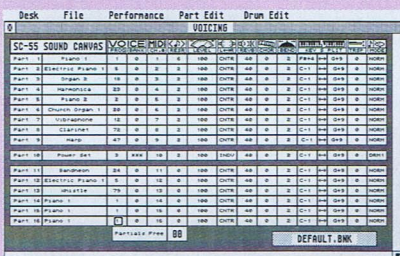
D330 has separate Multi and Single modes. These are handled by two separate programs although you can load one from the other. This arrangement allows them to run on a 520 ST.

The Multi program is essentially the same as that for the Sound Canvas. The Single program has Master, Tones, Drum Effects and Effects screens plus a Mapping screen for creating program change maps. As with Easel, operation is very easy and very graphic.

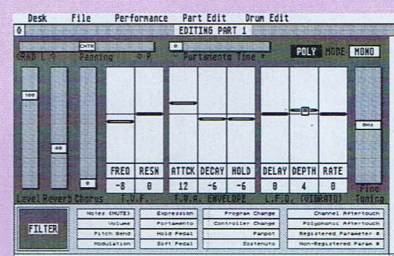
My main quibble is lack of printed documentation although perhaps it could be argued that at this price, on-disk docs are acceptable. It would have been nice to see a few additional sounds, too. Always interesting to see what a developer can do with his own software.

However, both are excellent programs for fine-tuning setups and sounds and at the price they aren't going to break the bank.

● Easel and Sound Scope are £24.95 each. More from Heavenly Music, 39 Garden Road, Jaywick, Clacton CO15 2RT. Tel: 0255 434217.



Easel's Voicing screen lets you select an instrument for each Midi channel



You can edit sounds on the Sound Canvas from Easel's Edit screen

All that's new in the music world...

● More freebies from Yamaha, this time for the new QY20 pocket composer. The disk contains 50 new patterns arranged into groups of six – Ballads, Eurostyle, American Latin, Rock, Pop and Dance.

The patterns make use of the QY20's high timing resolution to produce grooves with "human feel". The disks are MS-DOS format which most STs can read. More from Yamaha on 0908 366700.

● The Midi Survival Guide is a new book from PC Publishing. It was written by Vic Lennard of the UKMA and aims to take the mystery and muddle of out Midi.

We'll be looking at this just as soon as it leaves the press. If you can't wait, contact PC Publishing on 0732 770893.

● Mr Lennard has also been busy setting up an official user club for Cubase. Club Cubase has the backing and approval of Steinberg distributors Harman Audio.

Members will get a bi-monthly magazine filled with hints, tips, advice and letters. Special membership benefits include discounts on Steinberg products. It costs £14 per year. More from Club Cubase on 081-368 2245.

● Replay 16 (reviewed in Atari ST User last October), the 16-bit sampler package, has had a couple of tweaks since it was first launched. Check with Microdeal to discover the latest version of the Editor. They are on 0726 68020.

BREAKTHRU

Q What should you expect to pay for a 16-bit sampler, advanced sample editing software, and a powerful 64 track sequencer?

New from Gajits and Audio Visual Research; a low cost 16-bit hardware and software combination for the Atari ST range. It could transform the way you make music...

Breakthru is a 64 track professional quality MIDI sequencer with a difference. At the same time as it plays your MIDI instruments, Breakthru will play back 16-bit samples through a Replay 16 sampler plugged into your Atari computer! (If you don't have Replay 16, Breakthru can play samples through your monitor or TV speaker, through the computers' DMA sound output sockets where available, or through the Microdeal range of 8-bit sample cartridges.)

In fact, Breakthru is a MIDI sequencer, a sample sequencer, or both at the same time! Add to that a host of highly graphical and user friendly editing screens, unique and innovative features like Gajits' Diamond Drag note editing system, and an ease of use which might surprise you if you've not used Gajits' software before, and you'll see why we called it Breakthru!

For Atari ST/STE/MegaST/MegaSTE/TT Computers • Mono and Colour Screen Modes Supported • Minimum 1 Mbyte RAM Required • Up to 4 Sample Channels With Stereo Output Where Supported by Hardware • Sample Output Via AVR Replay 16, Pro Series 12, Microdeal Mono & Stereo 8-Bit Cartridges (eg. Replay & Playback), Atari PSG Sound Chip, or Atari DMA Stereo Sound Chip • Real Time Pitch Shifting of Samples According to Note Value • 16 MIDI Channels (32 with Breakthru Plus) • VU Meter Style Channel Display • 64 Music Tracks Plus a Control Track • High Resolution Real Time Recording From MIDI Instruments (192 PPQN) • Loop Mode, Overdub & Punch-In/Out Recording • Simultaneous Multi-Track Recording • Auto Count-in Facility • MIDI or Audio Metronome • Step Time Recording of Music Over MIDI or Using Mouse Entry • Track & Cue Sheet Screen (64 Tracks/64 Cue Points) • Sample Palette Page (Loads AVR, IFF & Other File Formats) • Step Editor Screen with Diamond Drag Note Editing

("... by far the easiest grid edit system I've seen..." Ian Waugh, Music Technology review of Gajits' Sequencer One Plus) • Insert Program/Volume/Pan/Control Changes Graphically at Any Point • Score Editor Screen for Conventional Music Display • Drum Editor Screen for Easy Drum Programming • Song Arranger Page • Tempo Map Screen for Graphical Display of Tempo Changes • CD Juke Box Screen for Chaining of Separate Songs • Flexible Quantize Options to Improve or Fully Correct Timing • Many Different Types of "Global" Operations (eg. Transpose, Strip) • Sends & Responds to MIDI Clock & Song Pointers (External Sync) • MIDI Filtering & Re-Map Options • Imports & Exports Standard MIDI Files for File Exchange with Other Programs • MIDI System Exclusive (Sys Ex) Handling to Backup Instrument Memory • Undo Last Operation Facility • Keyboard Shortcuts for Many Options • Supplied with a Selection of Pre-recorded Samples & Demo Songs • Telephone Helpline Support Included

Breakthru Plus has all the features of Breakthru, but supports 32 MIDI channels instead of 16. Very handy if you have more than one MIDI instrument! A hardware interface is included with the package to provide an extra MIDI output socket. This simply plugs into the serial port of your computer.

If you are a registered user of Sequencer One Plus, you can obtain a substantial discount off the price of Breakthru or Breakthru Plus (see the order coupon).

Replay 16 from Audio Visual Research and Microdeal represents a giant step forward in sampling technology. It plugs into the cartridge port of your Atari, turning your computer into a 16-bit sampler and sample replay unit. Unlike dedicated samplers, Replay 16 makes use of your computer's built in RAM, so it costs considerably less than its nearest rival. Replay 16 comes with all the sampling and editing software you will need to record samples at rates of up to 48 kHz (higher than CD!). You can record samples direct from a CD player or other sound source and then edit them with the most versatile software you can buy. A phono output socket provides a standard connection to a wide range of sound systems.

"If MIDI and sampling's your thing, this is a must." Clive Parker, ST Format.

A See coupon or call the number below.

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I-Mex House,
40 Princess Street,
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M1 6DE.



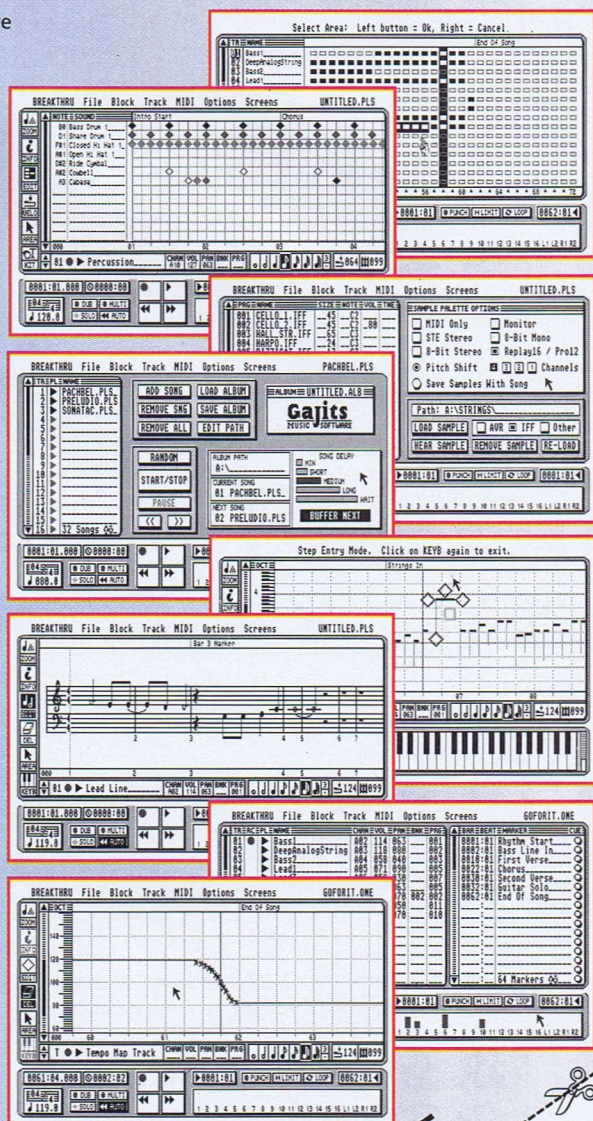
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STU0693



Regular readers of the Communications Aspects page in this magazine will have heard of the Compulink Information Exchange, better known as CIX, and its many benefits for ST owners.

I do not wish to step on André Willey's toes, but if a modem and a CIX subscription are useful acquisitions for the general Atari user, they are pretty much essential for us emulation freaks.

Just consider – if the main attraction of a PC or Mac emulator is to save the expense of buying the real thing, forking out hundreds of pounds on commercial IBM and Apple software must be out of the question.

CIX has one of the largest on-line collections of public domain and shareware programs for these two platforms anywhere, available at any time of day or night – more than 3,000 at the last count!

CIX is more than just a huge milk cow for file downloads, however. Its biggest resource are not the file lists, but the thousands of helpful and very knowledgeable people who log on daily and will be glad to give you the benefit of their experience, provided you ask nicely.

QUICK RESULTS

It can be a confusing business to move to another operating system – MS-DOS in particular is notorious for its obscurity, but even the more user-friendly Windows and the Macintosh desktop can often leave you puzzled.

When you arrive at a dead end, a quick message left in one of the PC or Mac-oriented CIX conferences will unfailingly result in one or more helpful replies, often within hours.

And if you do decide to invest in some commercial software, the collective experience of such a vast panel of users can give you more useful buying advice than any number of magazine reviews. Chances are that the vendors of the software have a support conference on CIX, too.

There is a widespread misconception that you need PC/Mac communications software and must drive your modem under emulation to be able to log on to these conferences and download their software. This is not true.

The conferencing system itself consists of machine-independent Ascii text, and the program files can be downloaded in exactly the same way as binary files for the ST, and saved to ST floppies or hard disks. To save on-line time,

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PROTEXT	Program	CONF.LST	94K	Auto	Indent	On	SCR	f3	for Menu
Ch 28674	Line 580	Col 1	Insert	No	markers	set			22:05:08
o norton	For users of Peter Norton Computing products								
o optimisation	Speed/memory optimisation conf. for PC's								
o os/2	The new multi-tasking operating system for 80286/386 machines								
o os2help	OS/2 Help for the disillusioned and confused								
o pc	PC and PC-clone conference area.								
o pc-mos	PC-								
o pc.outline	For users and fans of John Friend's PC-OUTLINE program								
o pc1512	Amstard PC1512 Discussion, Problems etc.								
o pcanywhere	Support and advice, tips and problems, Wishlist and info.								
o pcrsune	PC Resume								
o pcwrite	For users of all versions of Quicksoft/SageSoft PC-Write								
o ps2	IBM PS/2 Specific Conference								
o soundboards	A conference for all your PC soundboard/76ard owners.								
o tandon	Tandon users conference.								
o tesseraet	Standardised TSRS for MSdos								
c tenet	A programmer's editor for Windows NT								
o turbodots	TURBODOTS users								
o uuvc	UUVC = UUVC for Dos								
o w4w	Word For Windows								
c w4w_templates	Conference for Template developers								
o windev	For Windows 3 developers to swap info and ideas.								
o windows	Microsoft Windows Development Group								

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most files are compressed in a variety of formats, but again this need not worry you unduly.

The standard archive utilities in the PC world – ARC, LHARC and ZIP – are equally well-known to ST users, and the ST versions of these will normally decompress DOS archives too. In the Mac conferences, Stuffit and Compactor are the preferred archivers, and all you need to do is download them and use Transverter to copy them from an ST to a Spectre/Mac disk.

Stuffex can cope with both SIT

(Stuffit) and CPT (Compactor) archives, and comes as a self-extracting archive (SEA) – just double-click on its icon and watch it expand!

To join CIX, let your modem dial 081-390 1244 and follow the on-screen prompts with your credit card at hand. It's as simple as that. And once you're on, don't forget you can contact me using the "mail to gminnerup" command – see you in the ST, PC, Mac and, of course, Atari ST User conferences!

As it will cope with the most commonly used file compression formats, the Stuffit expander is the only archiving utility you will ever need to download Mac software

Stuffit Expander™
Written by Leonard Rosenthal
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Günter Minnerup explains why the CIX bulletin board is near-essential, and has some advice on using macros

Let your machine take the strain

Graphics-based user interfaces such as GEM and Windows may be a lot easier than the old-fashioned command lines for beginners, but once you're reasonably experienced you can get a bit tired of all the repetitive clicking through various windows, menus and dialogue boxes.

Better than having to remember command sequences perhaps, but moving your right (or left) hand from keyboard to mouse and back again every few seconds does little for your productivity.

So why make use of the macro facility so thoughtfully provided by the authors of Windows?

Macros are keyboard shortcuts which enable you to replace a whole string of inputs with one simple keypress. Once defined, they can be saved to a macro file on-disk and reloaded into memory.

There was a time when macros required some programming knowledge to write, but Windows makes life easy with the Recorder utility – as the name suggests, it "records" your keyboard and mouse inputs and writes these to a macro file automatically.

MACRO PROBLEMS

Such macros are not limited to the Windows itself but can be recorded from any Windows application, although not, of course, ordinary DOS programs launched from Windows.

One thing to keep in mind, however, is that any mouse clicks will be "recorded" relative to their position in the window or on the screen, so that when the macro is replayed later problems can arise from a different resolution – a switch from EGA to VGA, for example – or screen layout. Wherever possible, macros should therefore consist of keyboard input only.

Once you have defined a number of routine tasks as macros and saved them to a file with the extender .REC, you can ensure that the short-cuts are always available by installing such REC files with the RECORDER.EXE application in the File Manager and launching Windows with the command WIN FILENAME.REC, or inserting this line in your AUTOEXEC.BAT file.

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ARC 50 HACMAN, superb pacman clone. MR PACKY, another super pacman. SOCCER brilliant 3D football game 2 players. MUTANT WIPEOUT ariel shoot em up. INVADERS needs no description.

BRD 04 CHESS, superb chess game. DECODER, excellent mastermind. SUPER SIMON, computer version of hand held game. DOMINOES, puzzle game. GOLF card game. Also on this disk DRAGON MAZE, 2 game, SENSORI BACKGAMMON, BRIDGIT, ST ARTEK, BATTLESHIPS.

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WPR03 ALICE. Super text editor up to 10 docs. In memory at once. EDITEXT. Super little text editor. Ideal for beginners. NEWWORD 400v3. Easy to use text editor, again good for beginners. NOTEPAD. Make temporary notes from within any gem program. PHONEPAD. Pop up telephone book. FILOFAX and ORGANISER. Everything a paper filfax would have and much more in these two programs. TYPEWRITE - Turn your ST into a typewriter.

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Formerly Quick ST, this is the latest and greatest software screen accelerator for the ST/TT: graphics and text look the same, but appear with astonishing speed. Includes a host of utilities from CodeHead Software: mouse accelerator, desktop pictures, new system fonts, keyboard control over dialogs, and an excellent After-Dark-alike modular screen saver. Price: £24.95, upgrades from other screen accelerators (return manual cover): £12.95.

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Regardless of which online services you plan to use, you'll still need a good communications program. CoNnect is a highly specified German package which runs on all ST, TT and Falcon computers.

Operating entirely within windows – although you can eliminate the scroll-bars to give a larger text area if you wish – it provides a very fast, but 100 per cent GEM, environment in which to work.

CoNnect allows you to open several terminal windows simultaneously, and conduct separate online sessions in each. This is especially useful as it supports just about every serial port you might have on your computer – including the high-speed Mega STE, TT and Falcon ports, and even the Midi one!

Each window has its own menu bar, in addition to the global one at the top of the screen, allowing you to adjust virtually any comms setting you could imagine. It's impossible to cover them all in a single page, but suffice to say it's highly unlikely that you'll find any-

The German Connection

thing important is missing.

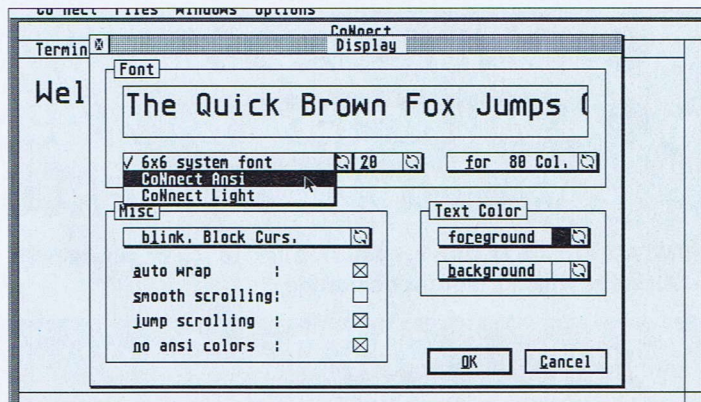
CoNnect has a useful selection of terminal emulations available. In addition to the ubiquitous ANSI/VT100, it also supports VT102, VT200 and even the graphics facilities of TEK 4014. This should mean there are few online services – other than archaic Prestel systems – which CoNnect can't handle.

PROMPTS HANDLED

The dialler system is very flexible, allowing for extensive configuration to support the special features of your modem, and almost uniquely providing a script learning facility to speed up logins.

The first time you log on to a system, CoNnect can be instructed to remember the correct responses for each online prompt, and can then replay them the next time you log on. This is one of the friendliest systems I've come across, and makes setting up an automated login sequence a doddle.

One very innovative feature allows you to use the digitised sound modes on the XyXEL range of modems to turn your ST into an answering machine. Outgoing and incoming messages are digi-



CoNnect supports the use of GDOS screen fonts, in varying type sizes, but thankfully provides facilities to speed up the text output considerably

tally recorded by the computer, and it can even watch for a tone keypad to enable remote reviewing of messages. At present, however, these modems are mainly available in Germany, and do not have BABT approval.

Rather than re-inventing the wheel, the author of CoNnect decided not to support the various file transfer protocols internally, opting instead to call on existing programs such as XYZ.TTP or GSZRZ.ACC.

These provide X, Y and Zmodem file transfers, and work

well – although loading the TTP sub-program version can slow operations down if you are working from floppy disk. Text output from the XYZ program is cleverly redirected into a window, which should make it compatible with MultiTOS on the Falcon.

On the downside, this method of shelling out does preclude multi-tasking while downloads are taking place, a feature which is ably supported in the product's main commercial competitor, STalker, even on a standard ST.

FEW HICCOUGHS

The English documentation is rather limited at present, but the author is gradually making inroads into the task of translating from the extensive German instructions.

Registered users will even receive a "comfortable handbook", whatever one of those might turn out to be. The program itself is already fully translated – albeit with one or two minor linguistic hiccoughs – but its CoShy script language is still in German, and is thus difficult to use unless you happen to be bilingual.

CoNnect is not available through shops, but can be downloaded from many bulletin boards, from CIX, or via FTP from the internet atari.archive.umich.edu site. The latest version as we go to press is v1.96, but keep your eyes open for regular upgrades.

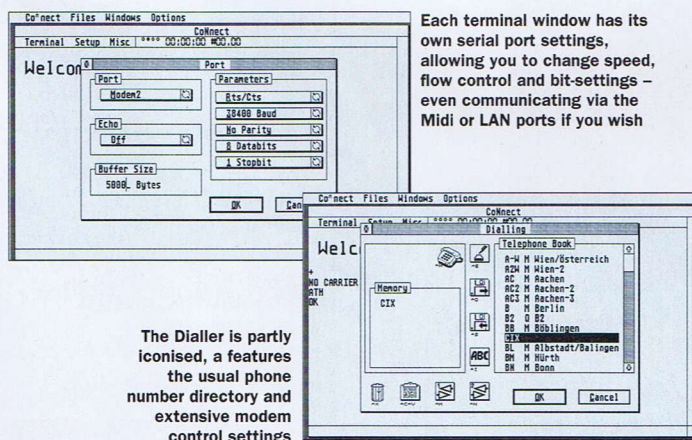
The shareware ethic

Unlike STalker CoNnect has been released by its author as shareware, which means that although you don't formally pay for it when you receive it, the author expects that if you continue to make use of his work, you should make a contribution towards its development.

In fact, the charge is unusually high for such a product, being set at DM60 – about £25 pounds to you and me – but it's obvious that a lot of hard work has been expended on the package, to the extent that it puts many more expensive commercial programs to shame.

The author allows you to try it out for a month before making a decision. If after that time you decide not to register, the software will assume you don't consider it worthwhile and will block further use.

If you do wish to register, the program will even print out the registration letter for you. In return for your payment you will receive a software "key" which unlocks the program, allowing you to use it with no further restrictions.



The Dialler is partly iconised, a feature the usual phone number directory and extensive modem control settings

André Willey investigates a fully-featured new shareware communications program from Germany

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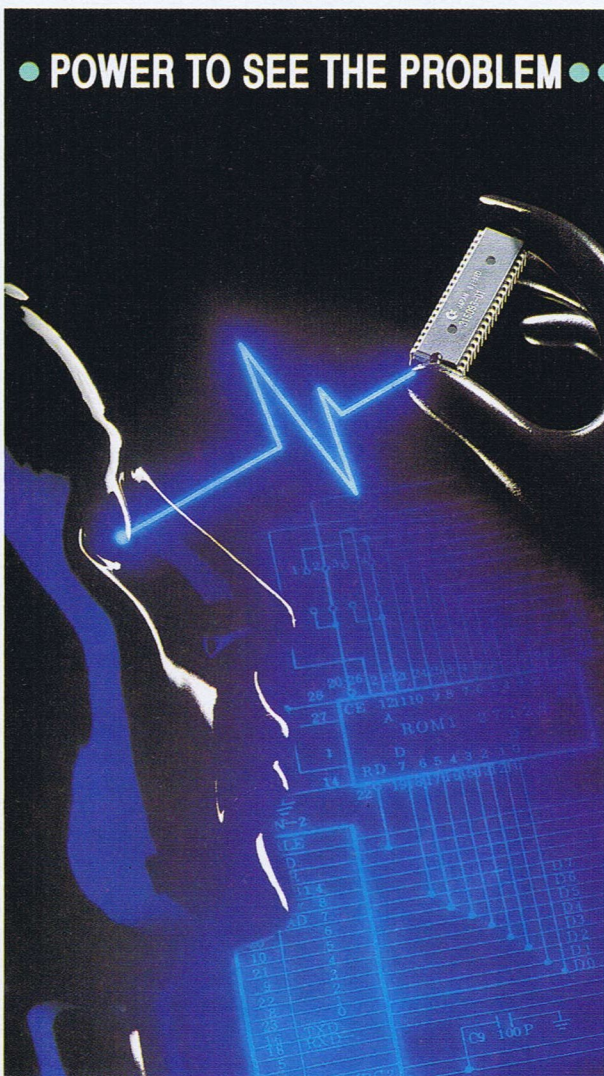
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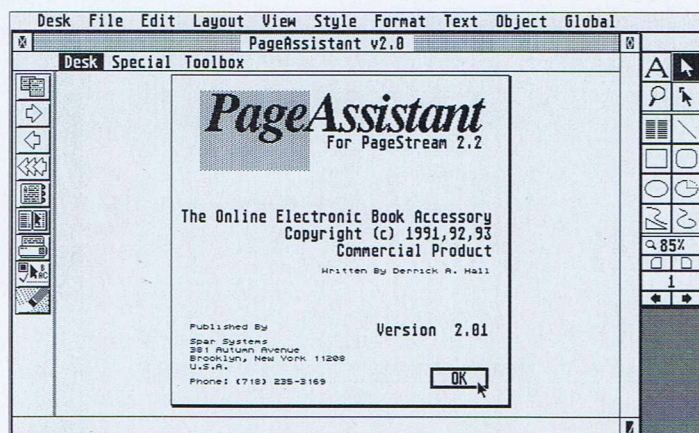
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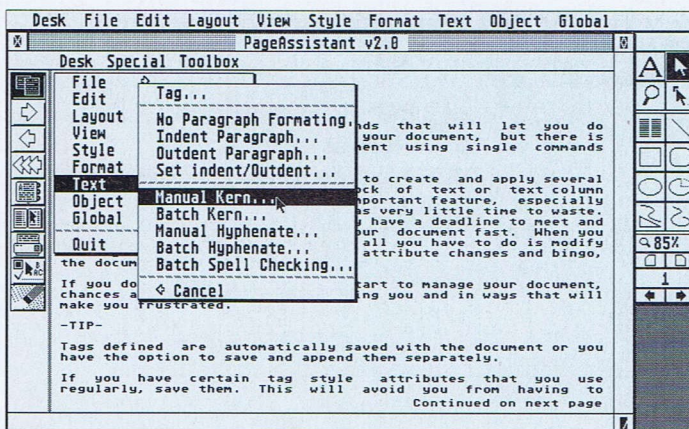


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Starting up the PageAssistant accessory



Getting help on the PageStream menus

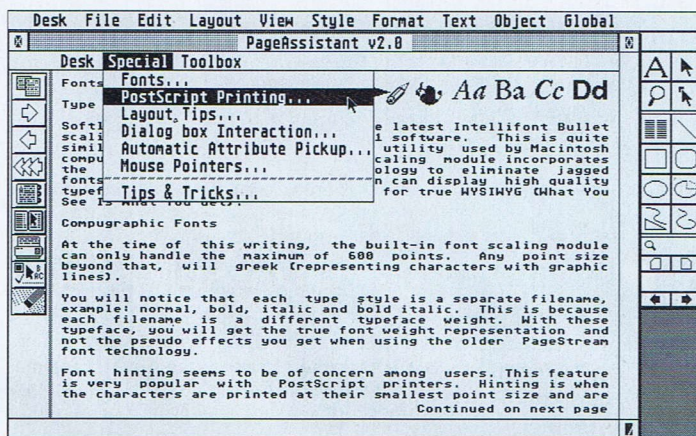
A helping hand

Manuals are never perfect, no matter how much effort is put into them. The writer is often far too close to the product, with the result that too many simple things get forgotten or skipped over.

A top programmer might know C and assembler backwards but be completely incapable of communicating with other human beings – an all too common occurrence, unfortunately. At the other extreme, a manual written by a third-party, perhaps a professional technical author, might miss out or gloss over some vital or revolutionary aspects of the program, explaining only how and not why.

This probably explains the rapid growth in add-on manuals and handbooks for most popular computer programs. You can buy any number of "Your second manual" type publications for applications like Lotus 1-2-3 and Pagemaker, for example, but they're somewhat rarer on the ST.

In the light of this, it's particular-



One of the hints and tips sections

ly nice to see a couple of new products from the ST Club dealing with the problem. PageAssistant provides online help and advice for PageStream 2 users and CalAssistant SL does the same for Calamus SL. Both have been developed in the US by a company that clearly knows and uses the products.

They comprise a 52-page booklet and single double sided disk. On the disk is a special desk accessory that work within the relevant host application. When called, the accessory pops up in an overlapping GEM window with an icon-driven interface and a nested sub-menu system.

The topmost icon is the pop-up menu which brings up a menu list equating to the GEM menu bar in

PageStream. A further click selects the second level of menus and the appropriate one can then be selected.

For each menu item in PageStream there is a corresponding one in PagesAssistant, often running to several screens of text with cross references and the number of the appropriate page in the PageStream manual.

PageAssistant works in any resolution supported by PageStream, including medium ST resolution. As it takes up some 145k of RAM, it isn't advisable on a 1Mb system although there should be no problems on a 2Mb system, provided you remove other desk accessories beforehand.

Installation is carried out by copying the files across to the root

directory on your hard drive – it will work on a floppy-based system but the pop-up help will become drag-up help unless you have enough memory for a 450k RAM disk.

Actually there's much more to PageAssistant than pop-up help. The 52-page manual is taken up mainly with excellent tutorials. Subjects include importing, placing, cropping and printing colour separations, macros, paragraph spacing, drop caps, text flow around graphics and using master pages.

The macros are quite complex and some of them can be used to create some excellent special effects with text, graphics and fills. Paragraph spacing is another useful section as it is one of PageStream's major omissions.

COMPREHENSIVE AID

There is also a set of GEM menus in the PageAssistant window itself which allow you to call up topics of interest and peruse them for hints and tips. For example, there are sections on the various types of fonts that PageStream can use, PostScript printing, layout, automatic attribute pickup and dialogue boxes. The third menu provides quick descriptions of each icon in the program's toolbox.

CalAssistant SL is basically the same as PageAssistant with a similar interface closely allied to Calamus's own.

The 52-page manual also contains sections on clipboard tips, adjusting ruler margins, widow and orphan control, screen dpi display and frequencies, PKS Write hot keys, a layout tutorial and again, line and paragraph spacing. There is even a section on barcodes.

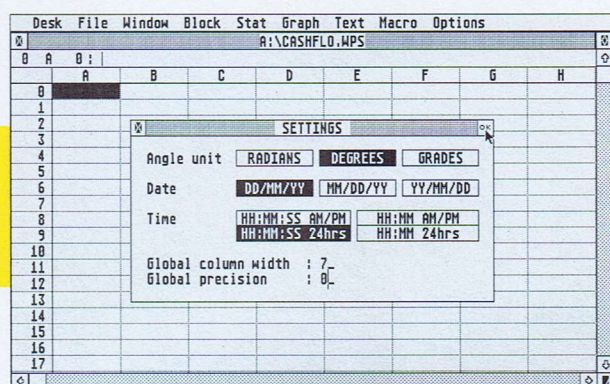
Both products represent reasonable value for money at £29.95 (there's also a Calamus 1.09n version available for £19.95). To get hold of either contact the ST Club on 0602 410241.

Hard copy for easy times

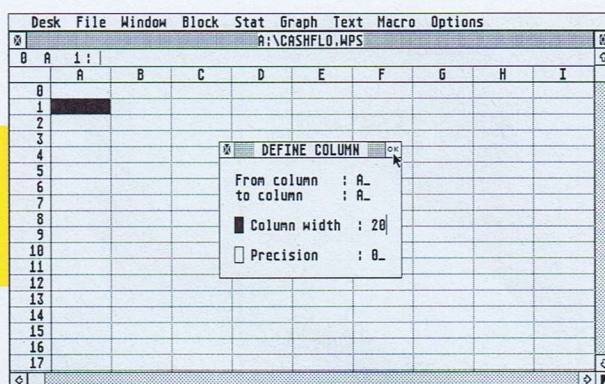
If you're interested in further written help, Kuma have a good selection of books. Although one of the oldest ST supporters (developing programs like K-Spread and K-Data), they have now dropped software from their list and only publish books.

However they currently have four ST-specific DTP titles (quite a few more in other areas, I'm told) and can be contacted on 0734 844335.

Andrew Wright looks at two new desk accessories designed to help you get the most out of DTP with Calamus SL and PageStream



1



2

Spotting the crisis

I have mentioned cashflow spreadsheets fairly briefly before. Several readers contacted me asking for a tutorial, aimed more at the overall nature of the task than the ins-and-outs of a particular spreadsheet program.

So here goes. By the way, I'm using Microdeal's excellent 3D Calc - you can use any you like (within reason).

Load your program in the usual way. Get a worksheet on screen, and save it (probably using Save As) under the name CASHFLOW, or something else appropriate. In 3D Calc, the extension 3DD will be added automatically.

Now, if you save your file at regular intervals, there's less chance of ever losing a significant amount of data.

One excellent feature of 3D Calc is that you can choose, from the Options menu, any one of three screen font sizes. I've opted for the middle one, which is small enough for me to get plenty on screen at one time, and large enough for you to see what's written even when the pictures are reduced to fit on the page. And, at

last, here we are at the real start of our tutorial:

1 First, as far as your spreadsheet allows, you need to format the cells for the way you want to see your figures displayed, and also set a global width for the columns (number of characters they can display).

Because this is a forecast, we can round everything up to the nearest pound rather than worrying about odd pence, so we don't require a decimal point with any

figures after it. A column width of seven characters is sufficient for this exercise (although if your business has a multi-million pound turnover, you may need to think bigger when it comes to doing the real thing).

In 3D Calc, the procedure is simplified because the Global Column Width and the Global Precision (that's number of digits after the decimal point to you and me) are in the same Settings dialogue box.

To get to it, choose Options from the Options menu (your spreadsheet will most likely have a different method, and it could be you will have to do this in two distinct

operations), set Global Column Width to 7 and Global precision to 0, and click OK.

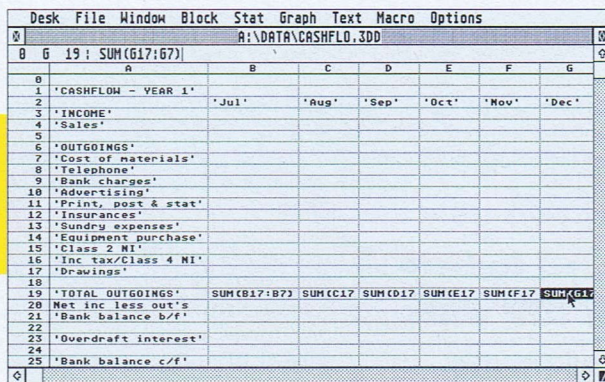
2 Because column A is to contain labels, it needs to be wider than the rest, so, with the cursor at A1 (I could have started at A0 in 3D Calc, but it might lead to confusion for those of you whose 'sheets don't have a row 0) go to the individual column width setting - in 3D Calc you choose Define Column from the Window menu. Set the width to 20.

3 With the cursor still in A1, type CASHFLOW - YEAR 1 (or whatever year you wish to forecast) then press the down arrow twice (or place your mouse pointer in A3 and click, which should have the same effect).

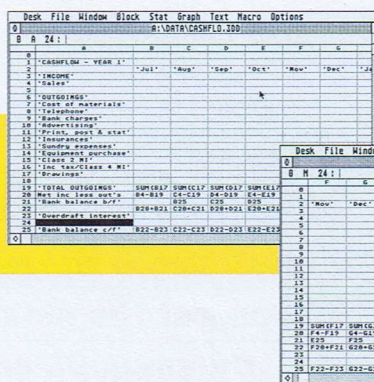
Now type INCOME, then in A4 type the income label Sales. You may have more sources of income when you come to do your forecast for real - simply type in the rest on

Plan far enough ahead to prevent money problems with a projected cashflow spreadsheet.

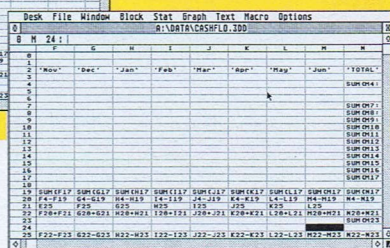
Richard Williams is your guide



5



6



6

REPLAY 16

At last, a low cost 16 bit sampling system for the Atari ST, featuring full 16 bit input and output in the same unit. The system comes complete with a sophisticated sample making/editing program, superb digital Drum machine program, and a powerful MIDI keyboard emulation program which gives the user the ultimate in MIDI sample control.

HARDWARE - The 16 bit sampling unit plugs into the cartridge port of the ST. Audio connections to and from the sampler are provided via standard Phono connectors. An Input volume control is also provided.

SOFTWARE - EDITOR - The sample editor is a highly flexible 'WIMP' style program which allows conversion or editing between any AVR format 8/12/16 bit, Mono or Stereo samples. Sampling rates of up to 48KHz can be used, but the program can re-synthesise samples to practically any other speed.

Features include:
 • Volume control
 • Digital filtering and 3D frequency analysis
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DRUMBEAT - A 4 voice polyphonic Drum machine with full MIDI control. Up to 30 different samples can be loaded into a kit at once and 50 patterns can be programmed in either realtime or step time. Samples can be up to 1Mb in length each.

MIDIPLAY - Flexible keyboard emulator which can cope with up to 128 samples in memory at once. Any sample can be assigned to any note or range of notes in a 9 octave range. Midiplay can play up to 4 VOICE/NOTE polyphonic with 3 levels velocity sensitivity while in single voice mode. An advanced sample loop point editor with AUTOLOOP (Zero Crossing) detection is also incorporated to ease loop point editing.

The system runs on any ST or STE with 502K (1Mb min is recommended), and comes complete with hardware, software and comprehensive manual.



Product	Price	Order No.
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TruePaint is the first art package to take advantage of the true colour capabilities of the Falcon030 computer. Some of the highlights of the products are:

- Works on all ST's and Falcons in all screen resolutions including 768x480 True Colour
- Easy to use Multi-Window environment with menus, toolbox and keyboard shortcuts
- Full range of drawing tools
- A large variety of effects including shear, wrinkle, smooth, rainbow etc
- Flexible zoom, full screen mode with edit, colour picker, bezier curves...
- Animation, Font/Speedo GDOS support, wide variety of file formats including IFF, TIFF, GIF, JPEG, Targa, IMG, Neochrome and more
- Extensive and informative 170 page manual

NEW offer



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Videomaster can produce great 'grey' scale pictures from any video source with a pause or still frame facility. The colour filters provided in this package will enable the users of video cameras or camcorders to produce high quality still pictures in glorious colour.

Videomaster features a sound sampler as part of the hardware, though the software can be used with external sound samplers. This is supported by a full feature sound

recording and editing program within the videomaster software. The Videomaster system also features a video sequencer.

The complete package contains the Videomaster video digitising and sound sampling hardware unit, TRI-Colour filters for colour camera use, comprehensive user guide and full system software.

Videomaster will work on any standard Atari ST with at least a single 1Mb floppy disk drive and a colour monitor. At least 1Mb RAM is recommended. RRP £69.95, save £15 with this offer.



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- High resolution printer driver with more drivers forthcoming
- GEM menu and fast icon driven controls
- Keyboard shortcuts

NEW offer



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Product	Price	Order No.
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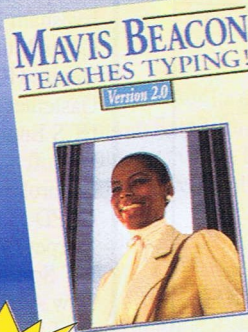
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Offer**

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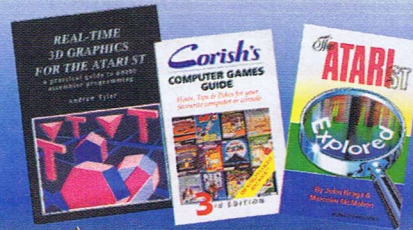
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Spreadsheets, The Easy Way - This flexible book enables it to be used with almost every major spreadsheet package on the market. It has easy step by step instructions for beginners, a how to section for reference purposes and so the book is suitable for ALL computer users

Atari ST Explored - This is probably the most comprehensive guide available to Atari GEM operating system and main ST/STE languages. The text is liberally illustrated with diagrams and examples making it easy to follow and understand.



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STU6

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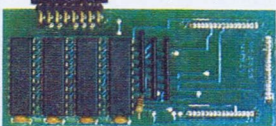


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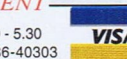
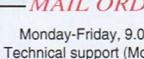
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More Atari

News & Views



from HiSoft

Language News

Watch out for new versions of our popular languages; Devpac 3, HiSoft BASIC 2 and Lattice C 5. These latest releases include full Falcon030 support with extra libraries, an improved debugger and a comprehensive handbook that discusses using these products on a Falcon computer.

The new libraries include routines for accessing the video and audio sub-systems, Speedo GDOS, MultiTOS, the DSP processor and other new aspects of the Falcon030. As such they are essential for any programmer with a Falcon computer or for anyone who wants to support this fabulous machine.

These Falcon-enhanced versions will be stickered as such on the outside of the box (an example is shown below) and so will be easily recognisable. Upgrade prices start from £10 for each product - please call for details.

The Falcon030-enhanced sticker that will appear on all our software packages that include special features to take advantage of the Falcon computer.



Speedo GDOS and MultiTOS

At long last, both MultiTOS and Speedo GDOS are available in the UK. MultiTOS is Atari's official pre-emptive, multi-tasking operating system allowing you to schedule a variety of tasks on your computer. Speedo GDOS is the new outline font system based on Bitstream's Speedo font engine.

Both programs are released on 22 May, require upwards of 2Mb of memory and are complete with manuals and free 30-day support from HiSoft.

When only the Best will do...

Falcons from HiSoft

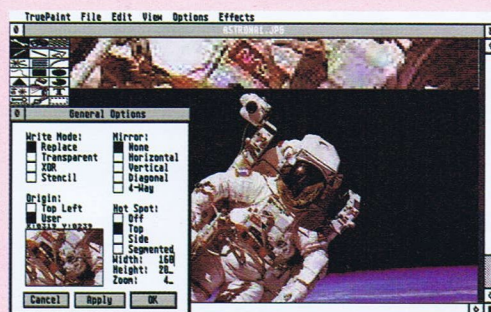
Yes, we have them - now! In what is an unusual step for us, we have decided to stock both the 1Mb and the 4Mb/65Mb HD versions, the retail prices of which are £599 and £999 inclusive.

We have un-rivalled (in the UK at least) knowledge of the Falcon hardware, its operating system and the tools that will be available for this amazing machine; in addition, we firmly believe in quality of customer service, both before and after a sale. So why not give us a call to discuss the benefits of this superb new computer and how it can best meet your requirements?

TruePaint

TruePaint is the first art package to take advantage of the true colour capabilities of the Falcon030 computer ... and it is shipping now. Some of the highlights of the product are:

- Works on all STs and Falcons in all screen resolutions including 768x480 True Colour
- Easy-to-use multi-window environment with menus, toolbox and keyboard shortcuts
- Full range of drawing tools
- A large variety of effects including shear, wrinkle, smooth, rainbow etc.
- Flexible zoom, full screen mode with edit, colour picker, bezier curves ...
- Animation, Font/Speedo GDOS support, wide variety of file formats including IFF, TIFF, GIF, JPEG, Targa, IMG, Neochrome and more
- Extensive and informative 170-page manual



TruePaint was launched at the 7th International Computer Show and has already gained wide acclaim from its users. For more information, please call us and ask for a brochure.

Diamond Edge

From the authors of Diamond Back, the popular hard disk backup program, comes a new package that is essential to any serious user of an Atari 680x0 computer.



Diamond Edge is a complete set of management, optimisation, diagnostic, repair and data recovery tools for use with floppy disks and hard disks. Version 1.04 is now available, this supports the IDE hard disk within the Falcon030 - call for upgrade details.

The current version of Diamond Back, 2.51, has full support for the new 21Mb flopticals - again, contact us for information on upgrading.

DataLite 2

We are pleased to have acquired the exclusive rights to this new program from Germany.

DataLite is a sophisticated 'disk doubler' which, by using a combination of compression & de-compression techniques, can save up to 50% of the space on your hard drive or on your floppy disks. We have thoroughly tested this invaluable program and we have found it to be extremely reliable and easy-to-use.

DataLite compresses all types of data on your disk, not just text files, and thus gives you optimal space saving. DataLite is a logical companion for Diamond Edge and Diamond Back II and we have a special, limited offer for a combined pack of all three utilities (see the box below).

Harlekin 3

The latest upgrade to the immensely popular Harlekin suite of desk accessories is released on 22 May. The package has been much improved and extended including non-modal dialogs, a multi-window editor, full Multi-TOS and Falcon030 support and a new manual. Please call or write for full details and upgrade information.

All HiSoft's products should be available through your local computer dealer. If you have difficulty in obtaining a title you can order directly from HiSoft using your credit or debit card - just call 0525 718181 and ask for mail order sales.

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The Old School, Greenfield,
Bedford MK45 5DE UK.
Tel: +44 (0) 525 718181
Fax: +44 (0) 525 713716

Special Spring 93 Prices from HiSoft

As a very special mail order promotion, we have reduced the prices of some of our software titles for a limited time to readers of this magazine. The following products will be available, subject to stock, at lower prices for the period 22 May until 31 June 1993. You can only order directly from HiSoft using your credit/debit card or by sending us a cheque/postal order (payable to HiSoft), quoting reference ATS93M1. All prices include VAT and P&P from HiSoft.

Diamond Edge, Diamond Back II, DataLite Package	£99	ProFlight	£14.95
Speedo GDOS and MultiTOS package	£49.95	Lattice C 5 - non Falcon	£99.95
Wordflair 2 inc Speedo GDOS	£59.95	HiSoft BASIC 2 - non Falcon	£54.95
		Devpac 3 - non Falcon	£54.95
		Harlekin 2	£39.95