

ATARI ST USER

August 1993
Issue 90
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Overseas £3.80

EURO PRESS
ENTERPRISE

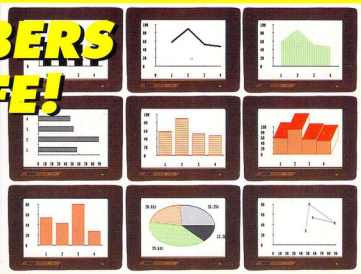
Britain's best for ST • STE • TT • Falcon

MAKE NUMBERS COME TO LIFE!

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presentation graphics

plus **FREE!**
K-GRAPH

Worth **£40**



August 1993

ATARI ST USER

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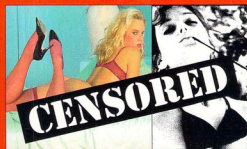
HiSoft's powerful presentation package will transform your numbers into lively graphics

Bio Hazard
Best sellers and explore a strange environment in this Dangerous Duster sci-fi theme

- View 256 colour GEM pictures using the special screen processing feature of the great Speed of Light!
- A brilliant and addictive version of the arcade classic Asteroids
- Create a virtual disk drive with the versatile ROM utility

COMPUTER PORN

Does
your child
own these disks?



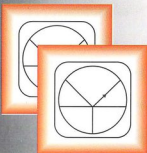
Plus: Atari launch 64-bit console, hard drive and utility round-ups, latest reviews and much more

**Ladbroke
Computing**

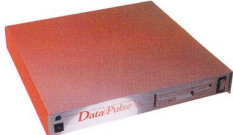
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Quality Data Storage

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Data Pulse Plus



Data Pulse Plus is a range of High Quality, High Density, Data Storage Devices, developed exclusively by Ladbroke Computing International.

The Data Pulse Plus range consists of various high density, high speed SCSI storage mechanisms based on the Data Pulse Plus Sub-System. This Sub System has been extensively developed to reduce noise and maximise ease of use and reliability.

The Data Pulse Plus Sub System features a custom designed

"Well constructed and designed for ease of use utilising highest quality mechanisms"

Darren Evans, ST User

case of dimensions: 300mm x 295mm x 51mm (wh). The power supply unit is housed internally providing a reliable power source for drive mechanism, host adaptor and Fan (Floptical & Floptical combinations only) without placing extra strain on the ST's PSU. The full metal case fully shields the internals from interference and surrounding equipment from radiation. It is also ideal for use as a monitor stand.

The ON/OFF switch is mounted on the front of the case along with the SCSI device number selector and a bi-colour LED which displays power on and 'Drive Busy' status.

All Data Pulse Plus ST Drives include the acclaimed ICD SCSI host adaptors. Full manuals are also included detailing hardware specification, setup and trouble shooting.

To ensure the highest possible reliability, the drives are tested at every stage of assembly by skilled technicians. We also format, partition and install a bootable driver as part of the test procedure to ensure that the drive is ready to 'Plug in and Go' when you receive it. When you first boot up your hard drive you will find a wealth of Public Domain Utilities which have been selected by our support staff as particularly useful.

All Data Pulse Plus drives include 12 months warranty and free phone advice and support by genuine Data Pulse Plus users.

The entire range of Data Pulse Plus Hard Drives are based on the highest quality mechanisms available. Only Quantum and

Maxtor mechanisms are used, each of which feature a MTBF (Mean Time Between Failures, measured in Power On Hours) in excess of 60,000 hours. All SCSI mechanisms used are 3.5" wide and just 1" high and are chosen for their performance and low power consumption.

The Low power consumption of these mechanisms means that they can operate well within their safe operational temperature ranges without the need for Fan cooling. This coupled with the design of the case results in probably the quietest Hard Drive range available for the ST.

All Hard drives are Autoparking, reducing the risk of head crash or damage during transit. All drives also come configured to be Autoboosting.

All Data Pulse Plus drives for the ST now include the ICD LINK host adaptor. This external adaptor plugs into the SCSI port at the back of the drive. This configuration allows the drive to be used with any computer you may upgrade to in the future such as the Falcon 030.

All Data Pulse Plus Falcon drives come complete with SCSI 2 cable and cost £50 LESS than the prices quoted below. All Data Pulse Plus hard drive/floptical combinations for the Falcon come complete with SCSI 2 cable and the ICD PRO Utilities and cost £10 LESS than the prices quoted below (Phone for latest prices).

Floptical Drives are a new addition to the Data Pulse Plus range. This latest generation of high density storage medium is capable of storing over 20Mb of uncompressed data on a single 3.5" Floptical disk.

The Floptical disks store data magnetically just like a normal floppy disk but the positioning of the read/write heads is far more

Hard
Drives



"Data Pulse is astonishingly fast" - Andrew Wright, ST User

accurate due to an Optical positioning system. The Floptical Drive positions its heads using ultra fine guide tracks embedded in the Floptical disk surface. Using this positioning system, the Floptical Drive is able to store data on up to 1240 tracks per inch, compared to the 135 tracks per inch of a normal 3.5" floppy disk.

The Floptical Disk Drive is a 3.5" SCSI mechanism which combined with specially Up-dated ICD software can access the 21Mb on a Floptical disk and also Read and Write 720K and 144Mb 3.5" Floppy disks.

The Drive has an average access time of 65ms and a data transfer rate of 200K per second (6 times faster than Floppy disk).

The Floptical Drive is available as a stand alone unit, an upgrade for existing Data Pulse and Data Pulse Plus owners or as a combination unit coupled with any capacity of Data Pulse Plus Hard Drive.

Each Floptical drive includes one 21Mb Floptical disk. As many extra Floptical Disks as you require are available at a very low £ per Mb rate.

The Floptical drive is an ideal backup device for large hard drives. Coupled with a backup utility such as Diamond Back II which features compression you can back up more than 30Mb of data per Floptical Disk.

Diamond Edge is a hard drive optimisation and diagnostic/repair utility. This utility allows defragmentation of hard drives and also diagnostic and repair facilities for reclaiming lost data.

The ICD PRO Utilities will work on any hard drive on the ST/TT and Falcon. These utilities include recognition and support of Floptical drives, CD ROMS etc, Format and partitioning of hard drives, Bootable driver installation and hard drive caching. The ICD Cleanup utility is also included for data retrieval etc.



Data Pulse +85Mb	£349.99	Data Pulse +240Mb	£499.99
Data Pulse +127Mb	£389.99	Data Pulse +345Mb	£699.99
Data Pulse +170Mb	£429.99	Data Pulse +1Gb	£1029.99
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170Mb with Floptical	£769.99	Diamond Edge	£44.99
240Mb with Floptical	£839.99	ICD PRO Utilities	£39.99
345Mb with Floptical	£1029.99	Falcon SCSI II cable	£39.99
1Gb with Floptical	£1399.99	ICD LINK	£89.99

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
- FALCON 4Mb 65Mb HD £959.00

STE Packs

520 STE	£219.00
1Mb STE	£229.00
2Mb STE	£275.00
4Mb STE	£329.00
1040 STE Midi Master	£289.00

Software

Scanlite Accessory	£20.00
Image CAT	£24.99
1st WordPlus	£39.99
Timeworks 2	£39.99

Midstudio Master

240 PPO Midi Standard file format compatible, 100 tracks. Phrase arrangement. Very easy to use.

£19.99

Marpet Upgrades

Marpet upgrades for the ST are "plug in" and require no soldering. They are compatible with most motherboard layouts and come with full fitting instructions. These boards accept SIMM boards and are upgradeable at a later date.

½Mb STFM	£34.99
2Mb STFM	£74.99
4Mb STFM	£119.99

Please phone for further details

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 (requires some technical knowledge)
- Fully tested prior to despatch
- All Aries RAM upgrade boards come packaged in a 10 capacity disk box, complete with full fitting instructions/test disk.

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4Mb Board	£129.99
512K SIMM's STE	£6.99
2Mb SIMM's STE	£49.99
4Mb SIMM's	£94.99
2 x SIPP to SIMM adaptors	£3.00

Monitors



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Dataview 14" SVGA Monitor with ST adaptor (includes sound). Fully compatible with all ST Hi-Res Programmes.

Philips 8833 MkII £229.99
Includes 12 Months on-site warranty (Mainland UK) and free Lotus Turbo Challenge II game.

ATI SC1435 Col Mon £199.99
Includes tilt/swivel stand and cable for STFM/STE

Dataview SVGA Col Mon £239.99
High quality Colour SVGA Monitor. 26 dot pitch. Includes Falcon adaptor.

Falcon VGA Adaptor £9.99
Falcon ST Monitor Adaptor £9.99
Philips SCART to ST/STE £9.99
8833 MkII to ST/STE £9.99

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 its 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.

Prices quoted are for 1 Node. Each computer attached to a Network requires 1 Node.

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Hand Scanner

- 100,200,300,400 Dpi Resolution
- 1 letter mode, 3 photo modes
- 105mm scanning head
- Includes Cartridge through port with switch box
- Compatible with Touch Up 18
- Supplied with Scanlite Accessory. Compatible with any graphics package which supports accessories. Allows scanning directly into compatible packages, such as Silhouette and Megapaint II.
- Supplied with Silhouette V14.
- Autotracing vector package (mono monitor only). Scan directly into Silhouette via Scanlite or Import IMG, DEGAS, TINY, MacPaint, GEM and SGF bit image files. Exports IMG, GEM (13), SGF, DXF, EPS (Postscript) vector files.

Hand Scanner + Scanlite/Silhouette

£119.99

DataNet Network



Datanet Network Hardware
● Cartridge based high speed network solution

● Compatible with ST (F)(M), Mega ST, STE, Mega STE

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 DataNet, LanNet and MidNet devices

● Full Falcon compatibility using LanNet device

DataNet with PowerNet £99.99
LanNet with PowerNet £89.99
MidNet with PowerNet £59.99

Prices quoted are for 1 Node. Each computer attached to a Network requires 1 Node.

PC Emulators



● Run PC Software on your ST

● Full installation instructions

● XT or AT Emulation

PC Speed STFM or STE (XT) £55.00
AT Speed STFM (8MHz) £139.00
AT Speed C16 STFM £199.00

Printers



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Star LC100 Colour £165.00
Star LC20 £124.00
Star LC24/100 Mono £179.00
Starjet SJ48 Bubblejet £210.00
SJ48 Sheet Feeder £55.00
SJ48 Ink Cartridge £19.00

Citizen

Citizen Swift 240 Colour £270.00
Citizen Swift 90 Colour £175.00

Hewlett Packard

HP Deskjet 510 £329.00
HP Deskjet 550 Colour £620.00

Lasers

Seikosa OP104 £549.00
● 512K RAM (Exp to 2.5Mb)

● HP Laserjet IIP emulation

● 14 resident fonts

● Centronics/RS232C/RS422

● 12 months on-site warranty

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

Add £3 for Centronics cable and £7 for next working day courier delivery

Ladbroke Computing

33 Ormskirk Rd,
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PR1 2QP

Ladbroke Computing International are one of the longest established home computer dealers in the UK. We have developed an extensive customer service policy which involves testing of all hardware prior to dispatch 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 17/06/93 (while stocks last), and are subject to change without prior notice. All prices include VAT but exclude delivery.

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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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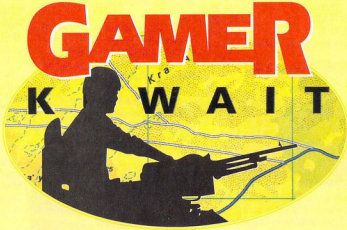
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KWAIT

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PLUS:

- Bio Hazard - a brilliant Dungeon Master-type game set in the deepest reaches of space
- Speed of Light - a powerful graphic picture viewing program which uses a special screen mode to boost your ST's displayable colours
- PD Asteroids - a faithful revisit to one of the all-time arcade classics
- RDE v3 - banish those disk-swapping blues and speed up file manipulation with this excellent RAM disk utility

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EUROPRESS
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Calamus SL	£339.00
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Cyber Control	£25.00
Cyber Paint	£25.00
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CAD 3D	£10.00
CAD 3D Developers Disk	£10.00
Neo Desk 3	£28.00
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Calendar + Stationery	£15.00
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C-Lab Creator	£179.00
Musicon (for Falcon)	£39.95
Cubeat	£150.00
Cubase Version 3	£319.00
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.

DELIVERY CHARGES: Small consumables & software items. Other items, except lasers, off-shore and highlands. PLEASE ENQUIRE. IN ADDITION WE OFFER THE FOLLOWING EXPRESS SERVICES: Saturday deliveries Normal rate plus £5 + VAT per box. AM next day Normal rate plus £8 + VAT per box.

UK MAINLAND (not Highlands) Despatched by post please check charges when ordering. Next day courier service. £10 per box. Please enquire. Normal rate plus £5 + VAT per box. Normal rate plus £8 + VAT per box.

THIS MONTH'S SPECIAL:
ATARI 520 STFm
£149

E. & O. E. Price subject to change without notice. Goods subject to availability. Specifications subject to change without notice. All Trademarks acknowledged.

Atari launch 64-bit Jaguar

by John Butters



Tramiel: "Jaguar will revolutionise home entertainment"

AN AGGRESSIVE \$200 price tag has been given to the Atari Jaguar, the world's first 64-bit games console launched ahead of industry expectations recently.

The machine is based on a 64-bit RISC processor designed by the firm, and features true 24-bit graphics with more than 16 million colours.

Games developers will be able to use the graphics to produce shaded 3D polygons which can be manipulated in a "real world" in real time.

Sound comes from a high-speed digital signal processor dedicated to audio, and gives 16-bit stereo CD quality for realistic sounds and human voices.

It is expandable and includes a 32-bit expansion port for connection into cable and telephone networks, as well as a DSP port for use with modems and peripherals such as DAT players.

An optional CD-ROM drive can be hooked up to the console to play standard CD audio, CD+G (karaoke) and Kodak's Photo-CD.

Several software titles are claimed to be under development including new versions of famous Atari hits *Battlezone 2000* and *Tempest 2000*.

Other games due on the MegaCart format include *Cybermorph*, *Alien vs Predator* and

Jaguar Formula One Racing. Third-party publishers will also be licensed to produce software.

According to Atari the machine is manufactured in the United States and advertising, promotion and marketing efforts will begin in New York during the autumn.

But machines will not be officially available in Britain until next year, although industry pundits say that a few grey imports might be seen before Christmas.

"The Atari Jaguar system will revolutionise the state of home entertainment as we see it today," said Atari president Sam Tramiel.

"The idea of a 64-bit system is earth-shattering and kids and adults will be amazed at both the imagery and manipulative capabilities.

"And we are proud that our entry into the multimedia entertainment category will be fully made in America."

A game and a ten-key Power Pad Controller will be packaged with the system.

Now HiSoft buy Microdeal

BEDFORD-based HiSoft (0525 718181) have extended their commitment to the Atari market with the recent takeover of Microdeal.

The move comes just weeks after the firm bought AVR, the makers of several hardware gadgets previously marketed by Microdeal.

"This a logical step for HiSoft," said the firm's boss David Link, "since as a publisher as well as a software house it is natural for us to produce the complete AVR product line in house."

"From Microdeal's point of view it was an inevitable move to consolidate their products under our umbrella since we controlled the AVR hardware, a major part of Microdeal's range."

Microdeal products will be produced and distributed from HiSoft's office and existing software contracts have been transferred to the firm.

Microdeal's name will continue as a brand for most of the current and future music, video and consumer leisure titles.

* Readers who wish to take advantage of the VideoMaster offer accompanying last month's CoverDisk software should make their cheques payable to Microdeal rather than Microdeal Ltd. Send orders to the firm at The Old School, Greenfield, Bedford MK45 5DE.



Link: Extends further into Atari market

More for your Falcon money

HARD drive models of Falcon will soon be sold with 80Mb of storage capacity instead of 65Mb, and at no extra cost to buyers, Atari ST User can exclusively reveal this month.

According to the Atari's marketing manager Darryl Still machines now being produced have the higher capacity drives and should be on sale within the next few weeks.

"This is the type of user-benefit opportunity we are always looking for," said Darryl. "If we get a chance from Taiwan to buy a better component at the same price we will always take it."

He added that more than 100 shops are now stocking and selling the Falcon in Britain and promised that 1Mb machines will be finally available within the next few weeks.

With the availability of the cheaper computer, Atari are confident that they will achieve at least 50,000 Falcon sales by this year end. However, they refuse to comment on industry rumours that the machine will be sold in a "PC-style" case and feature better specifications by early next year. Well placed sources say the improvements will include a 32MHz version of the computer's 68030 processor and a 32-bit data bus to significantly increase the machine's speed.



Falcon: More storage on hard disks

Cinepak signed for Atari video

STATE-of-the-art video compression-decompression (codec) technology Cinepak has been licensed by Atari for use with the Falcon and Jaguar. The software is developed by US firm SuperMac Technology and enables video frames to occupy less storage space while retaining accurate colours and image quality.

According to SuperMac, its features are so advanced that full-length films will fit on to a single CD-ROM with true colour and realistic quality close to the original source material.

Cinepak is already used by Apple Computers as part of their QuickTime standard and by 3DO for their upcoming interactive multimedia system which has huge industry backing.

"SuperMac is pleased to be able to provide Atari with leading-edge technology for realistic, full-motion video playback," said the firm's

Better toolbox for TruePaint

SINCE last month's CoverDisk demonstration of paint package TruePaint the program has been improved with a redesigned toolbox, HiSoft (0525 718181) have announced.

The new look is claimed to be more attractive and occupies less space on small monitors.

Version 1.03 also supports the Kodak PhotoCD image format, XIMG and IMG saving and minor improvements and bug fixes.

The company say that all registered customers will be given the chance to upgrade for a "very modest fee".

★ ★ ★

ITV retune into games

GAMERS will be able to tune into Yorkshire TV's *Bad Influence* this September when the top computer and consoles show returns to the ITV network.

Producer Patrick Titley says the programme will keep its old format and Andy Crane and Violet Berlin have been retained as presenters.

The 15-week show kicks off on Thursday September 9 at 4.45pm.

★ ★ ★

Atari share price jumps

ATARI Corporation's share price jumped 200 per cent in just three weeks recently, with the company claiming the rise to be entirely due to the launch of Jaguar.

In mid-May the price stood at \$1 per share but by early June it had climbed to just under \$3.

But figures just announced show the firm's financial problems are far from over, with a net loss of \$73.6 million being reported for the year ending December 31, 1992.

★ ★ ★

More CompuServe access

COMMUNICATIONS giant CompuServe have introduced local dial-up access points in Birmingham and Manchester supporting data speeds up to 9,600 bits per second.

The firm say they have been introduced as part of their effort to offer easier, reduced cost access to members in the UK. There are about 370 local-dial access points worldwide.

Bigger database helps with pools

If you're one of the millions who regularly try their luck at the football pools then the new version of Bay Computers' pools predicting software could help to improve your chances.

Pools - Expert Results Predictor has been improved for the fifth year running and is now claimed to offer easier use and more flexibility.

Its database contains more than 35,000 results and almost 600 teams and is prepared for the extra Scottish division due to start in next year.

The program can also be easily set up to accommodate any league in the world with up to 12 divisions.

Existing users can upgrade by returning their original disk and £2, or £2.50 if a manual is required. For newcomers the cost is £15.

Write to Bay Computers, 3 Teasel Walk, Morecambe LA3 3GQ or telephone 0524 831162.

Team	P	H	A	W	D	L	GF	GA	PTS	Form
Aston Villa	42	14	13	12	12	11	27	22	58	W D W D W
Norwich City	42	13	13	12	12	11	27	22	58	W D W D W
Blackburn Rovers	42	13	13	12	12	11	27	22	58	W D W D W
J.P.C.	42	13	13	12	12	11	27	22	58	W D W D W
Liverpool	42	13	13	12	12	11	27	22	58	W D W D W
Sheffield Wed	42	13	13	12	12	11	27	22	58	W D W D W
Nottingham H	42	13	13	12	12	11	27	22	58	W D W D W
Man City	42	13	13	12	12	11	27	22	58	W D W D W
Arsenal	42	13	13	12	12	11	27	22	58	W D W D W
Chelsea	42	13	13	12	12	11	27	22	58	W D W D W
Wimbledon	42	13	13	12	12	11	27	22	58	W D W D W
Everton	42	13	13	12	12	11	27	22	58	W D W D W
Sheffield Utd	42	13	13	12	12	11	27	22	58	W D W D W
Coventry City	42	13	13	12	12	11	27	22	58	W D W D W
Ipswich Town	42	13	13	12	12	11	27	22	58	W D W D W
Leeds Utd	42	13	13	12	12	11	27	22	58	W D W D W
Southampton	42	13	13	12	12	11	27	22	58	W D W D W
Luton	42	13	13	12	12	11	27	22	58	W D W D W
Derby County	42	13	13	12	12	11	27	22	58	W D W D W
Millwall	42	13	13	12	12	11	27	22	58	W D W D W
Reading	42	13	13	12	12	11	27	22	58	W D W D W
Walsley Forest	42	13	13	12	12	11	27	22	58	W D W D W

Pools: Could this program better your winning chances?

Extra features for Show File

VIEW II is a new utility which replaces the ST Desktop's Show File function with a more powerful one offering a range of extra features.

It enables users to view text files with bi-directional mouse scrolling, fast search and screen or file print options, and picture files can be displayed in colour or mono.

Archived files can be viewed and extracted, and digitised sounds played through the ST/E at any speed from five to 30kHz.

The utility is claimed to be compatible with most software and costs £14.95 from Nottingham-based ST Club (0602 410241).

Helping out with DTP

STUDENTS who need to learn desktop publishing skills as part of a short course or National Vocational training scheme are targeted for Kuma Books' (0734 844335) latest publication.

Student's Guide to Desktop Publishing was written by teacher and freelance journalist Terry Freedman and covers a wide range of topics.

They include basic skills, preparing text and artwork, principles of design, scanners, printing, proof reading, markets and typography.

There are also sections on wider requirements such as health and safety, maintenance and data security while questions test students on a continuous basis. Cost, £9.95.

Do you Know something we don't?

Although Atari ST User has scores of contacts in the ST world we need you. If you have some hot news ring John Butters on the news desk now on 0625 878888 or fax to 0625 879966. All sources will be treated on the strictest of confidence.

DIARY DATES

5 to 7 September 1993

European Computer Trade Show

Organiser: Blenheim

(081-742 2828)

Venue: Business Design Centre, London

A trade-only event where Christmas releases will be previewed.

16 to 20 September 1993

Live '93

Organiser: News International

(071-782 6000)

Venue: Olympia, London

A public consumer electronics show with a large computer area promised.

11 to 14 November 1993

Future Entertainment Show

(0225 442244)

Venue: Olympia, London

A multi-format computer and console show.

19 to 21 November 1993

International Computer Show

Organiser: Westminster Exhibitions

(081-549 3444)

Venue: Wembley, London

Discounted software and hardware plus product releases.

OVERSEAS

18 to 19 September 1993

South California Atari Faire

Organiser: HACKS

(010 1 818 246 7286)

Venue: Glendale, Los Angeles

The largest Atari show in the US.

15 to 19 November 1993

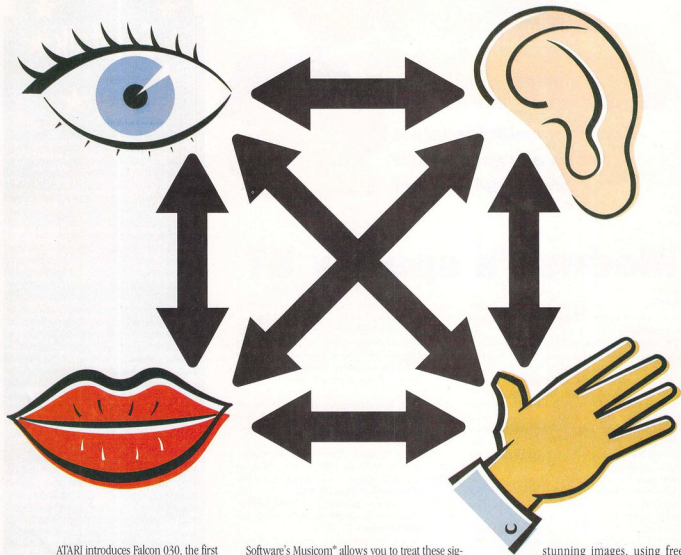
Comdex Fall

Venue: Las Vegas, Nevada

A business show, sometimes with Atari presence.

● If your company is organising a show relevant to the ST/Falcon and it's not listed, let us know so we can include the information in the diary.

If you understand this, you understand the Falcon.



ATARI introduces Falcon 030, the first ever micro computer which instantly communicates with all your current and future audio-video equipment. Now, TV, Monitor, HiFi, CD, CDV, R-DAT, DCC, VHS, telephone, synthesizer, photo CD, camcorder, printer, modem, ... communicate with each other, allowing you to get the most out of each piece of equipment. A true technological revolution, Falcon 030 is operated by a 68030 processor working in parallel with a DSP,

which is able to treat digital data at a very high speed. **Falcon Audio, the universe of Direct to Disk:** Falcon 030** offers, as standard, "Direct-to-Disk" recording, from a microphone (voice or instrumentation), a Walkman or a HiFi, via a simple stereo plug and also through its MIDI interface. Compo

Software's Musicom* allows you to treat these signals at better than CD quality: equalizer, Digital Delay (echo), harmonizer, flanger or even karaoke.

Falcon Video, manipulating images: Falcon 030 can be connected to almost any

stunning images, using freehand drawing, lines, shapes, patterns, perspective, colours, and even create animations which can be stored on video. **Falcon Photo, a personal computer studio:** Thanks to Studio Photo* from

Euro-Soft, the Falcon 030 treats digital photos in all formats, including Kodak CD, allowing special effects and retouching. **Falcon Software:** Falcon 030 already benefits from a wide range of innovative software and now, using

Falcon Speed* from Sack Electronics you can run MS-DOS programs on your Falcon 030. For more information write to: ATARI Corp. Ltd, Railway Terrace SLOUGH - BERKSHIRE-ENGLAND SL2 5BZ. Software by Compo, Euro-Soft, OverScan Sack Tel.: 0480 891819, by Hisoft Tel.: 0525 718181.

FALCON 030

ATARI

video source. With OverScan's Overlay* and Genlock* you can add titles, animations, sound to your videos and generate presentations combining a slide show with sound. **Falcon Graphic, a choice of 65,536 colours per pixel:** With Hisoft's True Paint*, you can produce

Now, all that communicates communicates.

Euro News

Don Maple with the latest news and gossip from across the Channel



Some German software companies are resorting to a new, albeit questionable, way of catching software pirates. The method involves browsing through computer magazines and answering small ads looking for software exchange contacts.

In the plaintive letters, including intentional spelling mistakes, they pretend to be teenage girls, who claim to know nothing about computers and would people "pretty please" send them some free software.

However, anyone who takes pity on the "little darlings" receives a letter from a firm of solicitors by return post. The legal conference on the famous Maus network is buzzing with discussions on the legality of this approach, particularly focusing on the entrapment aspect.

But clamping down is not only a domain of private enterprise. The German Telekom monopoly is also on the offensive. They've got the ever popular ZyXEL modems in their sights. These excellent modems are, naturally, not approved but are sold everywhere marked "for export only".

The German Telekom approach is to raid the premises of companies selling the modems and confiscate registration lists. This is then followed by a crackdown on people from these lists using the modems.

In addition to the privacy question, modem users are infuriated by all this since the German Telekom is not only one of the most restrictive telephone monopolies in Europe but also one with high charges.

These occasional raids are carried out with the hope of scaring people into buying the exorbitantly expensive yet badly under-powered approved modems.

However, the Telekom does not wish to scare the people too much since ZyXEL modems, although unapproved, pose no danger to the communication network, yet account for a large amount of traffic and therefore income.

Medusa's speedy ST

MEDUSA T-40, an ST accelerator that speeds up a normal 8MHz ST by a factor of 20, is now available.

The basic package includes a tower casing with its own power supply and a card sporting a Motorola 68040 running at 66MHz.

Also included are 8Mb of 60ns fast memory expandable to 4Gb. The accelerator can be installed on all ST except those with an SMD (surface mounted) CPU chip.

The 68040 running at 70MHz achieves a respectable 28mips (million instructions per second) and the internal on-board FPU (floating point co-processor) runs at 4.9 million floating point operations.

The whole project started as a four-part DIY series of articles in a German publication called *ST-Magazin*.

In addition to printed schematics, the articles address all technical aspects of incorporating the 68040 into an ST with maximum gain.

This includes some fancy hardware work as

well as the software considerations of making some older versions of TOS run on a 68040.

The result is a highly compatible implementation with most of the all-time favourites running without problems. Among others this list includes NVDI, Calamus, Devpac Assembler, Superbase, Pure Pascal, Uniterm and GFA-Basic.

However, a few programs do not survive the upgrade, most notably Spectre v3, which is a pity but understandable considering the contortions Spectre goes through.

Following the end of the series the author now supplies Medusa T-40 in a number of different configurations. It can be bought either as a finished product or a DIY kit.

The cost varies depending on configuration but the basic setup described above costs just over DM3000 (about £1,200).

For more information contact: Fredi Aschwanden, Medusa Computer System, Postfach 3, 8610 Uster, Switzerland.

More Calamus fonts around

FLYING FONTS have made all fonts in the Emigre library available to Calamus users. The fonts are licensed from top font designers from all over the world.

After hand optimising, the fonts are scanned in and distributed in CFN format according to strict DMC (Calamus manufac-

turer) guidelines. Individual fonts range in price from about DM200 to DM300 (£80 to £120).

For a complete Emigre catalogue as well as other catalogues write to: DIVIS, Georgsplatz 8, 5000 Cologne 1, Germany or fax 010 49 221 249 099.

If an unchanging image is displayed on a monitor for extended periods, it tends to get burned permanently into the phosphorus coating.

A screen saver is a program that oversees user activity and, if there is none, switches off and saves the screen from permanent damage. Before Dawn is a screen saver with a difference, named cheekily after a similar PC utility called After Dark.

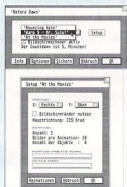
It watches not only the keyboard but also other ports including joystick, Midi, serial and so on – all individually selectable. Among numerous options are watch/sleep mouse locations, adjustable mouse movement sensitivity and time sharing with other programs.



But what makes Before Dawn unique are selectable modules which perform the screen saving. These are small programs with their own setup dialogue boxes including features such as programmable animation, sound support for playing of MOD files, number of bouncing items and so on.

The program comes with three modules: Bouncing Hole, Warp 5 and At the Movies, but since its release there has been a plethora of others ranging from the mundane "flying toasters" to the very exotic.

The programmer would appreciate a small donation sent to Arne Rudolph, Salvatorstrasse 2, 5100 Aachen, Germany.



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- 12 Month Repair Warranty
- FREE Silica Printer Starter Kit



PRINTER RRP £189.00
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 TOTAL VALUE: £214.00
 SAVING: £55.00
SILICA PRICE: £159.00

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- Parallel Interface
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- 12 Month Repair Warranty
- FREE Silica Printer Starter Kit



PRINTER RRP £249.00
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 SAVING: £115.00
SILICA PRICE: £259.00

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- Parallel Interface
- Graphics Resolution: 144 x 72dpi
- Epson and IBM Emulation
- Auto Sheet Feeder Option
- 12 Month Repair Warranty
- FREE Silica Printer Starter Kit

PRINTER RRP £149.00
 STARTER KIT £25.00
 TOTAL VALUE: £174.00
 SAVING: £64.01
SILICA PRICE: £109.99

£109.99
 +VAT = £129.24

9 PIN 300 CPS 80 COLUMN

FREE STARTER KIT WORTH £25
 FREE 12 MONTH REPAIR WARRANTY



ON-SITE WARRANTY OPTION
 1 YEAR - ONLY £10.00 + POS 8515

- Seikosha SP-2400 - 9 pin - 80 Col
- 300cps SD, 240cps D, 80cps NLQ
- 21K Printer Buffer + 5 Fonts
- Parallel and Serial Interfaces
- Graphics Resolution: 240 x 144dpi
- Epson and IBM Emulation
- Paper Parking Standard
- Optional Auto Sheet Feeder Unit
- 12 Month Repair Warranty
- FREE Silica Printer Starter Kit

PRINTER RRP £185.00
 STARTER KIT £25.00
 TOTAL VALUE: £210.00
 SAVING: £72.00
SILICA PRICE: £138.00

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 Order Lines: 9am-5pm Mon-Sat, 9.00am-6.00pm No. Line Night Opening Fax: 081-308 0538

LONDON SHOP: 52 Tottenham Court Road, London, W1A 0BA Tel: 071-580 4000
 Opening Hours: Mon-Sat 9.30am-6.00pm No. Line Night Opening Fax: 071-331 4312

LONDON SHOP: Selfridges Basement Area, Oxford Street, London, W1A 0AB Tel: 071-629 1234
 Opening Hours: Mon-Sat 9.30am-7.00pm Late Night: Thursday - 8pm Extension: 2014

SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-302 8811
 Opening Hours: Mon-Sat 9.00am-6.30pm No. Line Night Opening Fax: 081-308 0537

ESSEX SHOP: Keddles (2nd floor), High Street, Southend-on-Sea, Essex, SS11 1LA Tel: 0702 468639
 Opening Hours: Mon-Fri 10.00am-6.30pm Late Night: Thursday Fax: 0702 468639

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Mr/Ms/Ms: _____ Initials: _____ Surname: _____ Date: _____

Company Name (if applicable): _____

Address: _____

Postcode: _____

Tel (Home): _____ Tel (Work): _____

Which computer(s), if any, do you own? _____

MAIL ORDER HOTLINE
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SILICA SYSTEMS

COVERDISK

Another storming CoverDisk for you to drool over. Just take a look at some of the goodies we have for you this month...

K-Graph 2

This fully working and complete presentation graphics package from HiSoft allows you to transform your calculations into lively graphs

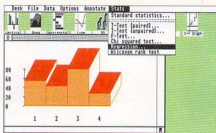
No need to extract the K-Graph files on this month's CoverDisk, just copy the folder to a disk, open it and double-click on the KGRAPH.PRG file to get started. Then turn to the Disk Tutorial pages for a basic guide to using the package.

K-Graph 2 is a powerful presentation graphics program which can produce up to nine different graph types and offers a wealth of mathematical functions. It is ideal for anyone wishing to create graphical results that can be printed out for presentation purposes.

Those of you at school or college can use it for homework or projects which require graphic results giving an impressive and professional look to your work.

Being a GEM program, K-Graph is extremely easy to use and anyone familiar with the ST's window environment should have no trouble getting to grips with it. In all, there are nine types of graph available such as pie, area, line, XY and 3D. There is an extensive

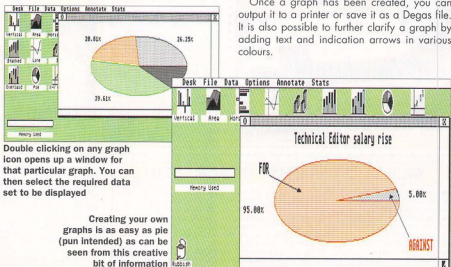
Programmed by: Ian M Dille
Configuration: All STs - medium or high resolution
Filename: KGRAPH 2 - Folder containing non-archived files



Other, more obscure statistical functions are available also

set of mathematical functions available too such as trigonometric, statistical and also conditional expressions.

Once a graph has been created, you can output it to a printer or save it as a Degas file. It is also possible to further clarify a graph by adding text and indication arrows in various colours.



Double clicking on any graph icon opens up a window for that particular graph. You can then select the required data set to be displayed

Creating your own graphs is as easy as pie (pun intended) as can be seen from this creative bit of information



K-Graph special offer

Atari ST User and HiSoft are offering readers the complete manual for K-Graph 2 at a special discounted price. Also available is an upgrade offer to K-Graph 3 which has many more features and capabilities. For further details, turn to page 18

PD Asteroids

A brilliantly addictive arcade game with all the fun of the original classic

Remember the classic Asteroids game that had you in control of a ship among an ever-increasing mass of large asteroids?

All you had were your reflexes and a poxy forward-mounted cannon with which you blasted the blighters, only to find that when you shot an asteroid, it split up thereby making matters more difficult.

And if that wasn't enough, there was also the odd alien flying saucer who randomly appeared and shot at you.

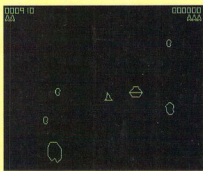
Well, it's time to hone up those reflexes and see if you are still up to the challenge in Sinister Development's version. As in the original, you are smack bang in the middle of the screen with some pretty large asteroids floating around and all you have to do is to survive.

Using the keyboard or joystick, you must control your ship rotation and momentum in order to avoid being smashed to oblivion.

The game features a high score table, keyboard definition to change the controls to your preferences and a two-player option, not to mention good sound effects.

Programmed by: Sinister Developments
Configuration: All STs/Falcon - colour and mono resolutions
filenames: X_ATROID.TOS -
Self-extracting archive

Five different ways to tell you have been smashed to pieces by a big rock



The graphics may be simple, but the gameplay is manic and addictive

Speed of Light v2.5

An extremely powerful graphics program that allows you to view pictures in the GIF format using an extended colour palette

Speed of Light is a picture viewer with a difference. Using a special screen display algorithm called colour vector distancing, it vastly improves the picture quality of the displayed GIF image by extending the colour palette.

Using Speed of Light is very easy. First, make sure you are in low resolution if you are using an ST/STE. If you have a Falcon or a TT, use the 256-colour mode.

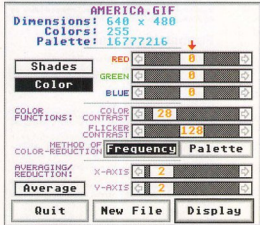
Execute the SPOFLT25.PRG file and you will be presented with an information screen. Click either mouse button and a file selector will appear asking you to select the GIF image to display.

Select the AMERICA.GIF file which will then be loaded and decompressed. You will shortly be presented with Speed of Light's main menu.

At the top of the screen you will see information relating to the actual image that has been loaded - in this case AMERICA.GIF has a 640 x 480 resolution with 255 colours and a palette of 16,777,216. Make sure Color [sic] is selected instead of Shades and then click on Display at the bottom right of the screen.

You will see a series of status displays as the image is scanned and processed. Eventually, the image will be displayed on the screen. To see the change in quality from the ST's standard display to that of Speed of Light's method, press the spacebar to toggle between the two display methods.

Also, for images larger than the actual screen, you can use the cursor arrow keys to scroll around the image.



Programmed by: Stuart Denman
Configuration: All STs/TT/Falcon - low resolution
filenames: X_SPEED.TOS -
Self-extracting archive

The GIF image format is widely used on CompuServe and can have up to 256 colours. Check out the included AMERICA.GIF file to see the quality of image that can be achieved.

For more information on the other controls for Speed of Light and instructions on how to register and receive the much more powerful version 3, check out the included documentation files (README.1ST and SPOFLT21.DOC).

Most picture viewers offer nothing like Speed of Light's degree of sophistication

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.

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:

PC Wise, Dowlais Top Park, Dowlais,
Merthyr CF48 2YY

A replacement will be sent free of charge but please allow 28 days for delivery.

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.

Bio Hazard demo

Roam the deserted corridors looking for aliens to blast in this Dungeon Master-type game

Ever since Dungeon Master appeared and amazed the ST populace, there have been numerous clones of the game. Bio Hazard is one such clone but it's set in space as opposed to dark, clammy dungeons, and you have to fend off nasty aliens instead of mummies and rock monsters.

There are lots of weapons to collect to help you finish the demo including guns, rocket launchers, grenades and mines. There is also some useful equipment to collect such as key cards, map and motion detector to warn you of any aliens that are getting a little too close for comfort.

There has been plenty of time spent on the graphics which are very good but the main question is: How does it play? Well, there is enough tension created to keep even the most diehard DM fan happy.

If you enjoy this sort of game, send off the registration fee (a mere £5 for European residents and £7 for the rest of the world) and you will receive the full version which features more levels (all with different graphics), extra weapons and extra equipment to find.

One bonus is that although the game is written using STOS, it still works on STs/STEs with TOS 2.06 and even TTs.

So what are you waiting for? Extract the blighter, dust off your Dungeon Master techniques and get blasting aliens. If you fancy the full version, send off your registration fee! Well worth it.

Programmed by: L J Greenhalgh
Configuration: All STs with 1Mb or more - low resolution
Filenames: X_BIO.DOS -
Self-extracting archive



In the various "cupboards" dotted around the place, you may find useful objects such as this mapper

Along the way, you can also find objects lying on the floor so keep your eyes peeled



RDE v3

An extremely versatile and reset proof RAMdisk utility

RDE is a configurable, self loading, external RAMdisk with the ability to save itself and contents to a file. Also, it is possible to set RDE as a "booting RAMdisk", which means upon warm reset the ST will treat it as the boot disk, thereby loading any programs which are in the AUTO folder on the RAMdisk.

For those of you not familiar with RAMdisks, they are essentially a software version of a disk which resides in the ST's memory. To all intents and purposes, the ST thinks that it has a drive attached and because the RAMdisk is held in RAM, all read and write operations to it operate at a blindingly fast speed.

Using the RAMdisk configuration program, you can inform RDE just how big it should be, for instance 100k.

Once set, the ST will warm boot, which by the way is what happens when you press the reset switch as opposed to turning the machine off and on, and the RAMdisk will then load into memory.

The benefit of a RAMdisk is especially evident to those of you with a single floppy drive system.

You know how clumsy and slow it is copying a file or group of files from one disk to another (lots of annoying disk swaps).

Well, using RDE, you can set up another

Programmed by: W Alan B Evans
Configuration: All STs with TOS 1.4 or higher - all resolutions
Filenames: X_RAMDISK.TOS -
Self-extracting archive

drive, say drive D, then copy the files you wish to transfer to another disk onto this drive.

Then simply remove the source disk, insert the destination disk and drag the files from the RAMdisk onto it - a simple two-disk swap operation.

Of course there are drawbacks to using a RAMdisk. First of all, it consumes memory, so those of you with 512k may find memory problems occurring when trying to use a RAMdisk with other programs.

Also, if for some reason the power supply fails, you will lose all data from the RAMdisk. Fortunately, RDE provides functions for backing up the data.

RDE is quite a complex program and when used with a CLI utility, is even more versatile as you are able to pass arguments to it in order to configure how it operates.

For more detailed information on RDE's features, refer to the included documentation file - RDE_V3.DOC.

August 1993
ATARI ST USER
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1. A free 4 page manual explaining the use of the program
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3. A free 4 page manual explaining the use of the program

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 reposition 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. A box entitled COPY FILE(s) appears. Ensure DOUBLE SIDED is selected then click on OK. The disk is now being formatted.

Copying files to another disk

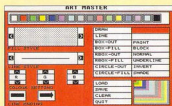
1. Select the file to be copied by highlighting it and dragging it to the disk B icon.
2. A box entitled COPY FILE(s) appears. Click on OK and follow instructions on the screen exchanging disks as requested.

THE BEGINNERS GUIDE TO STOS BASIC

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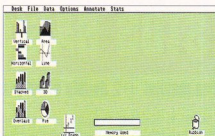
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K-Graph allows you to arrange the screen icons to your preferred preferences with its Desktop-like display

As an example of just how useful K-Graph is, consider that you have been given an assignment from your school or college tutor to find out which is the most popular of 15 TV programmes among a group of 100 people.

You diligently do your work, spending all hours doing the actual research, then you gather up your data and have to prepare your results for presentation to the teacher.

As well as a written account of your findings, your assignment instructions state that there must be some form of results table showing the popularity of each programme as a percentage.

When it finally comes to creating the data results, you decide that, ideally, you want a pie chart for each TV programme, showing the percentage of people who:

1. Always watch
2. Occasionally watch
3. Dislike it
4. Haven't seen it.

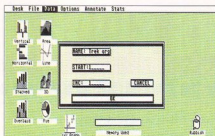
However, you're not very good at drawing and the thought of having to produce 15 graphs does not appeal to you at all.

This is where K-Graph comes into its own. From any set of data you enter, it can quickly create any one of nine types of graph and allow you to print it out.

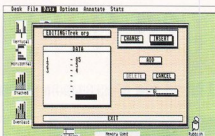
It is also possible to output it as a Degas picture file which can be loaded into an art package that supports colour printers. Thus not only do you save time and effort, your teacher will be very impressed by the quality of the graphs and will most likely give you top marks.

So, taking this example, let's look at how easy it is to actually produce such a graph using this versatile program.

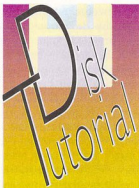
Of course the first thing you need are



Here, a data set is created and given a name. Multiple sets can be loaded at once so meaningful names are essential



Entering data for each set is painless and quick. Simple editing is also available should you make any mistakes



Have you made a backup of K-Graph 2 yet? You have? Then check out this basic guide to some of its functions

Easy as pie!

your results from the survey. So, check out the sample data on these very pages and let's start entering it.

First of all, you obviously need to load the program, so execute the KGRAPH.PRG file from the KGRAPH2 folder and you will shortly be presented with K-Graph's Desktop-like display.

At this point, and depending on what monitor you have attached (colour or mono) you may wish to arrange the icons to your personal preferences. There are 11 icons in total – nine for the different graph types with the other two being the memory used indicator and

the rubbish bin for deleting unwanted data.

Once you have the screen the way you like it, move the mouse pointer up to the Data menu item. At the moment, there are only two selections available – Create set and Formula.

The other selections are "greyed out" meaning they are not selectable yet. These will become available once there is a data set in memory.

Click on Create Set and you will be presented with an information box requesting a name for the data set (the Start and Inc fields are only used by line graphs with numerical data along the x-axis, our pie chart automatically sets these to 1).

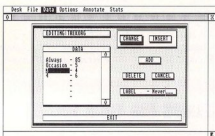
The data set name should be the program name. However, you may have to abbreviate this as you are limited to eight letters.

For example, our first entry in the sample data is Star Trek (original series) so you could type Trek.org. Do this now and click on OK. You will now be presented with another box. This is the

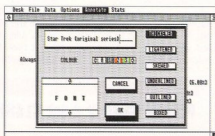
edit data set box and is where you enter the numeric data and/or labels for the graph.

At the moment it is empty, so we need to enter the values for Star Trek (original series) as shown in the sample data. Click on Add and the box below the Add Delete and Cancel buttons now contains a vertical cursor waiting for you to input the data.

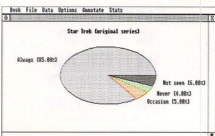
Type in the first number from the sample data [85] and press Return. In the Data box you will see the number appear. Now enter the numbers 5, 4 and 6, pressing Return after each



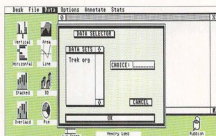
Labels can be given to each value to indicate the significance of each



The graph can also be given a title to further increase legibility



Once labels and titles are added, the graph becomes much more informative



Before a graph can be drawn, you have to select a data set to be assigned to the graph window

number. The Change and Insert buttons change the way data is entered. The default setting is Insert which allows new entries to be placed between existing entries. Change allows you to enter either the label (discussed shortly) and the numeric value of an existing entry.

If you look at the data box, you will notice that each entry line is numbered 1 to 4. These numbers are created automatically by K-Graph as you enter each new value. However, this is not very descriptive in terms of what each of the values refer to.

To clarify each value and its significance, you can assign a label to each entry. However, you have to first open a graph, so for now, click on Exit (at the bottom of the edit box).

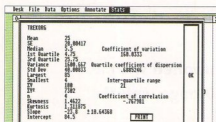
EMPTY WINDOW

To open a particular type of graph you simply double-click on its icon. Move the mouse pointer to the Pie icon and double-click on that. You will notice that an empty window appears. There is no graph displayed yet because you have to assign a data set to it.

So move the mouse pointer to the Data menu and click on the Display set selection. A Data Selection box will appear listing any currently loaded or created data sets (at this time, there should only be one set - Trek org - visible).

To select this set, simply click on the name in the Data Sets box and click on OK at the bottom of the box. You should now see that the graph window contains a wonderful pie graph, complete with the percentage values for each slice.

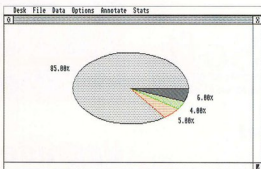
To get a better view, click on the "Full box" (top right box of window) to enlarge the window to full size. At this point, you can also re-position the entire graph by moving the mouse pointer onto the graph and, keeping the left mouse button held down, moving the mouse to place it.



There is also a comprehensive list of statistical calculations available at the click of a button

Sample data

Programme	Always watch	Occasionally watch	Dislike watch	Not seen it
Star Trek (original series)	85	5	4	6
Star Trek - The Next Generation	96	2	1	1
Coronation Street	64	14	10	12
Home and Away	50	20	20	10
The Big Breakfast	70	10	5	15
Brookside	63	20	10	7
News at Ten	31	24	42	3
Party political broadcasts	1	0	99	0
The Word	85	5	9	1
Spitting Image	90	5	3	2



Once a set is chosen, the graph is drawn. However, at the moment, it lacks any informative text and labels

Well, the graph is drawn but it's not very informative yet, is it? What do those percentages actually mean? It's time to add those labels, mentioned earlier, to each of the values. Move the mouse to the Data menu item and click on the Edit selection.

The data selector screen will appear asking for you to select a set. Click on Trek org and then OK. You will now be back at the Editing box containing the values for the set you selected.

As you can see, each value in the Data box is also numbered one to four. To change these numbers to more descriptive labels, first select the Change button, then simply click on the numbers.

STRING ENTRY

For example, click on the number 1 and you will see that below the Add, Delete and Cancel buttons, a box has appeared awaiting you to enter a string. At the moment, it currently contains the number 1, so delete this using the Delete key (pressing Esc clears the entire line).

This first entry refers to the number 85 which, according to our sample data, is the number of people who always watch the programme. So enter the word Always as the label for this number. Now click on the other numbers entering the labels Occasional, Dislike and Not Seen. Then click on Exit.

You should now be looking at the pie graph again, but this time, you can see that each number is preceded by the labels just entered, indicating what they refer to.

Now that's much more informative, but it would be nice if a title could be given to this graph wouldn't it? Simple

Move the mouse pointer up to the Annotate menu, select Text and you should be taken to the text editing box.

Here, you can enter a text string and also specify its font type and text colour. Type in the string Star Trek (original series), select a colour and choose your preferred text style, then click on OK.

You should now see that the string you entered is printed in the graph window. At this point, you can position the text by moving the mouse pointer to it and, keeping the left mouse button pressed, dragging it to the desired position.

At this point, you may want to save the information you have entered up to now and it is possible to save varying levels of detail. To save the entire graph (labels and all) move the mouse pointer to the File menu and click on the Save graph selection.

Load and Save Data only saves the data sets and their values, Load and Save Labels obviously does just that, while Load and Save Formats saves the colour and fill patterns that are active.

Should your teacher suddenly ask you for full statistics on the data acquired, you can quickly get a comprehensive listing of standard statistics about a specific data set by moving the mouse pointer to the Stats menu and selecting the General Statistics selection.

As you can see, using K-Graph is very easy. It is ideal for those of you at school or college who need a quick and efficient way of producing certain graphs. It is also ideal for the home business person who would like to use it for creating presentable graphs of such things as market shares.

K-Graph 2 reader offer

The complete manual for K-Graph 2 which lists many more of its features in greater detail is available at a special price for Atari ST User readers. There is also a special offer for K-Graph CoverDisk owners to upgrade to K-Graph v3.

For further details, read the README file in the KGRAPH2 folder or turn to page 18 for details.

KGraph

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Playgroup pornogra

The rapid and huge advances in computer technology which spawned the ST have also given rise to a snowballing network of porn peddlers, many of them still at school. Phil Morse investigates...

Working at the back of many a child's disk box, behind the savoured collection of games and the educational stuff to help with the exams, are a number of disks of a far more unsavoury nature.

They may of course be hidden under the bed, or have been viewed once and then erased for fear of getting caught.

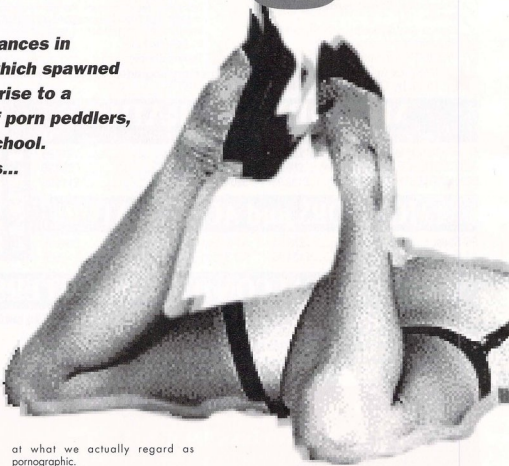
But it is a fact that the number of obscene images and sequences being distributed on disk - many of them far more explicit than anything seen in soft porn magazines on sale in shops - is much higher than ever before. And they're being passed around playgrounds all over the country.

The tabloids have had a field day, of course, hot on the heels of the "scandal" concerning alleged epilepsy-inducing games. Not to mention the recent fears concerning more and more realistic and gory violence being depicted in the latest Sega or Nintendo blockbusters.

BACK TO BASICS

But while the software manufacturers seem more than willing to co-operate in cleaning up the image of their games, and the media-prompted panic over the epilepsy saga has led to a government inquiry to get to the bottom of the matter, computer-based pornography seems to be out of control.

In order to understand why this is so and what can and is being done to combat a growing problem, it is necessary to go right back to basics and look



at what we actually regard as pornographic.

So what is porn? The girl on this page? Top shelf magazines from the newsagents? Videos from "under the counter" at the local video store, or from work colleagues? The truth is that pornography means different things to different people.

A generally acceptable definition might be the explicit display of sexual activity for erotic rather than artistic purposes. As far as the law is concerned, however, porn is defined and redefined every time a case comes to court.

This is because every time somebody is prosecuted on a pornography charge, the Director of Public Prosecutions views the material in question and decides whether it is likely to corrupt the individual(s) who have been exposed to it. So the same material in

the hands of a 12-year-old and an adult might be deemed pornographic in the first instance yet perfectly acceptable in the second.

This has major implications for computer pornography, as possibly the most worrying aspect of this newly-developed medium is its availability to that group of people we deem most likely to be corrupted by such material - young people.

So what kind of images are available for display on a computer screen, and how do they get there?

Forgetting how they are presented for a moment, they can contain new images or older ones "ported" across from magazines, videos and films.

Computer porn spans the board,

nd phy



commercial ones – distributing such material right here in the UK. And modems use a universal language which crosses format boundaries – a picture is a picture, and what is viewable on an IBM, Amiga or Apple Mac is usually equally at home on an ST with the correct software.

All you need is a modem and the right numbers and you can have access to pornography as hard as you can stomach for little more than the price of a phone call.

In the past – and we're only talking a couple of years ago – PD libraries overtly advertised pornographic disks in computer magazines, usually containing an assortment of digitised still pictures or a short moving sequence.

Although these disks are still available and being made available, following a police crackdown such advertising is considerably harder to spot, being limited to vague "adult" disk adverts tucked away in inconspicuous corners of certain publications. But the

increase in the speed of data distribution around the world, of which disk and especially bulletin board-based computer pornography is a part, has caused particular problems for the police.

Luckily, and in marked contrast to the situation with satellite pornography (see box overleaf), there is no problem with the law itself as regards computer porn – the Obscene Publications Act is equally as applicable here as it is elsewhere.

AGE OF CONSENT

However, the police face the practical problem of keeping up with developing technology. They need the right equipment to receive and view disks and files, and personnel trained to use such equipment.

There is also the problem of differences in the laws regarding pornographic material across the world, a particular example being those laws regarding child pornography.

In Britain, the age of consent for children to become involved in the making of such material is 16. In the United States it is 18, but in Denmark it's only 15, in some places it is 12, and in certain areas (Bangkok being the obvi-

Porn past and present

From the Greeks painting explicit scenes on earthenware to the Victorians writing blue novels, pornography might well be classed as the world's second oldest profession!

However, since the introduction of the Obscene Publications Act (1959), the nature of pornography and its forms of distribution have undergone a number of major changes.

1950/60s – Pornography is seen in printed form, both in "soft" legal publications and illegal, usually imported, magazines whose contents – often involving children and animals, but always some form of explicit sexual act – are defined as "hard core" porn.

1959 – Obscene Publications Act makes it a crime to distribute such material to those it is likely to corrupt.

1960s – The emergence of ciné-filmed pornography brings it to a wider audience, and for the first time moving images become players in the field.

mid-1970s – Advances in video technology lead to porn being distributed on videotape. With this development, easily distributed motion pornography becomes a reality, and video porn is still perceived as the single largest problem area today.

1980s – As computer technology gathers pace, porn displayable using these new machines appears. The emergence of bulletin boards (BBs) where porn can be "downloaded" from a remote base into a home computer, makes access to it simpler than ever. Disk-based porn becomes a reality.

1990s – Continually improving graphics, file compression techniques, disk storage capacities and other hardware improve both the methods of distribution and the quality of porn on offer.

from the most degrading and perverse child/animal material to soft core pornography and sexist – but certainly not explicit – disks with dubious titles such as "Girls".

Thankfully, there seems to be little evidence of the availability of so-called "snuff" material on the computer formats – yet.

There are three major sources of computer-based pornography – bulletin boards, public domain libraries, and the copying of material from friends, colleagues and/or school mates.

Porn supplied through bulletin boards comes mainly from the States, where technology is ahead of Britain, and has reached such levels that it's possible to download direct from the States a 5Mb, one-minute porn "movie" with picture quality better than broadcast TV. Thankfully, it can't be run on the ST.

However, it is a fact that there are bulletin boards – and increasingly,

ous example) what the law says bears little resemblance to what it actually does, making for localised hotbeds of shocking debauchery, most of which is filmed, copied and duplicated for distribution all over the world.

Indeed, this lack of application of laws – or just laws which are more lax than ours – occurs much nearer home than Thailand. A quick glance through a copy of *Atari ST Nieuws*, a Dutch ST magazine, reveals overt advertisements for hard core porn disks.

What all of this means is that material might be perfectly legal and/or available – it scarcely matters which – in the country of origin, but definitely not so here... yet who's policing the phone lines in and out of Britain?

OFTEL, the body set up to monitor and regulate Britain's telephone networks, has no bulletin board monitoring service, leaving this instead to the necessarily limited policing of the people from Obscene Publications. And

What does the future hold?

As computer technology becomes more and more sophisticated, so the quality of the material available and the ease of distribution will improve.

The amazing graphical resolution of the new generation of home computers, and especially Atari's new Falcon, mean that better-than-broadcast quality graphics are becoming a reality.

Such machines contain faster processors (it's a big leap from the ST's 68000 to the Falcon's speedy 68030), demand better monitors and require more memory, all of which make them far more capable of handling a larger number of high quality graphical images with ease.

As data compression techniques become more and more sophisticated, so larger and higher quality files will be crammed onto disks.

And when high density disks – which can hold twice the data of the normal-density variety currently dominant – become the norm, so the problem will become even more acute.

Modem technology has leapt forward an incredible amount in the last few years. From the initial ability to transfer what then seemed like a staggering 300 baud along a phone line, it has recently become possible to buy modems which can transmit at 19,200 baud – an increase of 6,400 per cent!

Putting it another way, a picture which would take ten minutes to download on a 300 baud modem would take a mere 9.3 seconds on a modern model. And that's before the data compression techniques have been taken into account.

As CD-ROM technology becomes established, the ability to record full-length, film-quality pornographic sequences onto CD for viewing and manipulation by computer will also become a reality – and as with all digital media, CD-ROMs don't degrade...



while it is technically illegal to import porn from a country where what you are importing is acceptable, this has never been tested in the courts.

Remembering for a moment the Obscene Publications Act's definition of pornography as material which is deemed likely to corrupt the viewer, bulletin boards carrying "adult" material have absolutely no way of knowing the age of a customer on the other end of a telephone line, possibly on the other side of the world.

Unwitting distribution of pornography is still distribution, and children are the worst people to put such material into the hands of, both from the corruption point of view and due to their predictable propensity to copy and pass it on...

An unfortunate property of computer data is that when a copy is made of it, the original is still intact. Therefore, whereas in the past magazine-based pornography may have been passed around in the playground, there was no easy way of duplicating it and so

increasing the actual amount in circulation. Even with videos, degradation in quality limits the number of copies-of copies which can be made.

With digital information, however, there is no degradation in quality at all, so a tenth generation copy will be identical in all respects to the original it came from.

Children are becoming increasingly computer literate – often more so than their parents – and at a younger age too, and a schoolchild with access to a computer at home or school would not struggle in making copies of disks.

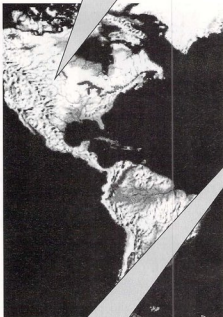
As computers rapidly become as commonplace as exercise books, this problem is snowballing. It's something the police are only too well aware of.

Sergeant John Ashley of Greater Manchester Police's Obscene Publications Division: "I'd be surprised if the number of teenagers who have access to pornography isn't a lot greater than teachers and parents realise. It's certainly widespread."

"Children owning STs in any school soon get to know each other and swap disks among themselves to the extent that most of them will have copies of each other's disks."

It's mainly pirated games that are swapped (industry estimates peg the number of copies from each original game sold at up to 50), but it's hard to imagine that the same children would not be as, if not more, eager to copy

Highly advanced computer systems are commonplace in the United States, where – due to fast modem speeds, sophisticated data compression techniques and more powerful computers – BBS-based porn is rife



Differing laws regarding pornography coupled with the problems of policing an increasingly integrated community have left Britain more open than ever to imported material from mainland Europe

and pass on pornography to each other.

"Cracking" and copying games takes a relatively large amount of expertise, and if children can manage this – which they evidently do – then it is reasonable to assume that at least one child in a school will have both access to the equipment needed and the knowledge necessary to obtain every single type of computer pornography available.

Needless to say, such "networks" of users are, like international telephone lines, virtually impossible to police.

The quality of pornography available for the ST – and by quality I mean graphical resolution – is thankfully limited by both the physical abilities of the machine and the monitors/TVs it is plugged in to.

But although the stuff is not of the same graphical quality as much of that available for the Apple Macintosh, or the IBM-PC and its compatibles – the largest single format – this must be offset against the range and ease of availability of such material. The reaction of the authorities to the problem varies depending upon where you live.

ATARI

ST

NIEUWS

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1417 MUSIC SCORE NOTATIE
1418 ROBODOP STUDIO PLATIE
1419 FRACTAL DRUMCOMP
1420 ROCKTRON MUSIC DEMO
1421 SYS-1 EDITOR
1422 MIGHTY PICTURES
1423 WET DREAMS 9
1424 WET DREAMS 8
1425 WET DREAMS 10
1426 HARD PORNO-ANIMATE
1427 SOUND-TRACKER MOD.
1428 6 ACTIESPELLEN IN KL

5

Heel veel
nieuwe games
en Atari ST data!

© 1993 Atari

It is for "Erteliek" – a selection of dubious disks as advertised in the Dutch computer paper ST Nieuws

Red Hot Dutch, a porn channel run by Continental Television, is in fact based in Manchester – but by beaming to Britain from outer space with a ground station on the continent, it has side-stepped the law



In the East, pornography embraces regularly-filmed child abuse and worse, this truly degrading material frequently finding its way into circulation in Europe, and eventually onto computer disks and BBSs in the UK

In Sgt Ashley's force of Greater Manchester, for instance, it is a priority to tackle the problem, and so the manpower and resources are there.

But as there is no national police force, this is not the case the country over. Only pressure from the public and media – or, much-mooted of late, a national police force –

is likely to change this. Assuming a particular force has recognised the problem and decided to tackle it, there are various methods employed.

Policing magazine adverts and bulletin boards is an obvious one – prosecution of a PD library in Swindon precipitated the industry-wide banning of adverts for porn in magazines as mentioned earlier, for instance.

The police are also closing down any UK BBSs found to be distributing such material. The fact that it is increasingly the commercial services distributing it makes little difference to the police in tracking down and prosecuting offenders – after all, it's the same material being passed around. However, the commercial vs hobbyist argument is not missed by the courts, and if you're a commercial BBS sysop caught distributing porn, you can expect a jail sentence for your efforts...

Although the DPP decides whether a particular batch of material is pornographic or not, in practice the police have a very good idea when they come across some as to whether it is sufficiently obscene to warrant a prosecution.

Education is seen as a vital weapon in combating computer pornography. Ignorance is a well-documented factor in most types of crime, and especially so in a rapidly developing climate where new technology is out-racing moral values by the year.

Sgt Ashley: "All schools should teach computer ethics. They're all for teaching children how wonderful computers are, but they should also teach them about the harm they can cause.

"Not only in the area of pornography, but the effects of pirating software too – how their actions could lose people their jobs." There have

been cases of male workers putting pornographic sequences onto the hard drives of female workers' computers, and setting it all up so that the victims are forced to sit through a dose of pornography before control of their machine is even passed to them – a shameful situation.

The BCS (British Computer Society) are currently attempting to address this problem of ignorance. They're looking at drawing up guidelines for schools addressing the subject of computer ethics. Such moves are vital in getting to grips with and controlling what is an ever-expanding problem.

While it is not as simple as it was only a couple of years ago to obtain pornography, the stuff is most definitely still available, both from PD libraries and bulletin boards here in the UK and via their counterparts abroad.

And once it has been obtained, it can be distributed at ever-increasing speeds and with a considerable amount of ease among an ever-younger group of viewers.

Unless their is a nationally or even internationally co-ordinated effort to continually police the channels which porn is distributed through as best as is possible, combined with an effective programme of education (target-

ing teachers and parents as well as their children), it is difficult to see any lessening of what is rapidly becoming a major problem.

● *What are your views on computer pornography? Have your say – write to Atari ST User and let us know what you think should be done – if anything – to combat this growing phenomena. The address is: Pornography Feedback, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP.*

I'd be surprised if the number of teenagers who have access to pornography isn't a lot greater than teachers and parents realise...

– Greater Manchester Police

Blue skies at night...

Another outlet for pornography was launched with satellite TV – signals beamed from space directly into the homes of any who wants it.

Seemingly unconnected with computer porn, satellite pornography, with its associated legal grey areas, has proved to be a considerable worry to police forces attempting to crack down on other forms of porn – including computer-based ones.

The current law on satellite porn is a rush-job designed to patch up inadequacies in the existing laws rather than a fully-rounded piece of legislation.

The problem is that no-one is quite sure where such material is published – is it the ground station which beams the signal up to the satellite? The satellite itself? Or the receiving station, in a satellite-owning household's front room?

It's a dilemma which has never been tested in court. The problem for the police when trying to stamp out computer porn comes because if satellite channels can get away with it, it weakens considerably all pornography cases – what's the point in wasting time and effort stopping one form of pornography when another is freely available?

And although it is now illegal to sell or advertise decoders for Red Hot Dutch – currently Britain's only porn station – it will only be a matter of time before somebody else sets up a similar channel.

What is required is long-term legislation and a lot of legal discussion to come up with a way of applying a national or possibly a European law to close this obvious and damaging loophole in the Obscene Publications Act.

The hard alternative

About to buy a hard disk but not sure what to look for? Darren Evans offers some useful information and takes a look at a few models on the market

A hard drive is probably high, if not top, of the wish list for many ST users. The advantages over floppy drives are greater speed and larger storage capacity.

Applications such as DTP, art/animation, wordprocessing and music have a voracious appetite for disk space and although most of these will work on a floppy-based system, it's only when you have them utilising a hard drive that you realise the infinite increase in both performance and productivity that is gained.

Having to constantly swap disks because a program is so complex that it comes on two or more can get very annoying and tedious. Even simple operations like copying lots of files from one disk to another using the Desktop become some of the most frustratingly tedious tasks going!

HIGH DEMANDS

There is the option of buying a second floppy drive, but this only adds another 720k and more and more applications are stating in their manual that a hard drive is recommended to get the most out of the program.

Even some of today's games are making high demands on disk space and have the option of being installed to a hard disk. This ability not only prevents tedious disk swaps, it also transforms gameplay.

So, what should you look for when it comes to actually buying a hard drive? Well, the first thing to decide is what size of drive you need. There are many capacities available, but generally, the most useful ranges start from 50Mb onwards.

There are drives with 20, 30 and 40Mb of space but most drive manufacturers and distributors these days seem to be making 50Mb their base capac-

ity. Providing a hard and fast answer on which is the best size drive is not possible due to the many different uses to which an individual will use his or her computer.

For example, if your main use is for DTP (colour in particular), you will generally be dealing with graphic files and page layouts that are over 1Mb in size. Therefore, storing a number of these files on disk would soon eat up a 20Mb drive.

If I were pressed to give an "ideal first size" I would suggest starting with 50Mb as a first buy. If you do happen to come across a 20,30 or 40Mb later on at a cheap price, you can always add it on to the 50Mb you already have.

THRU-PORTS

Which brings me on to another thing to look out for in a drive - "thru ports". When you plug in a hard drive, it is connected to the hard disk or ACSLI port on the back of your ST.

Now if you then wanted to connect another drive to the hard disk port, you wouldn't be able to unless the drive already connected to the ST has a ACSLI out port.

If it has, then you just slot the second drive into this and away you go. Well, not quite - things are further compli-

cated by the fact that if you do have more than one device connected in a chain via thru ports, the ST needs some way of selecting which one to access at any given time.

This is achieved by assigning a specific ID number to each device connected. Unfortunately, this is not achieved by the ST but requires that the devices connected have an alterable ID facility on them, usually in the form of a switch.

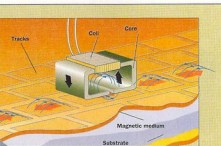
If the device hasn't got the facility for changing its ID number and, instead, has a fixed ID, then it will not work if another device has the same ID number. So, be sure that a hard drive has both a thru port and ID switch feature when you are shopping around for one. They



A good disk backup utility, such as Diamond Back 2, is essential if you want security from loss of data through catastrophic damage to the drive

HOW A HARD DRIVE WORKS

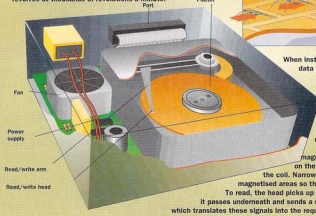
Information sent from the computer to a hard disk drive is stored on a revolving magnetic platter. The performance of the drive depends largely on the storage capabilities of the platter, the tighter the information can be packed on the platter – the more data can be stored and the faster the drive can write and retrieve it. The read/write head skims over the surface of the platter on a layer of air a few millionths of an inch thick while the platter revolves at thousands of revolutions a minute.



When instructed by the computer to read or write data on the hard disk, the drive's logic board first positions the read/write head over the correct track and waits for the revolving platter to bring the correct blocks under the head.

To write, the current is passed through the coil in the head, magnetising the core and creating a magnetic flux at the gap. A microscopic area on the surface of the platter is magnetised, the polarity of which depending on the direction of the current flowing through the coil. Narrow transition regions are left between the magnetised areas so that separate areas can be differentiated.

To read, the head picks up the polarity of each magnetised area as it passes underneath and sends a small signal to the drive's logic circuitry which translates these signals into the required data and sends it to the computer.



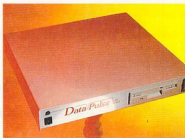
aren't essential in order for a drive to work but they are worth their weight in gold in terms of versatility and no hassle operation.

Another factor to consider is the actual access speed. In general, this speed measurement is specified in milliseconds (ms) and is a measure of the access speed of the drive's heads.

The most popular mechanism in terms of high performance and quiet operation are the Quantum range. These drives have a general access rate of around 17-24ms with other less expensive drives using mechanisms with a speed of around 34ms.

This speed represents the amount of time taken for the heads to be positioned ready for data transfer. Actual speed of data transfer is usually measured in kilobytes per second. Caching, which involves setting aside an amount of memory for data transfer, can increase the data transfer rate and is usually the function of a driver or software utility. So if it's speed your offer, make sure it's got a Quantum inside!

Data Pulse Plus with Floptical



This 127Mb drive comes with an optional 21Mb Floptical drive. It is specifically designed to be used both for

the ST range of computers and the new Falcon030.

This is achieved through the use of a SCSI Out port in place of the non-standard ACSI ports found on most Atari drives. Of course, this means it is not possible to directly connect the drive to the ST with a simple cable, which is why a device called The Link is supplied with all Data Pulse Plus drives.

This remarkable device – from ICD, a company renowned for their hard drive interfaces and software – essentially provides the ST with SCSI II capabilities. It is a small adaptor about three inches across that plugs into any 50-way SCSI port such as the one on the Data Pulse Plus.

The other end of the adaptor has a normal Atari ACSI socket, to which you can then connect The Link and the device to which it is attached into the ACSI port on the ST using a standard ACSI lead.

This allows you to attach any SCSI device with a SCSI Out port to your ST, even those designed for other computers such as Apple, PC and Amiga. Such devices include CD-ROM, Magneto optical and standard hard drives.

The Link also comes with ICD's famous suite of hard disk utilities and drivers. These powerful utilities include speed test and hard disk management programs, and many more useful utilities.

The actual hard disk driver software features configurable caching to increase the already speedy access rate of the drive.

The drive featured here includes 127Mb storage capacity as well as an optional 21Mb Floptical drive. The drive is well constructed and very sleek. It also has illuminated on/off and drive ID switches mounted on the front for easy access. The casing is made of metal and is very sturdy – ideal for plunking your monitor on top.

It is very quiet in operation, and very fast too. It comes pre-formatted with five partitions – C to G – and also has the

Hard tips

1. The C partition should be the smallest with only enough space for essential programs which need to be on the boot partition, such as accessories and auto folder programs. If anything happens to the boot sector, you won't be able to access the partition and you'll probably have to erase it and put another driver on it in order to access the other partitions.

2. Ensure you regularly back up your hard drive with a reliable backup utility such as Diamond Back 2 from HiSoft.

3. Regularly check your hard drive using utilities such as HiSoft's Diamond Edge or Cleanup from ICD. These utilities can recover damaged or accidentally deleted files as well as repairing any file damage and fragmentation.

4. If you ever need to transport your hard drive to another location, make sure you do not subject it to any hard knocks as this may damage the hard disk surface and cause bad sectors and data loss. Most drives can "park" the heads using a software command. Some drives are auto-parking which means when power is switched off, the heads are parked automatically.

5. Always turn your hard drive on before your computer and wait until any drive activity is finished. The drive needs to spin up to a certain speed before it can be accessed.

added bonus of containing over 2Mb worth of free software and demos ready for you to immediately check out your new found power.

The free stuff includes some essential utilities that all hard drive owners should have – these include two hard disk backup utilities, Turtle and Vault; a virus killer; a file search program; and the boot manager program Superboot v5.

So, when you get this drive, you merely plug in and go, which is good news for the new user. Of course you can format the drive and partition it to your own requirements by using the aforementioned ICD utilities that are supplied with The Link.

The optional Floptical is essentially a device which offers hard drive capacity with the convenience of a floppy disk. The Floptical uses removable disks which are the same size as a standard 3.5in floppy. However, these disks have a capacity of 21Mb each.

Compared to a standard hard drive, the Floptical is somewhat slow and a

▶
 little pricey (£399.99). The disks are not exactly cheap either - Ladbroke offer five for £114.95.

If you are a Falcon owner, the Falcon-only configuration of the Data Pulse Plus is a rather cool £30 cheaper. This is because the Falcon has its own SCSI II port, so The Link is not required. The only low point about the Data Pulse Plus range is that it only has a single SCSI Out port on the back.

However, Ladbroke are working on adding another SCSI port to the range in the near future.

With its ICD support, free software on disk, pre-formatted plug-in-and-go feature and Falcon compatibility, this has to be one of the best drives around

Essential hard disk utilities

Because of the high capacities of hard drives and the large amount of files and data that can be stored on them, there is a risk that large amounts of valuable data can be lost at a stroke.

If a floppy disk becomes corrupt, you may lose 720k's worth of data. If this happens on a hard disk with 128Mb, well, it's hardly worth thinking about.

Luckily, there are a number of programs out there that allow you to maintain and also backup valuable data. If used regularly, they can offer significant protection against a catastrophic disk failure.

Such programs include Diamond Edge and Diamond Back from HiSoft (0525 718181) and Cleanup from ICD, available from System Solutions (081-693 1919).

Another problem with large capacity drives is finding and executing programs from the many folders which no doubt exist. Hotwire by CodeHead and available from System Solutions provides an answer to this problem.

This excellent utility lets you set up a "menu" of programs which can be executed at a click of a mouse button or even a single keypress. It has a mass of features too numerous to mention here - suffice to say that I find it invaluable on my drive.

Other useful programs also include XBoot 3, another HiSoft product, which is a boot manager that lets you organise what auto folder programs and accessories are activated at boot time.

There are also some excellent shareware and PD utilities on offer for hard drive owners such as Superboot, which is an excellent shareware utility similar to XBoot 3, and also numerous file search and backup utilities to name a few.

at the moment. Average access time is 22ms with a transfer rate of 970k per second.

Product: Data Pulse Plus + Floptical
 Size: 127Mb + 21Mb on Floptical
 Supplier: Ladbroke Computing, 33 Ormskirk Rd, Preston PR1 2QP.
 Tel: 0772 203166
 Price: £699.99



System Solutions S120L

This 120Mb drive from System Solutions is another SCSI drive which works both on the ST, via The Link, and the Falcon. With regards to construction, it is extremely nice looking and, after a peek inside, is superbly engineered.

The mechanism inside is a Quantum LP120S which has an average access time of 19ms. It's also extremely quiet when in use and the only way to tell if anything is actually going on is via the drive activity light at the front of the unit.

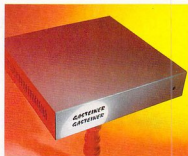
A peek at the back reveals dual SCSI ports, which means there'll be no trouble connecting other devices. There is also the all-important drive ID switch for when you have more than one device attached to your computer.

Because of the SCSI ports, attaching the drive to your ST is via ICD's The Link, which comes with the mass of utilities described earlier. The S120L is also pre-formatted so that you just open up the box, plug in The Link, and go.

This is the fastest of the drives reviewed and is superbly engineered, not to mention great value for money. System Solutions also offer a five-year warranty on any drives with over 300Mb capacity.

They also have the greatest range of hard drives with capacities up to a staggering 3.5Gb, which is over 3,072Mb! All drives are also configured to order for all the Atari range of computers including TTs and Falcons. Average access time is 19ms with a transfer rate of 1,438k per second.

Product: S120L
 Size: 120Mb
 Supplier: System Solutions, The Desktop Centre, 17-19 Blackwater St, East Dulwich, London SE22 8RS.
 Tel: 081-693 1919
 Price: £469



Gasteiner hard drive

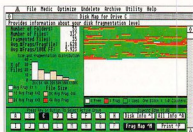
The model reviewed here has 105Mb and is the largest (in physical size) of the drives reviewed. It is certainly the most robust looking with its battleship grey casing that could probably withstand Geoff Capes as well as your monitor standing on top of it.

The mechanism inside is a Quantum LP105S. The drive has the standard SCSI ports (in and out) on the back so you can't connect this directly to the Falcon.

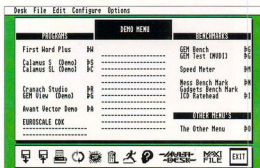
However, Gasteiner do have Falcon-only drives available separately. The hard disk software is Gasteiner's SDManager, which is quite a well written and capable utility but lacks the sophistication and versatility offered by the ICD alternative to the other drives.

Also notably lacking is a drive ID switch so there may be a conflict with any other device connected which has the same ID. However, one thing in its favour is that there is the option of putting a second mechanism inside the case to complement the one already there.

To this end, there is a free data and power plug ready and awaiting connection.



Useful utilities include Diamond edge and Cleanup, from HiSoft and ICD respectively. These help repair file damage and keep your drive free from errors



At the click of a button, you can immediately execute a program without having to search through many folders

tion to the second mechanism. Average access time is 23ms with a transfer rate of 1,030k per second.

Gasteiner also provide hard drive kits whereby you can build your own hard drive. This works out a lot cheaper than buying a complete unit, but you do need to know what you are doing when putting it together.

Product: Gasteiner drive

Size: 105Mb

Supplier: Gasteiner, Unit 2, Millmeade Business Centre, Millmeade Rd, London N17 9QU.

Tel: 081-365 1151



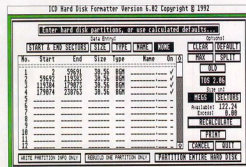
Power Computing Series 900

This is the smallest and most compact of all the drives featured here (due to its external power supply) with a capacity of 40Mb. It has standard ACSDI thru ports so connection to a Falcon is not possible.

The Series 900 also comes with an ICD interface and the ICD software so you are assured of good performance.



ICD's hard disk driver is fully configurable and allows caching to increase data transfer rates



Partitioning a hard drive is extremely easy with ICD's formatting program

Jargon buster

SCSI - acronym for Small Computer Systems Interface. An interface standard which controls most modern drives.

SCSI II - the improved standard of the above which also encompasses the new optical devices such as CD-ROM drives.

ACSI - Atari Computer Systems Interface. Atari's own "cut down" version of SCSI. It's non-standard and requires special interface circuitry for a drive to communicate with the ST.

Partition - large capacity drives can be partitioned into smaller units. Each partition is effectively displayed as another drive icon on the ST's Desktop.

Boot partition - normally partition C. It contains the boot sector which allows a drive to automatically boot from the hard drive as opposed to the internal drive as well as critical information on the structure of the drive (sector sizes, number of directory entries and so on).

Drive ID - most modern drives have a switch which can assign a number (0 to 9) to the drive in order that the computer can identify it among multiple devices that may be connected.

Thru port - a port on a device or drive which allow you to connect (or chain) other devices to it.

Fragmentation - eventually, after many deletions and saving, files can become fragmented instead of being contiguous. This slows down drive operations. Use a utility such as Diamond Edge from HiSoft to "de-frag" a drive.

On the front of the unit are two lights (busy and activity) as well as the power switch. There is also a switch on the back which is apparently a hardware write protect switch that prevents any data being written to the drive.

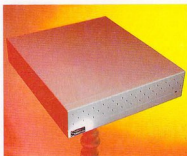
Unfortunately, although there are thru ports to connect other drives, the Series 900 does not have a drive ID switch. So if you happen to have other devices connected to your computer, it will cause problems. Average access time is 22ms with a transfer rate of 961k per second.

Product: Series 900

Size: 40Mb

Supplier: Power Computing Ltd, Unit 8, Railton Rd, Woburn Rd Industrial Estate, Kempston, Bedford, MK42 7PN. Tel: 0234 843388

Price: £329



System Solutions MO128

A common feature of most hard drives is that the actual magnetic media inside the drive is fixed, as opposed to floppy drives with which, when a disk becomes full, you simply remove the

disk, format another and use that instead. There are high capacity drives which do offer such removable media and this drive from System Solutions is one such device.

It also uses a totally different media - optical technology. The MO128 uses rewritable optical disks which are the same size as standard floppies (albeit a little thicker) but with a 128Mb capacity.

The advantages of such removable media are obvious. If you manage to fill the disk, you simply format another and insert that. Of course there are disadvantages to this technology in that the initial cost is more expensive than a normal 128Mb drive.

However, if you are a professional who requires a high capacity drive and expect to require more capacity in the future, this drive will dramatically cut costs because buying an extra 128Mb disk is substantially cheaper than buying a complete 128Mb drive. So, in terms of Mb per pound, this is a very low cost option.

Another disadvantage is that current optical technology is a little slower in terms of access rates than a standard magnetic disk drive. The average access time for this drive was 33ms with a transfer rate of 602k per second, which is still quite fast.

As with the magnetic drive from System Solutions, the MO128 is superbly engineered and is of the same design. If you are a serious user who requires high capacity storage, with a low cost ability to increase the capacity, this is the ideal device.

Product: MO128 magneto optical drive

Size: 128k per removable disk

Supplier: System Solutions, The Desktop Centre, 17-19 Blackwater St, East Dulwich, London SE22 8RS.

Tel: 081-693 1919

Price: £999

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ANALOGIC
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ANALOGIC

Make an impression

Every picture tells a story, every set of figures tells at least half a dozen – depending on just how they are manipulated and presented. Statistics and charts, however, aren't just for the business user.

We all need them occasionally, even for simple jobs like persuading the bank manager to lend you more money or perhaps fund a new business idea.

It may seem odd, handing over a half a dozen charts to your bank manager, but it can help your case considerably. If you're already in business, well-presented information can dramatically improve your chances of putting your ideas across or selling your service or product.

So what does presenting your ideas involve? Presentation graphics is a buzzword that covers everything from charts and graphs to slide shows and animated presentations. It combines DTP and graphics with figures and statistics to get your ideas over with real impact.

The last thing you want is a boring old chart with masses of figures and notes all over it. You need a simple, hard-hitting visual that says one thing and one thing only – the message you want the audience to get.

There are two key stages in presentation. The first step is to produce the charts or graphs themselves from the raw data and the second is to turn the chart into something that will grab attention.

Graphs and charts alone can be pretty boring. Combined with colour graphics and good layout, they can hit home.

There is a dedicated ST package called Hyperchart that represents the easiest way to go for those who want to take presentations seriously. Hyperchart

Presenting information in the right way can help get the message across.

Andrew Wright looks at some graphical solutions to the problem

is a tool for creating presentations comprising any number of linked slides. It will import data in several formats and export it as a standalone presentation or as a graphic for inclusion in a DTP package like Calamus.

DA's Vector has a built-in charting module with some interesting 3D features. Its superb graphics and text handling can help create animated presentations including charts and graphs that actually move on-screen! For really professional results, it is very hard to beat.

On this month's CoverDisk you've got K-Graph 2, a popular and well-respected package that works particularly well with spreadsheets like K-Spread and has a very easy to use GEM interface.

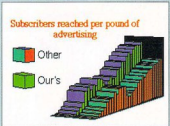
Charts and graphs can be exported and used in DTP programs or word-processors – forget lengthy tables and insert charts instead. Many other spreadsheet programs have somewhat more basic charting features – K-Spread 4, 3D-CALC and LDW Power, for example.

The advantage of these programs is that they are fully integrated and can handle more complex data more easily

Getting it together

This brief presentation was put together using Hyperchart. It uses a balance of easy to read bullet points, a chart to provide the main point and a short salesman-like conclusion.

Although the slides were created in medium resolution, they are displayed in lo-res to make the most of the ST's colour palette. They could



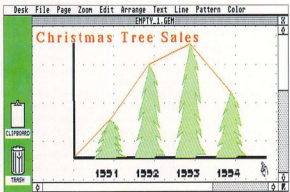
equally well be saved as GEM files for inclusion in a DTP package, of course.

One of the best ways of making your rolling demo style presentations better is to use a special slide show program.

Although you have to be careful when sequencing the slides (you may have to rename them in alphabetical order to ensure correct display), the dissolves and wipes from utilities like Showtrix (ST Club GRA.152) are extremely attractive.



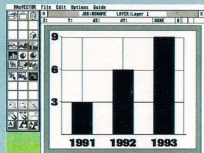
Showtrix – the final slide appears block by block, one of a dozen or so interesting transitions



Using vector graphics to create more unusual columns!

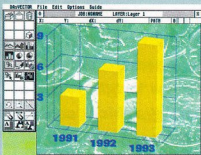
Gilding the lily

DA's Vector opens up extraordinary possibilities for presenting data, even if the built-in module has some limitations.



Here's a simple chart showing a hypothetical increase in gold reserves. It demonstrates the trend quite adequately but it's hardly likely to attract attention

The same figures have now been turned into a 3D bar chart in bright yellow to signify that it's gold we're talking about. The background was originally a mono TIFF file of a pile of coins with a tint applied by DA's Vector



For even more impact, the straight columns can be replaced by graphics – in this case gold coins – to make the chart all the more eye-catching



more complicated charts with written messages to reinforce what you are saying – bullet points or word charts are ideal.

Too much colour should be avoided. Three or four colours work best with a good contrast between the background and the foreground text. Avoid clashes like yellow on red – it won't be seen easily.

It's far better to stick to more traditional colours – yellow text on dark blue looks nice for example. Obviously if you're printing the charts on a colour dot matrix or inkjet printer, it will take ages to print a dark blue background and probably waste a lot of ink.

A white background would be a better bet, perhaps with a bold coloured border. If you intend printing via PostScript or to a thermal colour printer or slide bureau (Hyperchart can do this directly although you would have to find a suitable bureau) you will have more choice in what you do.

PLAIN AND SIMPLE

Each slide should have a simple title – no more than half a dozen words – and the font should be plain and simple. Presentations have to be easy to digest so a sans serif font like Helvetica will probably work best. There's no need to use more than two typefaces on the same page either so don't get carried away as if you were desktop publishing!

A legend is always a good idea but keep it very simple and easy to read. Annotations and arrows can get in the way but if you want to make a point with a word or graphic, give it the brightest colour. Choose the colour wisely though – red is always associated with a loss in the accounting world!

Graphics are another integral part of presenting data. Mundane charts can be dramatically improved by a simple piece of relevant clip art, either superimposed on the chart or in the background. You can even use vector graphics to replace the traditional columns – using programs like Hyperdraw or Easydraw.

Hyperchart

Hyperchart was Atari's own program though it's no longer sold from the Slough office. If you can find dealers who still have stocks, it's well worth picking up.

Hyperchart is a GDOS-based program but although it is supplied on no less than six disks, there are drivers for only two printers, the FX80 and Star. Nonetheless GDOS drivers aren't uncommon if you have one of the more popular printers.

Apart from the program and GDOS distribution disks there is a disk with demonstration slides and another with a library of over 100 backgrounds and vector objects. The program itself runs on any ST in medium or high resolution though you can display slides and watch presentations in full colour low

within the same program.

We've included mini-reviews of some products, more to show you the different styles available than to provide a comprehensive roundup. We'll leave you to discover HiSoft's K-Graph for yourself!

There are several things you need to bear in mind when devising a presentation or even a handout with a message.

First of all, make sure you know exactly what message you want to get across. It sounds odd but without a very clear picture – and the right figures to support you – the whole effort will be wasted.

FULL COLOUR SLIDES

For example, take a small company looking for extra funds. Overall profits might be falling but perhaps sales lead and number of transactions are increasing. It's fairly obvious which criteria you should choose to present.

Next you have to decide how you are presenting your information. Are you intending to incorporate the figures and charts in a report or proposal? Or are you intending to create a full colour slide or just a simple flip-chart based presentation?

Obviously this will have a bearing on how you need to produce your work. If you have a mono printer, you don't need to work in colour, for example.

Where are the figures coming from? If there are plenty of them, you'll want to ensure you can import them from whatever spreadsheet format they are currently in. Otherwise you'll have to enter them again directly into the charting program. Hyperchart can import figures in DIF (Data Interchange Format) or WKS (Lotus 1-2-3) format, one of which is supported by most ST spreadsheets including the K-Spread range.

DA's Vector has its own format, which makes it slightly more limited for complex data presentation.

If you're using a bar chart variation, don't have too many bars on your chart. There's no hard and fast rule as sometimes 20 or more are needed to show a complicated trend but under these circumstances you should consider using a line graph. Alternatively, you can often lump together the tail end of a set of figures into a single category called "other", provided it doesn't alter the balance too much. This leaves the viewer free to concentrate on the real message.

If you're looking at more than one slide (or page, of course), draw up a brief outline, even sketching each one as you want them to look. Make sure there's an introduction and a conclusion with some meat in-between.

Don't put too much on one slide – it's far better to offer three slides with clear figures and text than one with distracting graphics, cluttered legends and too much detail. You can also intersperse

resolution.

Hyperchart is unique in that it can help you build up multi-slide presentations quickly and easily using data from spreadsheets with the help of a fairly intuitive GEM interface. Slides can consist of graphs, charts, background scenes and clip art objects or simply bullet points.

The number of slides in a presentation is virtually unlimited, and once a complete presentation has been put together, it can be saved as a single entity and played as a rolling demo - ideal both for exhibitions or for training.

Hard copy output can be direct to a supported printer or as a GEM graphics file for inclusion in other documents.

DA's Vector

DA's Vector is an outstanding graphics package that has its own in-built charting facilities. Although not a dedicated presentation graphics tool, the flexibility of the program to create and customise charts, which are basically treated as complex graphics, and its use of true colour on the Falcon make it tremendous fun to use.

Perhaps the most staggering aspect is DA's ability to animate vector graphics using a keyframe technique - create a vector graphic, call it frame 0, stretch or resize it, or even change the colours, call the new version frame 20 and let

the program calculate the frames in between.

The result is like smooth motion video (though very slow in true colour mode) and when applied to charts, it can be really stunning. Imagine a bar chart in which the bars move up and down and change colour in real time!

That said, the charting facility isn't the easiest thing to get to grips with and it is by no means as inflexible as it could be. It also has an infuriating habit of adding blank lines of data which doesn't endear it further. However, for true colour professional presentations, it can't really be beaten.

3D-CALC

3D-CALC is another ancient product but one that's still worth looking at if you're after a powerful spreadsheet combined with good graphing and statistical facilities.

It features 3D spreadsheets (layered sheets one on top of the other, all with the same formulae but with different data) and up to three can be in memory at once.

Display facilities include multiple and 3D bar charts, line graphs and pie chart. And also features an integrated text editor and programming language.

It works in medium or high resolutions though there's no colour, and the pack includes three versions of the program,

an accessory, a junior version for 520 owners and the full program that needs a full megabyte.

It also contains some complex built-in statistical analysis and database functions and the ability to read Ascii and Lotus 1-2-3 files. If you need to export graphs, you can do so as IMG or Degas files. At £29.95 from Microdeal on 0525 718181, it does represent good value for money.

Top chart

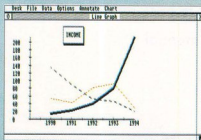
Top Chart is a simple program that illustrates the kind of useful charting utilities to be found in the public domain. There are no bells and whistles on Top Chart but the beauty of it is that you can create a chart in about five seconds flat when you're in a hurry.

It will produce only line graphs, bar charts or pies and while it only takes up to 32 data items, this should be enough for most purposes. Once the data is entered manually (it can't import data) you simply draw the size and shape of the required chart with the mouse.

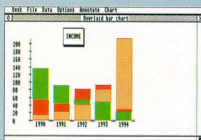
To save it you need to use a snapshot utility to dump it to disk as a Degas or IMG file which should load into any DTP package or wordprocessor where it can be annotated properly.

It can be found on the ST Club's Disk UTI.297 along with several other programs.

Data presentation - the chart types



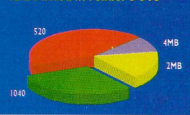
Line graphs are useful for showing trends but any more than three or four lines will only confuse. If you've a lot of data moving a recognisable direction (hopefully upwards) then line graphs are best



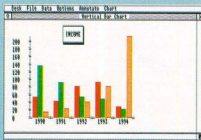
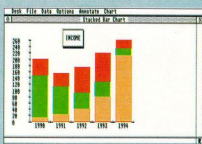
Overlaid bar chart

Pie charts are best for showing how the various parts relate to the whole. If you want to show how many ST owners have 1Mb machines in relation to those who have 520s or 2/4Mb machines, the pie chart works best - especially if the relevant slice can be pulled away slightly

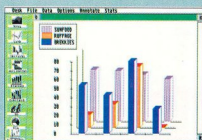
RAM fitted in reader's STs



Stacked bar chart



Bar chart. The bars could equally well be horizontal



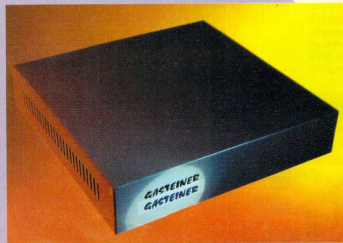
3D bar charts are rather over used and often conceal data if not used carefully. However they do offer greater impact when used carefully. This one was produced using ST-Graph, a custom version of K-Graph, running on a Falcon

Win a **Worth £300** hard drive

Amiga Computing and Gasteiner bring you the opportunity to win a 52Mb 11ms high performance hard drive with a Quantum drive mechanism. This excellent auto-booting drive has a high quality,

sturdy metal casing, which is ideal as a monitor stand.

The drive is also auto-parking, this excellent safety measure preventing damage to the disk's surface.



Other features of this high performance drive:

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1. What drive mechanism does the drive have?

- a. Seagate
- b. Quantum
- c. Conner

2. What is the advantage of auto-parking?

- a. It encourages efficiency
- b. It saves time
- c. It prevents damage to the disk's surface

3. How many megabytes does the prize possess?

- a. 40
- b. 50
- c. 52

You will be asked to leave your answers together with your name and full postal address including postcode. Please speak clearly, spelling out any difficult words.

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Overlaid graphic images can also be incorporated to mask the video display or apply transparency for pictures, backdrops and masks.

Being a fully extensible modular package, other special effects can easily be added - even some intended for the more powerful Fresco Genlock such as Morphing, Real-Life, & Ray traced effects - in fact, ImPro allows for a feasible limit of 2,654,208 effects!

The very powerful synchronisation feature for the sequencing of graphic events while simultaneously playing the live video permits the accurate, dynamic timing of events, while editing of individual frames is simplicity itself. Full cut, copy, move & paste features are included to provide incredible flexibility.

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Then you buy a second disk drive, with its own power supply and another cable to the computer. No trouble, stop worrying!

Then comes a shiny new monitor, perhaps a hard disk, and maybe a modem – all with their own power leads and connector cables. Hey, it's not a problem, honest...

Before long you've opened up your neat little computer and fitted it with some extra memory, added a switchable TOS upgrade board, perhaps put in a processor accelerator board – and the outer case is starting to bulge.

Suddenly, you find yourself looking at a maze of spaghetti leading to a straining computer which is about to burst out of its tiny casing. How did all this happen? Surely there must be a better way...

AN ANSWER

Thankfully, System Solutions (aka The Atari Workshop) have an answer – move your whole system into a stylish new casing and forget about all the cables and clutter. OK, so in practice it's a little more complicated than that, but that's the general idea.

The TowerSystem comes in two main configurations, the first (which we'll be examining here) is designed to accommodate a standard STFM, STE, Falcon or Mega ST computer, while the other copes with the newer Mega STE and TT030 "wedding cake" designs.

The former casing can be used either as a standard desktop unit, upon which your monitor rests, or it can sit vertically on the floor. The Mega STE/TT version can only be used in the floor-standing tower configuration.

Either way, a TowerSystem casing will accommodate not only your computer but also many of the peripherals which

Tower of

If your ST is starting to resemble a Lego kit, maybe it's time to put all those peripherals in one neat case. André Willey invalidates his warranty...

currently inhabit your desktop. Obviously there's not much you can do about a printer – where would you put the paper? – but floppy and hard disk drives, modems and so on can all be hidden away.

Unfortunately, there is a certain inherent resistance to dismantling a perfectly usable computer – there's always that nagging doubt that it won't remain in that condition once you've reassembled it.

I certainly can't promise that the installation is guaranteed to be simple and painless, but I can say that the product is extremely well-designed and thoughtfully laid-out in order to ease the process as far as possible.

However, there's still no getting away from the fact that you will have to completely disassemble your precious computer, remove its delicate innards from their original casing and install them into new locations in an unfamiliar box.

Many of the skills involved are on a par with wiring mains plugs and putting together flat-pack furniture – but then MFI furniture won't cost you as much if

you break a component or two! Although there is no actual soldering required, there are connections to be made to your ST's circuit board which require you to be able to find particular chips and attach a couple of small clips to specific legs.

Again, this is not inherently difficult, but it is perhaps a little daunting to the novice. If you have the slightest worries, you can always phone those very helpful System Solutions folks – or even have their engineers do the entire assembly for you, for an extra charge, of course.

While the System Solutions engineers could complete the job in perhaps half a day, it would be a good idea to set aside a full day (or maybe even a weekend) to do it yourself at home.

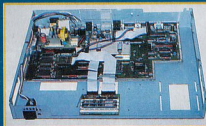
Don't rush things, and please do make sure that you read the whole of the instruction booklet, and familiarise yourself with all the parts, before you commence battle with screwdriver and wire cutters.

DOUBLE CHECK

Although the instruction book does mention the fact, it's worth reiterating here that you will be dealing with mains electricity cables, so be sure to unplug everything before you start, and double check all connections for short circuits and exposed wire before you plug it back in again. You can never be too careful.

When you unpack the box, you'll find that the TowerSystem comprises two main sections, each pressed from sturdy steel sheet with a laminated cream/grey outer casing. The two sections hinge at the rear of the unit, allowing you to gain easy access to

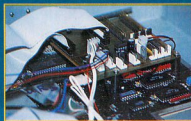
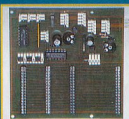
When you first open the box, a myriad of components will greet you, along with a relatively comprehensive instruction booklet. The main casing comes in two hinged metal sections, with separate face plate and mounting assemblies for each. The front panel is moulded plastic, with mounting space for up to three floppy disk drives



2 The first stage, after dismantling your ST (see *Atari ST User June '93*), is to move the main "motherboard" section (minus floppy disk drive) into one half of the tower casing. This process is relatively simple, the most complex part being relocating the power switch and the reset button onto the new front panel.

Stage-by-stage guide to

3 The MultiBoard is the heart of the TowerSystem, allowing a number of floppy disk drives to be attached without the need for any external cabling. It also provides regulated supplies for up to three cooling fans and an automatic boot up time delay to allow hard drives to run up to speed.



4 The MultiBoard fits onto the ST motherboard in the space where the floppy disk drive used to reside. The existing data and power connectors plug into one side of the board, while up to three floppy disk drives can then be plugged into the other (switchable via the front panel).

strength

odd other components at a later stage.

The first section supports the main ST motherboard, still attached to its power supply. There is plenty of room inside the casing to cater for all the upgrades you could imagine, with plenty of space left for those you haven't yet envisaged.

The second section holds the floppy disk drive, along with various other peripheral items – a second floppy drive, hard drive, laser printer interface,

an additional power supply to drive all of this extra hardware, and so on.

The front panel, which simply clips on once the two halves are closed, has a series of cut-outs for different types of floppy disk drive. The unit can house up to three drives, which may be any combination of 3.5in and 5.25in mechanisms, with neat cover-plates to conceal any unused mounting slots.

The main power switch and reset button are also located on the front panel, and it's even possible to fit a security key switch if you don't want the system used without your permission.

As an optional extra, you can add a bank of four mains sockets onto the rear panel, to supply power to other system components – perhaps a monitor and a printer. This allows everything to be operated via a single switch.

Internally, a special MultiBoard allows you to connect several floppy disk drives to the single connector inside a standard ST, and provides selection facilities via front panel switches.

This board is really the heart of the system, and also contains a hard drive power-up delay timer and connections for several temperature-controlled cooling fans if required.

Finally, unless you already have a separate keyboard with a Mega ST or TT, you will need to install your existing ST keyboard into a new housing, which is connected to the TowerSystem via a coiled cable.

This casing is extra to the basic price, and must be borne in mind when costing the system. System Solutions can also supply replacement key caps, or even a completely new PC/AT-style

keyboard, if you really want to change the look and feel of your machine.

There are still one or two areas which are not as well thought-out as they could be. One is the cartridge port, which now sticks out at the top of the casing – fine for a little Stereo Master cartridge, but a bit awkward for some of the larger Midi devices which can plug into that port.

Also, the mouse and joystick connectors still emanate from the underside of the keyboard – one of Atari's more bizarrely inexplicable pieces of design work.

The English documentation, still fairly obviously translated from the German in places, is sometimes a little skimpy, rather assuming a general knowledge of the workings of an ST and computer components in general.

EXPANDING

For example, when discussing connecting the keyboard to the TowerSystem, a single line says "An LED can also be fitted to the original keyboard connector and mounted on the TowerSystem's front panel." While this is undoubtedly true, there is no indication of why one should want to do this, nor indeed to which pins this lead should be connected.

In relative terms, a TowerSystem is not exactly cheap when compared to the original computer price. A basic kit will set you back £180, but that doesn't include the keyboard housing which is necessary when you remove an STFM, STE or Falcon from its casing.

When the extension keyboard kit is included, the overall cost comes to around £230, which is slightly more expensive than the discount STFMs being shipped out to clear Atari's stocks.

However, if you can afford it, the TowerSystem is a truly excellent way to rationalise an ever-expanding system, not to mention giving it an up-market air of businesslike authority which wouldn't normally be achieved by an integrated keyboard computer such as the ST.

Costing it up

Supplier: System Solutions/Atari Workshop,
17-19 Blackwater Street, London SE22 8RS.
Phone: 081-693 1919
Prices: TowerSystem (excl keyboard): £179.95
Keyboard case: £49.95*
Atari Workshop Fitting/Testing Service: £100

Optional extras:
Additional 3.5in/5.25in floppy drive fitting kit:
£12.50

Loudspeaker (if not provided on your monitor):
£4.95*

Additional Power Supply: £59.95

Atari Megafile hard drive fitting kit: £29.50

SCSI hard drive fitting kit: £12.50*

SCSI host adaptor: £89.95*

Cooling fan: £19*

Bank of mains sockets for external devices:
£12.95

Key power switch: £9.95

Laser printer interface fitting kit: £19

Monitor Support Arm (up to 19in monitor): £69

* Not required if already provided in your
Mega ST/TT computer

building your own TowerSystem



5 The second half of the tower casing is used for the original floppy disk drive and any external devices – such as a hard disk, modem or whatever. In the (left) picture you'll also notice a new power supply in the upper left-hand corner of the case. This is an optional extra, and can be used to provide power for multiple internal floppy and hard disk drives.

With the two sections of the casing complete, all that remains is to run the ribbon cable connectors between the assemblies and put the two halves together. The hinge mechanism makes accessing the individual components relatively simple, just in case you decide to add some more items at a later stage.



7 The original ST keyboard fits comfortably into its new housing, with a coiled cable linking it to the TowerSystem. Also shown for comparison are an optional TT/Mega STE external keyboard (top) and a standard ST keyboard with replacement key-caps (middle).



8 The finished item will sit comfortably beside your desk, containing all the power supplies, cables and other paraphernalia which used to clutter up your work surface. Now all you need to have on your desktop are the keyboard, monitor and mouse.

Cheating with games

I have been waiting for the game Chaos Engine for some time and found your review in the March issue. This troubles me.

I telephoned Renegade to find out whether it was available, and they told me it was not and would not be so for a few months. It was, however, available for the Amiga and PC.

An advert appeared for the game in another ST magazine. The graphics are obviously Amiga screenshots, but one of them in your review is identical to one in the advert.

Considering that the game is not available for the ST it is clear that the game you reviewed was on the Amiga.

Most other magazines have standards on reviewing finished games only and not demos or another version.

I am very surprised that you have done this. Please print this letter so that you have a chance to defend yourself on this point.

Anon

You clearly don't understand how magazines are produced, and I suspect a fair number of other readers share your ignorance.

Our aim is to review products that will be topical while the magazine is on the newsstands, and so it quite normal for us to test programs several weeks before they go on sale.

But from time to time, a firm may be forced to delay the release of their product and this can make our reviews appear to be premature.

Delays are caused by a number of reasons - manuals need to be printed, packaging completed and sometimes minor changes are needed to the software.

In order to review the Chaos Engine, our writer visited Renegade at their London office. While there he tested the ST version and obtained screenshots.

Reviews talk about software that is several weeks or months off completion. They say what the game will be like but are not scored.

Most magazines work in the same way. If they did not their reviews would appear a month or two after the program went on sale.

So just because you were unable to buy the game don't assume we have misled our readers. In fact Darren Smithson also recommends Chaos Engine in his letter on these pages.

Amiga battle continues

I am writing with regard to Francis Bullen's letter in May's issue headlined "An Unbiased View".

I suggest Mr Bullen is voicing his favourable views on the Amiga 1200 to prevent him feeling that he'd just bought a turkey.

First of all to address the processor argument what would Mr Motorola himself feel was the better chip - the 68020 EComony or the 68030?

Secondly, the Amiga's superior graphics are impractical to owners, who need very expensive de-interlacers to experience anything other than wobblevision.

The Falcon plugged into a standard and relatively cheap VGA monitor gives glorious crisp and editable graphics. Already applications have been developed especially to use them.

I even read of a true colour game - definitely not possible on the Amiga and certainly

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

Write Now

not with 16-bit sound of any description.

At the time of the A1200's release Amiga magazines were asking "where's the high end drive, the DSP, the SCSI 2?". They are all in the Falcon.

And of great advantage to those without a hard disk, there's a user-friendly but powerful operating system in ROM - not on some floppy somewhere under the coffee mug perhaps?

In my mind the final nail in the coffin of the Amiga 1200 is its close compatibility with earlier Amigas. Why make special games for it?

Every advert says "special A1200 enhanced versions of games like Zool available". But that's about it folks, and that was a November 1992 release.

Big deal if there's a couple of others too. Who wants a £400 Super Nintendo?

Mark Tyson, Hull

I hope this will be the last "mine's better and bigger than yours" letter we are sent regarding the Amiga.

In terms of specifications, the Falcon is the better computer, but there are more considerations to make before buying. The Atari machine is £200 more expensive, for example.

You are right to say that the A1200 needs an adaptor to enable users to take advantage of the high resolution and VGA modes, but this device costs only £30. MultiTOS, a major part

of the Falcon's operating system, is also on a floppy disk and many potential buyers wish the computer had greater compatibility with ST software.

A step backwards

First, let me say thank you for publishing my letter in May's issue. It's nice to know that our opinions are valued, but I'm not sure that I agree entirely with your answer.

The relaunch of the STFm is a bad decision. Why? Three reasons.

First, the machine is a step back with no enhanced features. Second, the STE is modular in design, making it easy to upgrade and customise. The STFm isn't.

Third, why discontinue a machine that must be easier to manufacture than its predecessor and one that on every technological stand point is superior to the STFm? And if Mr Still wants to argue it's cheaper to step back to building the STFm, that's rubbish. Factories don't change their set-up overnight with no cost.

Actually, there's a fourth reason, and this is one that really gets me. For over a year I have argued in various letters pages that Atari should produce STE-specific games and products.

They could even commission third-party developers to do the same. And guess what? Just as it looks like some games writers are

Building on quality

I am writing with my views on the comments made concerning Atari's marketing policies, as some of your readers have been severely criticising this element of Atari's business.

I agree that marketing is an important part of potential success, but it is only a part of it. The success of a business mainly depends on the quality of the actual product.

I feel this point has been lacking from some of your recent letters.

Referring to the Falcon - of which I own the 4Mb version - the quality of what is under the keyboard convinced me that this is the machine of the 90s.

Before I bought the "new bird", I owned three different models of the Amiga 1200 - the Falcon's so called competition - and not one of them worked properly.

Commodore may have fancy adverts on television but Atari sell machines with a high technical specification that work.

Because of this, Commodore have lost one potential user, and on a larger scale could play a part in the imminent Atari rebirth.

Keep up the excellent coverage of the Falcon scene, Atari ST User.

M Barber, North Humberston

Quite right, quality plays a big part in the success of any product but without decent marketing how can outsiders - in this case non-Atari enthusiasts - know of its existence?

**£25
Prize
Letter**

starting to support the STE, Atari discontinue the machine.

I know we shouldn't be so negative, but once again it's a case of a nice plan but wrong implementation. It should be the STE that is on sale at about the £170 mark, with packs that include games with STE features.

I don't understand how Atari can ignore all the letters that are published slamming their marketing choices and strategy over and over again.

I closed my last letter with "c'mon Atari, you are running out of chances". Nothing about the decision to cancel the STE and relaunch the STFM reassures me they have taken the message on board.

On a more positive note all STE users should rush out and buy the Chaos Engine. Hopefully, if we make this game the stonking success it deserves to be, other publishers might get the message!

Darren Smithson, Reading

Atari say they haven't killed the STE, but have temporarily stopped production of the machine to enable them to concentrate on the Falcon. They are unable to say when the machine will be built again, but promise that they will always meet customer demand.

Selling the STE for £159 would obviously have more appeal than the older machine, but we are told that the firm cannot afford to reduce its price to that level.

You must also remember that the STFM is not being sold as a state-of-the-art computer. It is aimed as another option to people who are out to buy a Commodore 64 or console.

The reintroduction of the STFM should not damage STE sales, because it is aimed at a different section of the market.

Beating the pirates

I found your article about piracy in the May issue very interesting.

I am a software programmer and have released a few titles during the years. Lately, however, I have given up writing anything for the Atari.

The reason is simple; I see no point in spending hours of time working in front of my machine just to find my software freely spread across piracy bulletin boards.

I instead I am now making software via shareware on the PC which has a great response. If, however, the piracy had stopped I would continue to program for the ST.

Perhaps a solution to the piracy problem is huge CD-ROM programs. I have yet to see an illegal copy of a 500Mb program.

Software like this is now coming out for the PC. Perhaps the best example is 7 Guest, which is a 1Gb game on two CDs. Who would bother to copy a game like that?

To copy that type of product would need about 1,389 720k, or 694 1.44Mb disks. That would make it more expensive to copy than actually buy.

Perhaps the trend of large CD programs as

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

seen on the PC is the future of software on the Atari Falcon.

B Gundersen, Norway

More and more software developers are moving to CD-based games for the reasons mentioned in your letter.

Atari promise a CD-ROM drive for the Falcon. Let's hope it appears sooner rather than later.

Time to move on

Thank you for producing such an interesting, instructive and amusing magazine. My son and I have been regular readers for longer than I care to remember.

We were Atari addicts from the early 8-bit days and have owned a variety of machines and peripherals, but now my son has moved on to IBM compatibles.

I said that I would wait for the Falcon but after reading the May issue I am thinking of abandoning Atari.

The reasons are as follows: The price is too high, lack of compatibility with current software, dropping support from software companies and why should I support a machine that the manufacturers fail to promote fully?

All of these points were taken from the May issue, and if followed will, of course, lead to one less reader of your excellent magazine.

A further reason is that perusal of a magazine for IBM compatibles shows a far wider range of software and peripherals available and often at a lower price. Whatever happened to "The power without the price?"

Having said all that there is no doubt in my mind that the Falcon is a first class machine and I hope that Atari capitalise on it.

Raymond Prize, South Glamorgan

The points you claim to have taken from May's issue must be taken in context, and I'll go through them one by one.

The Falcon's price is high compared to alternatives on the market if you only need the computer for wordprocessing and other simple tasks. PC-compatibles and Apple Macintosh machines can be bought with a monitor for around the same price as the 4Mb Falcon without.

But the Falcon offers much more potential, and if you want to explore new areas of home computing that will soon be available then it's worth the extra.

Incompatibility with ST software is an issue raised by many potential buyers, and while you consider it a problem remember none of your software will work with a PC.

Dropping software support is a problem linked with the ST not the Falcon. According to Atari there are 80 products either available now or promised for the near future.

Falcon promotion is set to begin this month with advertising in the computer press, and possibly television marketing later in the year.

Can't find you

During the last few months I have found it difficult to get hold of Atari ST User at my local newsagents.

Is there any way that I can be sure of my copy every month?

J Holmes, Kent

To guarantee a copy why not take out a newsagent order or subscription?

ATARI ST USER

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

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Enter competitions using the details on the form. If you have any enquiries connected with our competitions, contact **Lucy Oliver** on **0625 878888**

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PD libraries are welcome to submit their latest releases. Submissions should include a detailed list of what each disk contains. Jiffy bags to **Jonathan Maddock**

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SAVE THOSE SAEs!

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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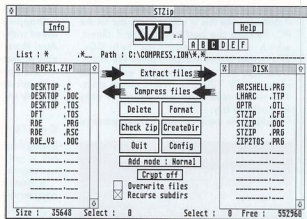
ST's little helpers

There are hundreds of them in every public domain library, and plenty more from commercial publishers. Günter Minnerup guides you through the utilities jungle

To the innocent first-time computer buyer, utilities may appear quite superfluous, something for enthusiasts and hacker types. Surely, the basic machine and its built-in operating system software, plus the right application programs, should be enough to do the job?

But I have never met anybody who, after only a few weeks' computing, has not begun to build up a substantial collection of utilities. Alongside the operating system and the applications, they are the essential third category of software which everybody needs. It's a bit like driving; owning a good motor and a driving licence will get you started all right. But soon enough you discover the value of a toolbox, a torch, a road map, and all the other paraphernalia sold at your local Halford's, from roof racks to air fresheners.

Some are essential for general safety



The ZIP file compression utility is gradually pushing aside the more familiar old workhorses ARC and LHARC, given its general efficiency, compatibility with DOS and this slick ST implementation

Supercharged monitors

and coping with sudden problems, some desirable for more performance and a smoother ride, others sheer luxuries and extravagant status symbols. Utility software can be all of these, too.

There are utilities to fix one of the most common causes of computer malfunction, bugs in the operating system, as well as those designed to help you cope with routine maintenance and accident repairs.

Others will enhance the speed and efficiency of your system and add vital new functions and system extensions. For that touch of luxury, replace the built-in Desktop or the system font with a superior design or make your ST whistle a tune while you work. If anything, the variety of utilities available exceeds even the choice of accessories on the shelves of Halford's.

Even better, much of it is free. The ST is blessed with a user base that includes many enthusiastic and extremely capable programmers who make their code available in the public domain before commercial software houses spot a gap in the market.

NOMINAL CHARGE

All PD libraries and bulletin boards feature hundreds of utilities in their catalogues and file lists, for nothing more than a nominal disk copying charge or the cost of a phone call if you have a modem.

Some of these are shareware, which is not at all the same as public domain: you can freely copy and distribute the programs, but if you like them and find yourself using them regularly you should send the author the registration fee required, and in return you will often get a printed manual and upgrades to improved versions.

Commercial utilities are often – but not always – the most polished, reliable and powerful, but there are not all that many of them and for many purposes PD or shareware are the only, if not the best, solutions.

Many utilities belong to two types of programs which exploit special features of the ST operating system: AUTO folder programs and desk accessories.

Any program put into a folder named AUTO on your boot drive – usually

Since the video capabilities of your setup are essentially limited by the monitor, surely there is no way that a software utility can improve matters in this department?

Wrong. There are programs to speed up the display, change its colours, and increase its size. No code can transform your humble SM124 into an A3 true-colour multisync, of course, but it is still surprising how far the software can push the hardware by optimising poorly-written operating system routines and exploiting unused reserves.

Screen accelerators such as Warp 9, QuickST and, best of all, NVDI make an enormous difference to the scrolling and redrawing speeds. Desktop publishers in particular will appreciate this. A mono emulator allows high resolution-only applications to run on a colour monitor, and colour emulators do the same in the reverse direction, representing colours as greyscales on a mono screen.

Bigscreen installs a large "virtual screen" of user-configurable size: your ordinary SM124 acts like a window on this larger screen, moved around when the mouse pointer hits the edge of the visible area. Scrolling speeds can be a bit slow, though.

either floppy drive A or hard drive partition C – will be executed automatically (hence the name!) whenever you switch on or reset your computer.

At this stage, the GEM Desktop is not yet available so AUTO folder programs cannot have windows and drop-down menus, but there is still an awful lot that they can do as we shall soon find out.

Desk accessories give you a form of multitasking in that they are always running in the background, ready to be called up at any time from the Desk menu in other GEM programs, and sometimes through a key combination.

They are loaded at boot or reset time like AUTO folder programs, and again from the boot drive unless, of course, you use a utility that will allow you to load a new accessory at any time, or from another drive! Recent versions of TOS come with the new extensible Control Panel: many of the CPX modules written for this function in a similar manner to desk accessories.

The TOS operating system and its GEM user interface are generally efficient and reliable as well as a pleasure to use, but the very fact that there have been so many versions of it indicates that earlier ones, at least, were far from perfect.

A major new version of TOS usually coincides with a new generation of hardware (TOS 2.x for the STE, TOS 3.x for the TT, TOS 4.x for the Falcon, for example) but every new release also fixes some known bugs and adds some new features. The trouble with TOS is

that, unlike MS-DOS, it is burned into the ROM chips installed in your ST and therefore difficult to replace. This is where software utilities come in handy.

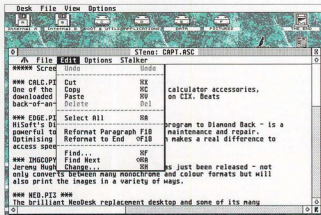
Early TOS versions, up to v1.4, were notorious for two things: the infamous "40-folder bug" and their sluggish handling of hard disks. Accessing more than 40 directories or subdirectories in one session could have dire consequences, and file reads and writes would take ages.

IRONING OUT GLITCHES

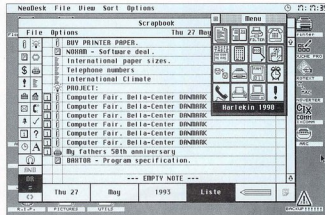
Fixes such as FOLDRXXX.PRG – where the desired number of extra folders replaces the triple X in the filename – and FATSPEED are therefore essential to everyone using these older versions with hard disks, but owners of a more advanced TOS, too, will still find many uses for AUTO folder programs to iron out glitches and enhance performance.

Take the limitations on the use of desk accessories already referred to. Six may sound plenty, but there are bound to be occasions when these six are the wrong ones and you are forced to quit your current application and reboot your ST to change the contents of the Desk menu.

The commercial MultiDesk and several public domain offerings let you expand that limit to whatever your RAM capacity allows; with MultiDesk, you can even run accessories like ordinary



Utilities can be fun – look at the colour of the Desktop! Note the presence of the "Boot & Utils" Drawer



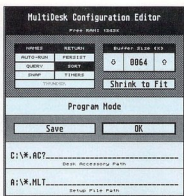
The accessory to beat all accessories: Harlekin even replaces the system font with something strikingly Mac-like. The modestly-named "scrapbook" serves as an all-purpose appointments diary and project manager

programs although naturally only from the Desktop and not from the Desk menu within other applications.

An alternative approach – and much more economical with precious memory – is to make sure that one of the accessories installed is Chameleon, a sort of “empty” accessory slot into which you can then temporarily load any accessory of your choice, as well as unload it again.

Chameleon isn't always completely reliable, but reliable enough with most programs and accessories to make it a viable alternative to the RAM-gobbling MultiDesk.

The AUTO folder, too, is restricted by its inability to use GEM, so full GEM applications cannot be automatically executed from within it unless you have a more recent version of TOS (1.4 or later). Autogem or Headstart, both in



MultiDesk busts the system limit of six desk accessories and can even run accessories like ordinary programs from the Desktop, but it gobbles up memory like there was no tomorrow!

the public domain, get around this by letting you define a program which will be launched at boot time as soon as the contents of the AUTO folder have been executed and GEM initialised.

Naturally, the program to be autostarted in this fashion can be

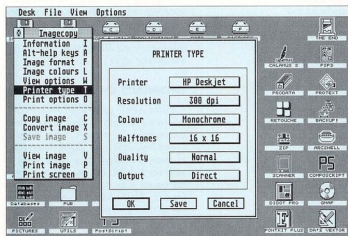
changed at any time (from the Desktop with TOS 1.4 or greater) but you will soon get fed up with all the editing of filename extenders and configuration files to alter your desk accessory and AUTO folder setups, especially when you need to track down a hidden incompatibility between programs or a bug.

WORLDWIDE HELP

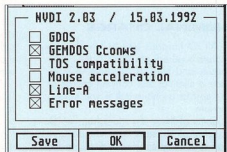
In the worst case, the computer may crash before it even gets to the Desktop, preventing you from disabling the offending item altogether!

You will guess what I am going to say now; there is a utility to deal with such problems. Quite a few, in fact, and once again you have a choice between fairly costly (commercial), cheap (shareware) and free (PD).

The two stars here are HiSoft's Xboot III, a commercial import from Germany, and the American shareware program Superboot, now matured to v8.



Jeremy Hughes' Imagecopy v2 has just been released – not only converts between many mono and colour formats but will also print the images in a variety of ways



A screen accelerator like NVDI can truly supercharge your computer, as these benchmarks for the – already extremely fast – TT show. This speed is additive: once you get used to it, working without NVDI seems like walking through mud

The good accessories guide

With a good set of basic utilities, your ST will resemble a performance car after the run-in period, all its teething troubles and little wrinkles sorted out, the engine fully tuned and the bodywork polished to a perfect sheen.

What it needs now is a good selection of accessories to accompany your principal applications. Precisely which will depend on what you mainly use your ST for, but at least three or four of the following will enhance just about any setup.

The three Rs

When you are within a program and need quick access to the Read Me file, or want to write a memo or whatever without quitting the current application, you need a desk accessory text editor rather than your heavyweight wordprocessor.

This seems to be a favoured field of experimentation for public domain authors, but few of these are very reliable or pleasant to use. By far the best is the commercial STeno, which is meant to be used with the Stalker comms program but will serve just as well on its own. It is fast and elegant and surprisingly sports many of the features of a fully-fledged wordprocessor.

To complete easy access to the three Rs, a calculator accessory is also extremely useful – even in something like desktop publishing, when precise page and frame dimension need to be calculated in various units of measurement, for example. Calculators, too, are

very popular with PD authors, and since they all work equally well (after all, the actual arithmetic is done by the ST) it's a straight choice on features. The more sophisticated scientific calculators tend to claim quite a bit of memory and unless you actually need scientific functions you are probably best off with something simple and efficient.

File selector

Replacements for the official Atari file selector are usually installed in the AUTO folder and simply pop up whenever needed, but the best of them all, the Universal Item Selector III, can also be called from the Desk menu through the Call UIS accessory.

Since it does just about everything except make the coffee – copy, create, rename and delete files and folders, show free memory and disk space, format disks and lots more – you will often want this access from every one of the many GEM applications with inadequate file management features.

RAM disk

The single most important factor slowing down the ST is the floppy disk drive. Loading one of today's big applications from disk can take quite a while, as can operations on large files. If you cannot afford a hard drive, you will almost certainly need a RAM disk, a program that acts just like an ordinary disk drive but resides entirely

Replacement Desktops

The ultimate utilities are the alternative Desktops. Contrary to a widespread misconception, they do not replace GEM as such but alter its appearance to the user and add a number of useful functions in the process.

There are a couple of shareware offerings from Germany, Gemini and Teradesk, but the undisputed leader in the field is NeoDesk which many would argue is a better user interface than either Windows 3 on the PC or the Apple Mac's Finder.

The big drawback, of course, is that with such an ambitious modification, there are inevitable penalties in terms of memory usage and speed. Single-floppy, unexpanded 520 STs are probably better off without the likes of NeoDesk, but the faster your disks and the larger your RAM, the more you are going to benefit from abandoning the standard-issue GEM Desktop, even in its improved recent STE, TT and Falcon incarnations, in favour of NeoDesk.

Standard file operations such as copying and formatting, window handling and directory display, automation of Desktop operations and program execution through keyboard macros, Desktop customisation through icons and background pictures – all these are made so much more powerful and flexible.

A recoverable trashcan helps avoid the "Oops!" factor after premature file deletions, and a separately available NeoDesk command line interpreter can add DOS-like functionality, including batch files, to the system.

Basically they both do the same job and need to be installed in the AUTO folder: as you power up your ST, they bring up a selection screen offering a choice between all the AUTO folder programs and desk accessories found on your boot drive, and simple mouse clicks or cursor movements will easily activate or de-activate any number of them before the rest of the boot process is completed.

Since the order in which AUTO folder programs are executed can be crucial, they allow you to resort the relevant files, and you can also configure other aspects of your system, such as the appearance of the Desktop and GDOS.

Different setups can be saved to disk and selected with a single function key, and there are other goodies too. Your ST will soon appear unusable without such a boot manager.

Many utilities are designed to sort out hardware problems or push the capabilities of your hardware to the limits. Disk drives are perhaps the most crucial,



RDE, one of the most popular RAM disks, runs on all current Atari models and allows its contents to be saved to a disk file for easy reloading at the beginning of your next working session

in memory. What's the point of this, given that its contents will be lost again as soon as the computer is switched off? Apart from acting as a useful "buffer" for disk copying, a RAM disk can be used to hold frequently accessed programs and data during a session – your wordprocessor's spellchecking dictionary, for example, or database files.

Although they still have to be copied to the RAM disk in the first place, of course, each subsequent read or write operation on them will be many times faster than it would involving the mechanics of a floppy drive.

There are so many different RAM disks about that it is difficult to recommend any particular one. As they are mostly PD, you can easily afford to try them all out – well worth it, because they differ a lot in their abilities: some are of a fixed size, some variable, some dynamic (always as large as required); some are reset-resistant and will survive a crash; some automatically compress their contents.

Graphics

Pictures have become just as much part of personal computing as words, but there are so many different graphics file formats that it is often impossible to import the picture of your choice into a word-processor, art program or DTP package unless it is first converted to whatever import format your software expects.

Thankfully, there are a number of extremely capable helpers for

since without them you would only have the temporary data storage in RAM, with no means of reading or writing files.

What if something goes wrong with your disk drive or the files stored on it? If you have no backups you may well lose a lot of your work and even your investment in software, so the first line of defence against any mishaps of this sort is to have plenty of backups.

SHEER VOLUME

No problem with floppies, but hard disks are a different proposition because of the sheer volume of data they can contain and not everybody can afford a tape streamer. If you are a hard disk owner – as every serious ST

user should be – you will require a utility to automate the copying of all new files created during a working session to backup floppies.

Since they are such essential items, there are a number of PD, shareware and commercial backup utilities around, the most widely used of which are Diamond Back, Turtle and The Vault. All three work admirably, Diamond Back being the fastest and The Vault the most flexible.

Given the choice between compressed backup files and uncompressed ones, you have to make up your mind what is more important to you: compressed backups obviously require fewer disks, but uncompressed

little or no money, of which three deserve a special mention: the old warhorse PicStandy (public domain) which is a bit dated now but still a useful standby for mono bit-image formats; the shareware GEMview which covers more file formats than anything else, even GEM metafiles; and the commercial but very cheap Imagecopy which is particularly strong at handling colour images – to the point of driving colour printers and creating four-colour separations.

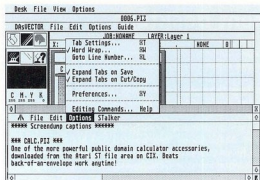
As an additional bonus, Imagecopy can produce screendumps to a printer or disk file (invaluable for computer journalists!).

Harlekin

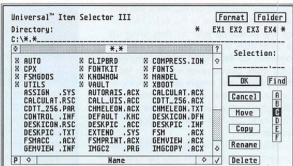
Finally, for the perfectionist with lots of RAM and a hard disk, there are "super accessories" incorporating many of the above, and more, in one single piece of software.

Harlekin, the best-known of these, is not actually an accessory at all although it uses the Desk accessory menu to give you access to its features: appointments diary, address book, text editor, printer spooler, communications module, calculator, memory monitor, keyboard macros, RAM disk and much more.

People either love Harlekin or loathe it – personally, I prefer to put together my own combo of different accessories but I know many users who swear by the convenience and efficiency of one integrated suite of utilities.



A text editor is perhaps the one desk accessory that nobody should be without – essential every time you cannot access your main wordprocessor and need to read or write text instantly. STeno rivals many word-processors in power and speed



The king of the replacement file selectors, UIS III can be activated from the Desktop accessory menu and offers an unrivalled array of features. More like a comprehensive disk and file management utility than a mere item selector, in fact

ones can be read and copied in the usual ways which may be safer and more convenient. All backup programs can automatically restore an entire hard disk partition automatically – you still have to insert the floppies when prompted, though...

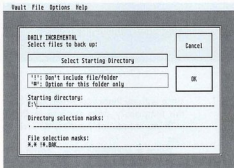
Backing up and then restoring a partition can also speed up a sluggish hard drive by eliminating what is known as file fragmentation.

After a lot of deleting, copying and saving, the operating system will have scattered bits of data all over the disk and the mechanism has to work that much harder whenever a file is read or written, with a resulting loss of speed and increased danger of read-write errors.

SERIOUS PROBLEMS

The "backup-and-restore" routine takes a lot of time, though, and a better alternative is to use one of several hard disk maintenance programs which, apart from optimising a fragmented disk structure, will also help you analyse and deal with any more serious problems.

This is dangerous territory for the uninitiated since inexperienced repair can make things even worse and lead to



A few minutes spent at the end of each session doing an incremental backup with The Vault can save much grief when you discover that your hard drive is playing up or that a crucial file has been the victim of over-enthusiastic housekeeping

massive loss of data, and for this reason it is advisable not to entrust your hard disk to public domain maintenance and repair programs unless you know precisely what you are doing.

My recommendation is Diamond Edge from HiSoft, one of the longest-established and most reputable supporters of the ST in Britain.

Sooner or later, even the best-maintained hard disk drive will inevitably reach the limits of its capacity, raising the dreaded, expensive question of investment in a larger one.

While you are considering that prospect and examining your accounts for the feasibility of it, there is an increasingly popular method of at least postponing the necessity of the purchase and pushing the capacities of your storage to the very limits – compressing its contents.

File compression is widely used for archive purposes and transmission by modem (to save telephone charges) so why not use the same trick in your daily work? FXPAC is shareware and comes with

a German implementation of the LHARC archive method: both program and data files can be reduced by up to half and will still work normally, being automatically decompressed when needed.

Of course this slows things down a bit since an allowance has to be made for the actual decompression process, but the delay is fairly minimal on hard drives and on floppies compressed files can even be faster in use because the decompression time is less than it would take to read the full-sized file!

PERFECT PRINTING

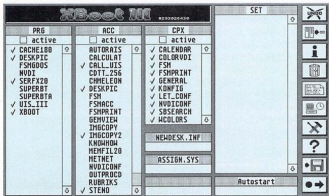
Remember the predictions of the "paperless office"? Well, if anything computers seem to have increased the consumption of paper since almost everything is turned into hard copy at some stage, and it is so easy to produce draft after draft until the final document looks perfect.

But printing, especially with the dot matrix printers so popular with home users, can be a slow and cumbersome affair because of the large amount of data to be sent through the parallel or serial port.

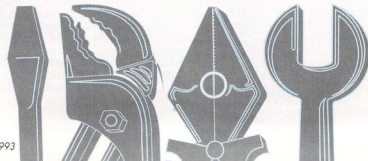
With long documents, or graphics-intensive ones, your computer can be occupied for long spells just printing while you are forced to twiddle your thumbs.

Unless you use a spooler utility, that is. There are quite a few PD ones around, but the best must be Multiprint from the ST Club, the modest asking price of £9.95 making it almost as cheap as a PD disk.

Multiprint intercepts the data sent to the printer port and hold them in a RAM buffer from where they can either be saved to disk for later processing, or sent on to the printer "in the background" while the bulk of your computer's memory is released for you to get on with other tasks.



A boot manager like XBoot is essential when you need tailor-made environments for different main applications and have to juggle a lot of AUTO folder programs, desk accessories, CPX modules, GDOS and Desktop configurations



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.

The Monitor has only 1/2" border, which gives the biggest picture on any 14" monitor, perfectly centered. It has dynamic focussing, and a tilt and swivel base. It is a totally plug-in-and-go unit.

"Essential Buy, 90%"

ST Review, May 1993

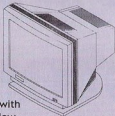
SM14 £149.95

without audio

SM14s £169.95

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Special Price
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New Version
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NVDI

If you are one of those people who use Desktop Publishers or Music Notation, do you find that you spend ages for the screen to redraw? NVDI is the fastest and most compatible software display accelerator 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.

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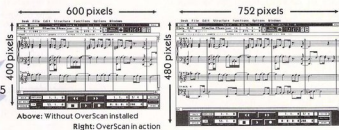
Crossing the Border

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 practice this means that you will get up to 40% extra screen in high resolution, and up to 60% in colour.

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ATARI
WORKSHOP

When I first reviewed French wordprocessor Redacteur in the June 1992 issue, I fell madly in love with its quirky interface and lightning fast text handling.

The wealth of features, such as block word counts and abundant keyboard short-cuts, put pleasure back into word processing. It did have its faults though, and as it had a fairly high price tag, many potential buyers must have been put off.

Redacteur is a fast and friendly word-processor to rival Protext, which was the only really professional choice until Redacteur came along.

The interface knocks spots off Protext's and its use of GEM makes it much easier to get to grips with. It can also save files in a variety of formats, making it ideal for use in a work environment when swapping text between PCs and Macs.

Its main problems include the poor dictionary which queries so many standard words that it becomes unusable, the over-complicated output and the unfriendly way it locks out other programs and accessories.

CUT-DOWN

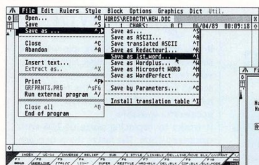
In fact, it is also overburdened with utilities like databases, screen grabbers and font editors that most users would happily have done without.

To rectify these shortcomings, the ST Club has launched two cut-down versions of Redacteur at competitive prices and dropped the price of the full-blown product to £99.

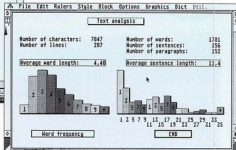
Now you can have the fastest ST wordprocessor for just under £40, if you don't need the trimmings, or a slightly bigger bundle for under £70. And if you ever feel the urge to upgrade, you only pay the difference in the original price.

Redacteur works best in high resolution but is quite adequate in med-res. The interface resembles GEM but is in reality totally customised with much faster graphics routines and several novel features including extra window buttons to facilitate swapping between windows.

Multiple windows can be open at once and text can be cut, copied or pasted between them. The first thing you see when you load Redacteur is the



Redacteur has more menus than McDonald's



Do the new cut-down versions of Redacteur offer value for money? Andrew Wright takes a look

There's no excuse for getting the word count wrong - hitting the Word frequency button even lets you see if you've a word too often!

Les petits Redacteurs

program's own file selector with various icon and drive buttons. You can get information on files, create new folders, delete and rename files or look for certain file extensions using file masks. It is an easy file selector to use but it's a shame that you can't opt for your usual replacement like UIS3, especially as only 11 files can be seen at once.

Once you've chosen a file to load, Redacteur looks fairly similar to Firstword Plus, with a function key bar along the bottom, a GEM-type window with text and comprehensive menus along the top.

It's only an illusion though - try scrolling through the document with the scroll bar and you'll soon realise that this is no ordinary beast. The menus are extremely lengthy and nested - selecting some

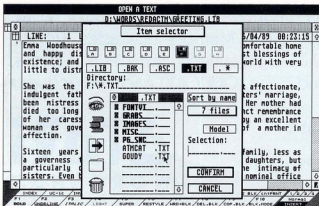
options reveals yet another menu to the side.

The paragraph style bar is the most curious arrangement - a kind of drop-down full width bar that appears when you click on the status line at the top of the window. From here you can set line lengths, spacing, font and alignment among others.

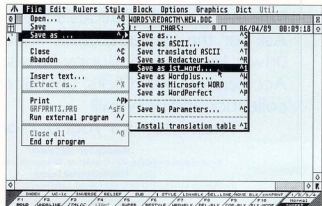
The downside of Redacteur is that the custom interface uses some illegal tricks to get its speed and ease of use, causing some programs to disagree with it very strongly.

For example, most screen savers and accelerators, several desk accessories and at least one of my AUTO folder programs all fail to work at all with Redacteur, so be warned. It isn't a problem but it can cause some work in hunting down the incompatibilities.

Learning Redacteur will take at least



Redacteur's idiosyncratic font handling system



Redacteur's custom file selector, "eye"cons and all

an evening – primarily because the 600-odd page manual is such a good read! Large sections are irrelevant to the Lite and Junior versions but there's plenty of information, and hints and tips. For the more skilled keyboard user, there are 36 programmable macros as well as keyboard short-cuts for most operations.

Redacteur also has some good text entry and editing commands, allowing you to delete the current character, word, line, sentence or paragraph and even transpose characters by hitting the Esc key.

Redacteur can import and save files in half a dozen formats including Ascii, Wordplus, Wordwriter, Microsoft Word, WordPerfect and Protext. Graphics are also supported with the program able to read 16 different file types including GEM, IMG and Degas. They can even be cropped and resized.

PIC 'N' MIX

Other features include headers and footers, comments in text and tables of figures. All these features are present in the main program – what you get for your money with the Lite and Junior versions is various extras and only you can decide which ones you want.

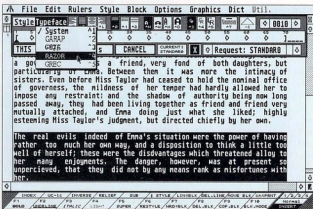
Redacteur Lite is close to the full package and it comes on the same four disks. The bits you don't get are the equation editor, the Aztheque cardfile database, font editor, dictionary editor and French dictionary.

What you do get is a full version of the wordprocessor itself – with nothing at all removed of course – plus an English dictionary and a good number of printer fonts.

Installation is via a custom routine that makes various decisions for you depending on how much memory you have. If you're using floppies you'll need three working disks, otherwise it will install straight onto a hard drive.

If you intend to use Redacteur with your accessories and AUTO folder programs and you have less than 2Mb of memory, you might find that you can't load all the extra utilities, including the dictionary, into memory.

They will have to be loaded from the



The drop-down paragraph menu

The competition

There's no such thing as the "ultimate wordprocessor". I may have come close with Redacteur but my needs and yours may be very different. The one you choose will depend on your workload, your lifestyle and the way you work.

For the odd letter, a PD wordprocessor like KBWriter or ST Writer Elite will be fine. If you're a little bit keener you've got a choice between D-Word, Firstword Plus and Wordwriter ST but if you're into good-looking output, here's Write On and That's Write 2.

Speed freaks with a hatred of GEM can also opt for Protext which is also a good choice if you want to customise and program your wordprocessor to automate everyday tasks.

disk when required. This shouldn't present too much of a problem but it's a good idea to set up Redacteur without any other programs or accessories installed so that the program will then attempt to load them into RAM first. The installer also needs plenty of RAM to decompress the files.

The amount of functionality you get again depends on the memory in your ST. On a 1Mb machine, you can't print using the graphic fonts to a 24-pin printer, Deskjet or laser from within the program.

Instead you have to save the file and then drop down to the Desktop, load the output program and print from there. This makes Redacteur a bit of a pain but standard text output using the printer's internal fonts presents no problem at all.

The Junior version is pretty well the bare bones of Redacteur – just the main program and two disks with printer drivers.

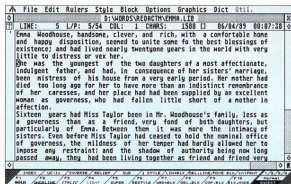
BARE BONES

It includes the full functionality of the wordprocessor but there's no dictionary at all and you're limited to printing out in whatever typeface your printer can manage.

It comes on three disks with instructions on how to make work disks. However, it is the best option for 1040s and those without hard drives.

Most users need a blend of speed, ease of use and good looking output. If you've a good printer with its own fonts that are easy to get at and perhaps only a 1040 with single disk drive, the no frills Redacteur Junior is my recommendation. The features will blow your mind, especially if you're used to the more basic ST offerings.

If, however, you want the more sophisticated level of output and have the memory and perhaps an extra disk drive or hard disk to cope with the graphic fonts, the Lite version is still a good buy, even if it can't compete with That's Write 2 in terms of what it puts on the paper. Don't forget that you can



Text can be displayed using the system font or one of Redacteur's own without any real loss of speed

upgrade by adding modules like dictionaries and other utilities without losing out on cost. You can upgrade bit by bit and still end up paying the same. At least you now have a choice – you no longer have to pay for the bits you don't need!

BOTTOM LINE

REDACTEUR LITE

FEATURES

A cracking wordprocessor with nice output.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Excellent manual. Worth getting to know though output can be daunting.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

Can't compete with That's Write 2 on output but as a fast all-rounder, a good buy.

Excellent
Good
Average
Bad
Appalling

REDACTEUR JUNIOR

FEATURES

A good choice for writers who need speed and flexibility.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

Lovely GEM interface and excellent manual.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

The no-frills version, Junior is real VFM.

Excellent
Good
Average
Bad
Appalling

Product: Redacteur Lite/Junior
Supplier: ST Club, 2 Broadway, Massachusetts 02115
Telephone: 0608 410241
Price: £39/£39
Configuration: All 1Mb ST/STEs and TTs in med or hi-res

recorders, locked together to play in synchronisation.

However, while this would be simple enough to set up for this one application, it would not create a particularly adaptable system for use at other venues at a later date.

What was needed was a system that was fast and flexible for development purposes, but which would not lock out later changes. The decision was made to use the highest quality and most versatile format available - laser video disc.

Rather like a large CD to look at, these 12in discs each provide up to half an hour of extremely high quality pictures, with instant access to any point on the disc within a fraction of a second. Controlling five of these players in real time would present its own problems, so project leader Patrick Marin called on

If you thought an Atari computer was just an overgrown games machine, think again. André Willey investigates a commercial presentation video system, driven entirely by TTs

ble. In fact, much of the music was written while the video sequence was still being created.

Sam's software allowed the video director to mark beat points at any point during the visual sequence, which would be automatically passed via Midi to a separate Atari ST which was being used to write the musical score. In this way, the music could be timed to frame

The

If you happened to have paid a visit to the Victoria and Albert Museum in London late last year, you couldn't fail to have noticed the *Sporting Glory* special exhibition.

Covering the greatest moments in sporting history throughout the ages, part of the display was given over to a massive video presentation system, with a bank of five 15ft wide video screens showing a specially commissioned work highlighting excitement and excellence in every field of sport.

So what's all this got to do with Atari ST User? In fact, rather than using PC computers or Macs to control the multiple video and audio sources, the whole system was developed around a trusty Atari TT.

Even the impressive (and loud!) soundtrack was originally created using an ordinary Atari ST - along with some expensive Midi synthesizers and sequencers, of course. And you thought all your ST was good for was playing Lemmings!

Development of the system commenced several months earlier, when the Virtual Vision company was asked to create a visually spectacular presentation which could be run continuously throughout the day.

They first considered using a video wall (several televisions stacked together to make a larger picture), but they decided they'd prefer something rather more spectacular.

After the decision to use five massive video projection screens was taken, it was obvious they would need to be able to feed each screen with separate pictures. The conventional answer would be to use five industrial video

recorders, locked together to play in synchronisation. However, while this would be simple enough to set up for this one application, it would not create a particularly adaptable system for use at other venues at a later date. What was needed was a system that was fast and flexible for development purposes, but which would not lock out later changes. The decision was made to use the highest quality and most versatile format available - laser video disc. Rather like a large CD to look at, these 12in discs each provide up to half an hour of extremely high quality pictures, with instant access to any point on the disc within a fraction of a second. Controlling five of these players in real time would present its own problems, so project leader Patrick Marin called on

the services of programmer Sam Small to develop the necessary software. Sam, a long time Atari enthusiast, naturally enough chose to use the machines with which he was most familiar. The obvious choice at the time was the TT030, due to its bank of RS232 serial ports on the rear panel which could be used to control the LaserDisc players. However, even the TT couldn't provide all of the ports required, so those helpful people at System Solutions supplied an expansion card which fitted into the TT's VME slot to give an extra four serial ports. The audio part of the presentation needed to be equally flexi-

accuracy, with not a stopwatch in sight.

Although the system was quite capable of running the Midi music live, it was decided to record the four separate audio tracks down onto a multitrack reel-to-reel tape recorder which could be controlled by the main system.

Patrick exuberantly explained that this gave them a "unique synchronised 3D sound system". I wouldn't go quite so far as to call it unique - every Dolby-Stereo equipped cinema in the country has fully synchronised four-

channel sound - but it did give impressively fill the room. Given the time constraints he had to work under, Sam

A system fast and flexible for development purposes

The technical bits

The Virtual Vision playback system, as used at the Victoria and Albert display, consists of an Atari TT, two 19in rack cabinets full of audio and video equipment, plus a minimum of four powerful loudspeakers and five massive video projector screens.



The Atari TT is an off-the-shelf model, fitted with 10Mb of RAM and an additional VME card to provide four extra RS232 serial ports. The mass of spaghetti emerging from the rear of the machine leads the video and control systems in the first 19in rack cabinet.

decided on the unorthodox approach of writing the software in GFA Basic, due to its flexibility and a lightning fast interpret-then-compile operation. "It's the most wonderful language in the world," enthused Sam. "I'd still be writing the thing if it was done in C!" His confidence paid off, and within a couple of months their TT-based LaserDisc edit suite and control system was running perfectly.

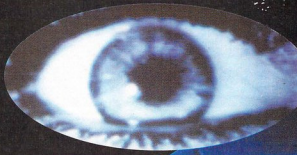
Once completed, the eight-and-a-half minute show ran six times an hour every day for three months, with no major problems to speak of. Since the system is so flexible, Sam even managed to create a second sequence on the same sporting theme while the exhibition was still running.

In fact, the two complemented each other perfectly; one a fast, frantic, epilepsy-inducing visual experience with an incessant pounding rhythmic audio track, and the other a slower, more leisurely paced celebration of the grace

and elegance of the athletes, with a superb musical track more in keeping with Chariots of Fire.

The system attracted a great deal of interest during the time it was installed at the Victoria and Albert museum. Virtual Vision are currently negotiating with many large companies and agencies who are interested in using the system; exhibition organisers, foreign tourist boards, prestige car manufacturers, food companies, and even major pop groups.

They did some pre-production work for a major artist's world tour in March. It wouldn't be fair to name names, but let's just say he's an ex-Beatle... There are plenty of ideas for future expansion of the system. First, they plan to port the software onto a 50 MHz Falcon with an A3 colour monitor. In the distant future,



sporting TT



The main editing screen, which works a bit like a Midi sequencer, but for video. Each red or green dot on the top section represents an image from one of the five LaserDisc players. Any player's output can be displayed on any (or all) of the five screens at will, simply by clicking with the mouse. The lower four (largely) empty bands are used as buffers, and also to control each player independently

this may even allow eight-channel audio sequences to be played in real time from a massive hard disc, which would be significantly cheaper and more flexible than the current system.

There are also plans to use the Midi port to trigger other external devices. One thought is to control a Lime Light Midi-controlled lighting rig, or perhaps additional effects equipment such as a dry ice smoke machine.

They've even been looking into using laser video projectors (so powerful they need to be water-cooled) which are each capable of projecting a 100ft wide picture - giving a massive 500ft panoramic display. The only problem then will be finding a venue large enough to fit it in! Perhaps Jean-Michel Jarre might be interested, if he's got a few spare warehouses on which to

project the images. If you are interested in a working demonstration of the system, you can phone Virtual Vision

on 071-495 1404. However, be warned - the playback-only setup would set you back around £35,000 if you wanted to buy one outright, and the editing version, complete with a state-of-the-art LaserDisc recorder, would be nearer £80,000!

All of which is slightly more expensive than Lemmings.



The audio cabinet features a multitrack reel-to-reel tape deck, a synchroniser/sequencer to keep it locked with the main SMPTE clock, and enough amplification to rock the foundations if necessary. For good measure, there's also an audio mixer and independent equalisation for each channel of sound. The Victoria and Albert show only used four audio tracks, but the standard system can support up to seven independent sound channels without further modification - perhaps to provide alternative language soundtracks.

For development purposes, the reel-to-reel tape deck is replaced with a Midi-controlled Atari ST, allowing synchronised music to be composed while the video sequence is still being edited.



The video cabinet holds the five Sony 4500 Industrial (component)

LaserDisc players. Each of these is driven, frame by frame, by the TT via its own RS232 cable. Above the players is a five-into-five video switching matrix, which can route the images from any player to whichever screens are required.

Above that is the timecode generator which, under the TT's watchful eye, provides a master SMPTE clock with which the rest of the system will keep time. Both the video switching matrix and the timecode generator also communicate with the master TT via two more serial cables.

Many readers will remember the working demo version of Address from one of last year's CoverDisks. At that time the product was shareware and there was so much interest that the author, Tim Finch, decided to add even more functions and offer it as a commercial product through the ST Club.

The result is Address v1.6 which is made up of two parts – an address management program and desk accessory on a single disk. Two comprehensive manuals come with it, one for each part of the program, and the whole thing looks quite polished and professional.

Installation is very easy using the custom install routine that adds your name to your copy of the program and accessory. You can install the program on a floppy disk or a hard drive (any directory) and the accessory is copied to your root directory. All it needs is a quick reset and you're away.

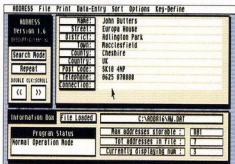
Address works fine on any ST, including half megabyte machines, in medium or high resolution. According to the

Still looking for the perfect way to store addresses? Andrew Wright looks at Address v1.6

in some programs that take Return as meaning you've finished completely.

At the end, at the last line, you are asked whether you want to add another, quit or redo the address. If you choose another you can copy lines from the former by holding the Alternate key, which is useful for entering the names of several people in a company, for example.

Once you indicate you're happy with the entry by choosing to add another, another dialogue box asks if you want to sort the database. This is irritating when you're typing all your addresses in – you don't want to sort after each one, do you? On the other hand, it's



The Address interface – quick and clean

pendent print mechanism). Other print options, with equally good control, are envelope printing and telephone lists.

The accessory is the day-to-day part of the program where most users will be able to look up addresses while working on something else. The accessory includes a search facility, printer control panel, modem dialling of selected numbers and even a call logging feature that records how long you spent on the telephone. The

Hey Mr Postman

author it should be TT-compatible but there aren't enough around to test it. Version 2, which is being worked on at present, will be Falcon compatible.

The Address program is designed to help you create address entries, edit and maintain them and then print out labels or lists. The accessory lets you search for and look up addresses from within other programs and there's even a facility for transferring the name and address directly into a wordprocessor.

It is most useful with wordprocessors, of course, but whatever you're doing, it's often handy to be able to access telephone numbers or information on calls.

Opening Address produces a full screen form for adding and amending entries. It is designed to make entry as fast and as flexible as possible and it certainly succeeds.

Each line of the address can be typed in and Return moves on to the next line, a logical method all too often ignored

fine when you're entering one or two at a time, when updating or amending.

Part of the screen shows the current name and address, once a data file has been loaded, and the rest consists of information displays, including the file, number of entries and present position and two video-style search buttons.

The GEM menu bar is chock-a-block with options and configuration commands and keyboard short-cuts are available for virtually all of them.

Perhaps the most powerful feature of the program is the labelling. There are two full menus designed to make label printing as plain and smooth as possible. As label printing can be a real nightmare, the program offers some fine control over how the labels come out.

With the setup options available, you ought to be able to get printing on any printer provided it accepts Ascii text (there are no printer drivers as such – the program uses Ascii codes and spaces to achieve a kind of device-inde-

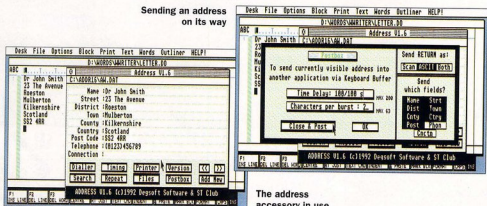
pendent print mechanism). Other print options, with equally good control, are envelope printing and telephone lists.

Another good feature is the accessory's use of the keyboard buffer to send address data. It works by sending the current address to the buffer and immediately quitting the accessory.

The address is then "typed" into your wordprocessor or whatever. It needed some experimentation to get it right but it worked with Firstword Plus and Wordwriter.

This is the nicest basic address program I've come across. It makes keeping track of people as easy as falling off an address book and offers great value for those who find themselves with a ST in one hand and a 'phone in the other.

Sending an address on its way



The address accessory in use

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MXB-16	15 asf/d'utils inc. Goodies/Fontmix	D
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MUS-29	Energy for You (5 Dance tracks)	D
MUS-28	Hardcore Dancellor (NOT ST)	D
MUS-21	Hi-Fidelity Dreams As reviewed in March STR, you have just got to hear this!! Better on an E, Amiga eat your heart out!!!	D
MUS-22 to 27	Peeks & Pokes 1 to 6	D
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Here is an example fractal of a tropical rainforest which you can create in a matter of seconds

Fracland

Programmed by: David Billington
Available From: Floppypop • Disk No ART 3547C

Fractals were discovered by a chap called Benoit B Mandelbrot, and a clever chap he was too. He wrote a book called *The Fractal Geometry of Nature* in which he explained all about fractals, describing how everything is self-similar. Confused?

Let me make it more simple for you. First you'll need to go out in the garden. Take a tree and examine its structure. Now take a twig off that tree and examine its structure. By magnifying both of these objects to the same size you will see that they both have the same structure. This is the theory of self-similarity.

You're probably thinking "yeah, so what?" but the power of fractals doesn't stop there and is eagerly demonstrated in David Billington's *Fracland*.

The program lets you create a realistic modelling of fractal mountains. It doesn't just produce data, though – it allows you to shade the mountains, view them in glorious 3D and generate animations.

The animation section will quite literally allow you to "fly" across your own created world of fractal mountains and lakes.

Fracland is a supreme piece of PD software – the quality is absolutely gobsmacking. Blink twice and you'd think that you were playing around with a fully commercial product.

Even without any instructions I was generating my own 3D landscapes and that's amazing to do to the menu system which is so easy to use that a child could do it.

The text file is well written and you'll quickly become an expert in fractals after reading it. Hopefully you'll be well on the way to creating your own fractal animations too.

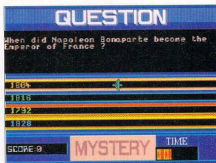
To say I was impressed by *Fracland* is the understatement of the year. If you're into this fractal malarkey then I would heartily recommend this piece of PD software.



This panel lets you change the colour of your fractals. From lush rock to snow to beach, the choice is entirely up to you

PUBLIC

Jonathan Maddock takes a sideways look at all that's happening in the world of public domain...



The questions in Quiz Master are multiple choice as you can see from this screenshot. Answers on a postcard to...

Quiz Master

Programmed by: Terence Stuart Pearson
Available From: LAPD • Disk No G269

There are plenty of PD games out there which take the form of a quiz, but I have never seen one which is as well presented as Quiz Master. It is STE only, but the graphics are a delight to the eye and that's not all.

The ST isn't exactly known for its musical abilities and more often than not, PD programs are let down by an irritating tune which leaves you reaching for the volume switch.

Quiz Master contains quite a few carefully chosen samples which improve it immensely. It boots up to a brief looped snippet from Chad Jackson's *Hear the Drummer get Wicked* and I don't know a lot about the copyright laws, but it could well be

illegal. This is a shame because Quiz Master beats the opposition into the floor for sheer presentation, of which the more people could have the freedom to sample whatever they want and then perhaps music on the ST wouldn't be such a problem.

Quiz Master has three levels, each determining how many questions you can answer correctly in a given time limit. The topics range from general knowledge to sport to music and are very similar in style to the many pub quiz machines you find dotted around your local ale emporia.

As far as quiz games go, Quiz Master is by far the best I have ever seen on the ST and the programmer should be applauded for his or her efforts...

Stone Cold Sober

Programmed by: Simon Brown
Available From: Floppypop

Stone Cold Sober is an adventure billed as "the game with the creamier head", so I didn't quite know what to expect before I booted it up! To say I was pleasantly surprised would be a definite understatement.

The game centres in and around The Frying Fish pub where you are presented with an idyllic view of life. Your only worries seem to be when to play darts and who is going to get the next round of drinks in.

If you load up the text file, you are given a story which is one of the best pieces of writing

Darklyte

Programmed by: Howard Tilley
Available From: LAPD • G288

One of the best games found while delving into my bag of PD was *Darklyte* from LAPD. It's set in space and is similar to *Space Crusade/Hero Quest*.

After noticing the mouse pointer on the screen, you will see that there is a grid where four droids are displayed at the top and four enemy droids near the bottom.

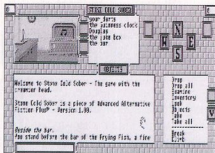
There are many pits towards the centre of the game grid, and grass and metal surround it. This is the area where all the action takes place, where the droids attack each other, and other game functions occur.

You will notice after booting up that there is a white arrow pointing to a droid on a pedestal at the bottom left of the screen. This is to tell you which droid you are going to



The beginning of the game and already my droids are on the warpath...

sector



Stone Cold Sober, a game of adventure that features pints, darts, women and a satanic cult that runs rampant through the streets of Brentford

I've seen in a long time. Simon Brown, the game's creator, must be given a medal for the time and effort he's put into his creation.

The text file gives you a fairly lengthy introduction and also hides a few clues about the game. The story is very laid-back and humorous in parts.

Straying away from the written text adventure genre, Stone Cold Sober uses an icon-based system with a bunch of commands to control your character.

After playing it for a couple of minutes you soon get into the swing of things and you eventually find out that a Satanic cult is taking over the town – it's up to your character to stop them.

The graphics are sparse, but surprisingly work quite well. The emphasis is definitely on the adventure, which is quite simply one of the best games of this genre I've seen.

It isn't PD, though, and will cost you £9.95 for the whole thing, but I can say that it is as good as any budget adventure game currently out on the market and is well worth spending that little bit extra on.

control. If you press the right mouse button, the arrow points to the next droid, and after the last one it will return to droid number one. As you press the right mouse button you will also notice that a graphic of a clipboard in the bottom right of the screen changes to show some different text, and sometimes a different graphic.

The graphic shows you which weapon the selected droid has. The green number at the bottom of the clipboard tell you how many moves it has, and the canister to the left shows its energy. When the energy (a green bar) is gone, so is the droid.

You must move the droids using the four arrows at the bottom centre of the screen – just click on them. The droid cannot move if the square you want it to move to is occupied by another droid, a pit, some water, a swamp or any of the other obstacles.

The green number, which shows how many moves the droid has, decreases as it moves. The object of the game is to destroy the enemy droids, by moving to face an enemy droid and then attacking.

The graphics are really good – they're quite small, but are still very detailed. Obviously a lot of time has been spent on them and it shows. The pace is quite slow, but it is a more strategy-based game, so this is to be expected.

For fans of Space Crusade this could well be the PD product for you. Darklyte is better and a lot cheaper than its full price competitors; the game creators have done a great job. Well recommended.

Dungeon Designer

Programmed by: Chris Foster
Available From: LAPD • Disk No M136

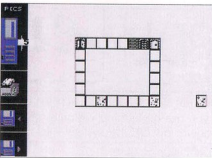
I don't know about you, but I for one can't stand making maps of adventure games. It is a laborious and boring task and only for the very dedicated gamer. But I still think that I'd have completed Dungeon Master a lot sooner if I'd created myself a few maps.

A hastily drawn map scribbled down on a piece of paper can also be easily lost, but now thanks to Dungeon Designer you will never lose one ever again. The actual program is very basic, but it does the job better than some of its competitors which I could mention.

Positioned at the side of the screen is a menu bar which contains four icons. The first icon lets you change your sprite bank, which I'll explain about in a minute. The second lets you print out your map, while the third and fourth let you save and load your maps.

To the left of the menu bar is your blank "page"; by clicking on the top right-hand corner of the screen you are presented with an icon.

To start off with you are given a basic



I know my map looks sad, but I just didn't have the time, but hopefully it'll give an idea of what the program's all about

square and with this you can create a [very] basic map, but by further clicking in the corner you are presented with a whole set of different icons. For example, icons are available to represent doors, swamps – indeed almost every item you'd conceivably need to draw an adventure game map.

There are only so many icons that the program can load at a time and these can be changed by clicking on the sprite bank via the menu which is, as mentioned previously, positioned on the side of the screen.

Dungeon Designer is one of those programs which you'll either want or have no need for. It is very basic, but there's no need for top-notch presentation. For those of you who want to improve your adventure maps, this is the perfect solution.

Kubes

Programmed by: Digital Dimension
Available From: LAPD • G285

Everybody loves a good puzzle game – you'd have to be a sad gamesplayer not to. Over the years we've seen many puzzlers, and it seems that the simple ideas are always the best. Tetris and Columns, as well as being incredibly simple, are probably top of my list of great puzzlers.

Imagine my surprise, then, when Kubes arrived in the post – a game which leans heavily towards Columns and sniffs around the heels of Tetris while still containing a heap of its own originality.

The idea is to clear the screen of some coloured blocks. These different blocks fall one by one down towards the bottom. To get rid of them you have to line up three blocks of the same colour, either horizontally, vertically or diagonally.

The problem is that the blocks fall down the screen in such a way that you can't move them left or right – thus creating the puzzle. Instead you have to move the actual row of already collected blocks across the screen from left to right.

It is hard to explain in writing but when you play it you soon know exactly what to do.

It is wonderfully presented by Digital Dimensions, the graphics and programming team behind Kubes. The graphics are more than good enough and the soundtrack is bearable.

Playability and addiction are the most important factors in a puzzle game, though, and Kubes more than passes the test. In fact I found it very hard to sit down and write about it because I was left aching for another go, but hey, deadlines are deadlines.

If you're looking for a decent puzzler this month then look no further than Kubes. A definite must-have for your PD collection.



Kubes leans heavily towards Tetris and Columns, but is still one of the best PD games around at the moment

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Available From: The Shareware Company

If like me you have ever been confused by DTP and wished that there were something a bit simpler on the market then your magic genie has arrived in the form of The Shareware Company's Bero Press.

You can now create posters, greeting cards and labels without having to be a DTP genius. All you have to do is type your chosen words in, select a font, select some artwork and place it all down on the page. A quick print-out and you'll have achieved some remarkable results.

You may remember a product called Printmaster which reared its head on the ST a while ago. Well, Bero Press is a straight clone of it even down to the PD Cooper clip art included.

Bero Press is far easier to use than the similar in concept Printing Press, in that rather than all the menus being on one large screen, they're "nested".

Click on one selection, for example, and a context - sensitive second screen of choices appears. The software is German and that means that so is the text. This could get all very confusing, but the documents included in the package give you a brief run down of the German used in Bero Press.

All the options are backed-up by a changing icon. For example, Select Printer shows you a picture of a printer and so on, making the program that bit more manageable.

Bero Press is very comprehensive indeed and if you've got a hunger for a program like this then I have no hesitancy in recommending it.

Also if you're stuck for fonts and clip art, The Shareware Company have loads of extra disks to use in conjunction with the program.

Floppyshop address

We inadvertently published the wrong address and telephone number for Floppyshop in July's issue of *Atari ST User*. It should have read Floppyshop, PO Box 273, Aberdeen AB9 8SJ. Telephone No: 0224 312756.

We apologise to both Floppyshop and their customers for any delays caused. So if you're ordering software from them this month, use the address above.

Attention all PD libraries

If you wish to feature in *ST User*, just send any of your titles which you feel worthy of review to: Public Sector, Atari ST User, Europress Enterprise, Europa House, Adlington Park, Macclesfield SK10 4NP

Please include a list of the contents of each disk detailing the program name/s and what they are. This ensures quick assessment and inclusion into the magazine.

If you are a shareware author, send in your latest creation along with a list of libraries who will be distributing your program/s thereby achieving maximum publicity.

Dungeon Lord

Programmed by: Patrick Maidmod
Available From: The Shareware Company

One of the first games that I ever played on my ST was *Dungeon Master*. It was heralded as an instant classic, a fact which you can now tell by how many lookalikes there are out there.

For £25 to £30 you might grumble and whinge a bit and think you're being ripped off, but turn to the PD side of things and you'll find that there are some bargains to be snapped up. *Dungeon Lord* from The Shareware Company is indeed one of those bargains.

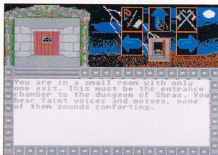
OK, it might not be graphically as fantastic as the original, but it's got the playability and addition factors where they count. It can be controlled via the mouse, keyboard or by a combination of both. You have to wander around a dungeon and battle with various beasties and baddies from the world of dungeons and dragons.

It does contain a lot of features that you'd expect from an adventure game of this type including ye good olde shoppe which has inside all manner of weapons and potions to help you along with your quest.

The game for its price is a worthy buy and the only thing I can knock is the lack of in-game graphics. You get the dungeon, but the beasties are only represented by a name and not a sprite which is a bit of a shame.

There are a smattering of sound effects which including roaring dragons, swishing swords and the odd yelp or two.

If you're thirsting for an adventure game of this ilk then get your money out of your moth-eaten wallets and send it to The Shareware Company today!



The start of *Dungeon Lord* where many baddies and beasts lie in waiting for you



The main menu in doodle, a program ideally suited for children with Salvador Dali aspirations

Master Doodle

Programmed by: B.Ware Software
Available From: Floppyshop • Disk No EDU 3554C

The best education program I received this month was a delightful little art package entitled *Master Doodle*. As an adult I find most art packages quite complicated, so what must it be like for a child?

Master Doodle takes the *Doodle* part of the highly acclaimed *Master Time* and expands it into a program with a unique method of control, ideally suited to children.

All functions can be selected by clicking on the boxes that make up the Main Menu, but there are also keyboard short-cuts available for more experienced users.

All the functions that you'd expect to find in a full-price commercial package are made slightly more basic and placed into *Master Doodle*.

Another interesting feature is where the child is presented with a set of already-drawn sprites and thus can quite happily stamp them down on the screen, creating some good results painlessly.

The control method is a little quirky and constantly swapping between the main menu and the actual page of artwork can prove to be a bit of a problem.

Master Doodle is very comprehensive despite this fact and for a beginner's art package you couldn't go far wrong. It's perfect for children, so any parents out there with a budding Salvador Dali on their hands should see *Master Doodle* as a sound investment.



My first attempt at *Master Doodle*. Let's call it modern art shall we and I'll make tons of money

Where to get 'em

- LAPD, 80, Lee Lane, Langley, Heanor DE75 7HN Tel: 0773 605010 or 761944
- Floppyshop, PO Box 273, Aberdeen AB9 8SJ Tel: 0224 312756
- The Shareware Company, 51, Thornleigh Road, Bishopston, Bristol BS7 8PQ Tel: 0272 424743

The root of the problem

First of all, may I congratulate you on a terrific magazine. I have been buying Atari ST User for over a year now and I find the content both informative and enjoyable.

I particularly enjoy the Gamer section which I find myself fighting with my son over to get to read first. Well done.

Now onto my question. I have just received a public domain disk which contains some very interesting utilities. However, the documentation speaks of the "root directory" and says they must be placed in there.

Being new to computers and having carefully searched the ST manual, I can find no mention of exactly what the root sector is. Please can you explain as I'm sure many other people do not know what it actually is?

B Simpson, Tyne & Wear

When you put a disk in the drive of your ST and then double click on the drive A icon to open up a window to show what is on the disk, you are immediately viewing the root directory.

If you then open a folder to view its contents, you have moved from the root directory into a sub-directory.

When the ST boots up, it will check the disk for any files with the last three letters being .ACC. In order for accessories to load into memory, they must be in this root directory because the ST does not search inside any folders for these .ACC files.

Extra space please

I have been told that if you open up the SM125, you will find some controls for adjusting the picture size. Is it therefore possible to adjust these controls so that you can get extra space on the Desktop?

J Gillmore, Gwent

That's a big no. All that these controls will do is "stretch" the display, not add extra space for icons to be placed on. If you really want to extend the display area, contact System Solutions (081-693 1919) about their Overscan product, which is a hardware board that fits inside the ST and increases the display area by 40 per cent in mono mode and 60 per cent in colour. Also, opening up the back of your monitor is potentially lethal and we can't emphasise strongly enough that such operations should only be done by qualified people.

Stereo connection

I have recently bought a Panasonic hi-fi system and would very much like to connect my STE to the amplifier so that I can have glorious stereo sound effects blasting out my windows when I'm playing a game.

I have looked on the back of the amplifier and there are all sorts of connections and sockets. How do I connect my STE to it and what do I need to buy to do it?

L Murphy, Sheffield

All you need to do is buy a set of phono leads. These plug into the two phono sockets at the back of your ST and should then be plugged into the AUDIO IN sockets which should be at the back of your amplifier.

To avoid possible speaker damage due to a

sudden burst of ST generated sound effects when you boot up your favourite game, it is wise to first turn down the volume on the hi-fi and then slowly turn it up to get the right volume level.

What a load of TOS

Every now and again (I don't know why) I get a TOS error 34 message. Now this isn't very descriptive so please could you tell me what it means and why I get it?

L Leach, Suffolk

Tos error #34 means path not found, which means GEM has tried to access a folder and found it does not exist on the disk. Usually, it occurs because a disk has been changed and the directory information has not been updated to reflect this.

Whenever you change a disk and have a window open displaying the contents of the previous disk, you should always press the Esc key to re-read the disk and update the directory.

technical letters • problems • suggestions

ADVICE

Mega/STE upgrade?

Is it possible to upgrade my MegaSTE in order to bring it up to par with the Falcon030? How feasible is it to incorporate a DSP56001 into the MegaSTE?

K Smith, Leicester

That's a tall order Mr Smith. It is perfectly feasible to upgrade the graphics and the 68000 to higher specifications. For example, System Solutions provide an accelerator board which replaces the 68000 with a 68030 running at 50MHz which is faster than the Falcon's 68030 operating at 16MHz.

Also, there are numerous graphics cards available which can enhance your MegaSTE's graphics both in terms of colours and resolution.

Unfortunately, at the moment there is no way of fitting a DSP chip into the MegaSTE

and there is also the matter of the superior sound hardware to consider.

The Falcon is radically different to its ST cousin and trying to upgrade a current ST to compete with the Falcon will undoubtedly cost more than the price of a Falcon in the first place.

Telecom trepidation

I am looking to buy a modem to allow me to access the fascinating world of telecommunications but I am worried about exactly what is required to connect it up to my telephone system. Are there any dangers involved and would I have to get a special phone line installed purely for the modem?

Also, with regards to the actual modem, I have heard that one supporting MNP would be a good idea in keeping the bills down. What is MNP?

S Davies, Mid Glamorgan

The only thing to worry about when connecting a modem to a BT phone line system is that it should be BT approved. This is indicated by a green sticker on the box or modem stating it has BT approval.

There are some non-approved modems which can cause problems on digital exchanges and if BT find out you have a unauthorised modem connected to their system, they can legally force you to remove and refrain from using it on their lines.

MNP refers to an error correction system which some modern modems now feature. This allows for greater error free transfer and data

Got any tips, Guv?

If you have any words of wisdom or know some hot tips that will make the universe a nicer place to exist in with an Atari computer, send them in and gain instant fame among fellow Atarians for being a thoroughly clever Homo sapiens.

I'll even send the best tipster a neat piece of software from the Atari ST User version of Fort Knox, aka the goodie cupboard. So get scribbling and send your tips to the Advice Service address shown on these very pages.

puzzler

Fear not, a double-sided drive can read single-sided disks without any problems. However, many people attempt to transfer their files from a single to a double disk by using the duplicate disk procedure whereby they simply drag the disk A icon onto the disk B icon.

This will not work and will produce a "source is not the same as destination disk" error because the disks have been formatted differently. To overcome this, simply insert your freshly formatted double sided disk in the your external drive and put your single sided disk in the internal.

Next, open up drive B so that a window appears showing the contents of the drive (empty at the moment) and then simply drag the disk A icon into drive B's window. This will effectively copy all the files in drive A onto drive B.

and graphics drawing routines. If you want to increase actual computational speed, a hardware accelerator is the only option.

There is also the option of installing a 68882 maths co-processor to speed up math calculations but a program has to be specifically written to use this processor and there are very few that do.

Also, software accelerators work by essentially putting their own graphics routines in place of those offered by GEM and the VDI, the ST's built-in routines. This means that any program which completely bypasses them and uses its own will not benefit from the software accelerator.

However, art packages which do use the built-in routines, such as TruePaint from HiSoft, are significantly faster when used with an accelerator.

Another factor to consider when using a software accelerator is the memory requirements and compatibility issue. Installing an accelerator into your ST means it takes up memory.

So, if a particular art package requires a

Falcon030, costs £49.95 and is available from System Solutions on 081-693 1919.

NVDI (v2.03) results

	No NVDI	NVDI installed
Graphics (%)	151	457
Math/memory (%)	100	99
Average (%)	135	347

Neochrome no print

I want to print pictures created with Neochrome on my Star colour printer but I can't figure out how to do it. Please can you help? Also, I have enough money to buy a Falcon but where do I get one from? I can't find any in the shops.

I Hargreaves, Kent

Unfortunately, Neochrome does not have any print feature so it's not possible to print from within it. However, if you are looking to print colour images of your Neochrome pictures, I suggest you get hold of Deluxe Paint from Electronic Arts.

With it, you can load in Neochrome files and use the versatile printing utility to print good quality images. Electronic Arts can be contacted on 0753 549442. Alternatively, visit your local computer store who may have it in stock.

With regards to your financial ability to get a Falcon (lucky you), I suggest you contact Silica Systems on 081-309 1111, who seem to have quite a few in stock at the time of writing.

SERVICE

Darren Evans, Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP

compression features can effectively reduce transfer times.

The need for speed

I have heard that it is possible to speed up the ST's processing speed via software as opposed to hardware.

I am extremely interested in computer art using such graphics packages as the Cyber series and GFA Raytrace and I was wondering if a software accelerator would increase the process by which images are rendered.

Most hardware accelerators are quite expensive so the software version seems to be my only alternative at the moment. Which is the best software accelerator to buy?

J Aldridge, Kent

First of all, you have to realise that the software accelerators only speed up graphic output such as text

minimum of 1Mb and you only have a 1Mb machine, you may find yourself running out of memory.

With regards to compatibility, not all programs like working with each other, which often results in system crashes, and it all boils down to how well a program has been written.

If the programmer has adhered to good programming guidelines as described by Atari, then there should be no problems.

When it comes to performance and good compatibility NVDI is really the only choice, being quite a sophisticated and complete replacement to the VDI.

As an example for you, below are results of the average speed increases gained on a 4Mb Mega STE with TOS v2.06, Blitter enabled and running at the default speed of 16MHz with cache.

The latest version of NVDI, which has undergone further improvements in performance and is now compatible with the

Funny files

I have had some trouble with the CoverDisk files that come with the magazine. Every time I try and run one of them, I get a "Write Error". Is there something wrong with my ST or am I doing something wrong?

S Derbyshire, Essex

The majority of files on our CoverDisk are archived. This means that a program, which sometimes consists of a number of files, has been "squashed" down into one file to save space on the disk. This allows us to put more programs than is normally possible onto our CoverDisk, thereby giving greater value for money. All archived files begin with X and each must be copied onto their own disk and run from that. All the files within the archived file will then be copied onto the disk. A "Write Error" occurs if there is not enough space on the disk so make sure there are no other files on the disk or simply use a freshly formatted one.

Automatic solution to a start-up teaser

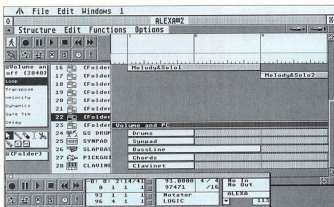
I have had my ST for about three weeks now and I've encountered a problem with the AUTO folder feature which allows a program to automatically execute upon booting a disk.

I have been told that only TOS programs must be placed in the AUTO folder because GEM programs will crash. However, after putting TOS programs in the folder, they simply refuse to load. One of the programs is supposed to play a sound sample but nothing happens at all. What am I doing wrong?

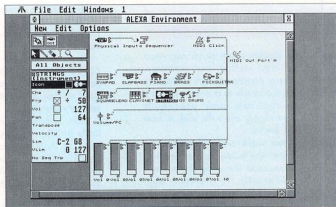
R Allen, London

When putting a program into the AUTO folder, it must be remembered that although it is a TOS program, the file extender must be renamed to PRG. The AUTO folder routine only executes programs which end in PRG.

Admittedly it is a little confusing because all GEM programs end in PRG. Maybe it was a lapse in logic on the part of the operating system programmers that resulted in the routine looking for PRG files instead of TOS files. So, just rename your programs giving them a PRG extender and all will be well.



Notator Logic's Arrange window. You can drag sections of music around the screen and pack them into folders



Logic's Environment window lets you set up a virtual representation of your Midi system so you can select sounds by name

There are two premier sequencers in computer music and both began life on the Atari ST – Cubase and Notator. While Cubase has been ported to the Mac and the PC, Notator devotees have been eagerly awaiting a new era in the development of Notator. And now, after two years of design and programming, it's here – Notator Logic.

Logic isn't just another sequencer – it promotes a new way of thinking about the user interface and offers a unique way of working. The concept requires a little understanding but the benefits are enormous, so let's look at this before delving into the more traditional aspects of the program's operation.

WINDOW SYSTEM

Logic uses a windows-based system. There are separate windows for different program functions such as Arrange, Score, the editors, Transport controls and so on. Windows can be resized and repositioned like normal GEM windows but unlike GEM, all windows respond immediately to input.

You can have multiple windows of the same type open at the same time, allowing you to view different sections of the music simultaneously. Logic only has one filetype, the Song, so you can load multiple scores into it and copy between them. This completely frees you from the nuisance of having to deal with several different file types. It supports Standard Midi files too, of course.

The main program only has three menus which may seem limiting but don't be fooled. Each window has its own set of local menus and flip menus. Local menus only give you functions which can be applied to that window, which both lets you know what your options are and avoids confusion for the beginner.

Flip menus appear when you click on options which can take a range of values which are not a continuous set of numbers, such as quantisation ranges. The available values flip up in a list.

One of the phrases bandied about in relation to Logic is "object-oriented". This refers to the way the program handles the music data. Previously, a

The logical

Notator Logic's unique approach to sequencing looks set to win it many friends in the top-end sequencer sector. Ian Waugh takes a look

sequencer would be pattern-oriented or linear-oriented, sometimes both. Logic lets you combine musical sequences into a single object which can be manipulated in the same way as a single sequence. It does this by allowing you to pack a combination of sequences into a folder which can be copied, moved, cut and pasted and even packed into another folder.

For example, you could record and arrange a whole group of sequences to form the verse of your song. You could then pack them all into a single folder. You could create a chorus folder in the same way.

You could then write a separate drum track running parallel to the verse and chorus and wrap all three into yet another folder. In fact you can pack whole songs into a single folder which makes it easy to organise the order of songs for an album or concert.

VIRTUAL ENVIRONMENT

I sometimes write music in small sections, perhaps ending up with 10 or 12 tracks. Subsequent sections may be equally as bitly yet also be spread over a large number of tracks. Packing each section into a folder makes the overall assembly of a piece very easy indeed.

The second phase used in reference to Logic is "virtual environment". As a virtual reality machine duplicates the real world, so the Environment window holds a virtual representation of your Midi system.

Icons are used to represent items of Midi gear plus various processing functions which Logic can perform. These are linked with virtual cables simply by clicking and dragging wires between

the icons, a bit like a CAD program.

At a simple level you can create an instrument and assign it a Midi channel, a program number (using the new Midi Bank Select function if required), a volume level, pan position, transpose value, velocity offset and pitch range. You can then access this instrument by name from the Arrange screen.

Once you have a number of instruments you can access them without worrying about which Midi channel they are on or even which synthesiser they are in.

But the Environment is not limited to instruments. It has a large number of data processing objects (see the Virtual Objects box for a full list) which you can connect into your system with the

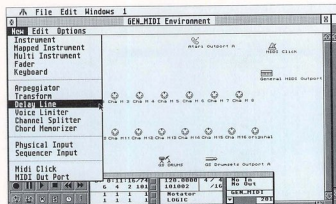
Look through

Logic's window-based approach means you will usually want several windows open at the same time. A 12in mono monitor can be a little cramped although the program still works fine.

A large-screen monitor is ideal but if you have a Falcon, the hi res 80-column mode will give you a good-size display on a standard 14in VGA monitor.

To help avoid screen clutter, there are Tile and Stack window functions. There's also a neat Screen Set function which lets you define up to 90 screen layouts and flip between. It's an excellent time saver which vastly improves working on small screen monitors.

The program adopts a unique window hierarchy system which lets you step backwards and forwards through the different windows



Add a whole range of functions to your Midi setup in the Environment window and connect them to your system with virtual patch chords



Logic has an impressive array of score facilities. A wide range of printers is supported and the printout is very impressive

approach

virtual cables.

Using the Environment window you can create splits and layers and other Master keyboard functions for all connected devices. You can create different kinds of Midi Mixers to control volume or the transformation of Midi data.

64 CHANNELS

Notator Logic is copy-protected with a very large dongle called LOG 3 which plugs into the cartridge port. It's actually more than a dongle because it has three additional Midi Outs, immediately giving you access to 64 separate Midi channels.

It has a thru cartridge port so you can plug another cartridge into it, and it's compatible with Unitor 2 (a SMPTE synchroniser and Midi expander which has two additional Midi Outs and two more Ins).

It also acts as a dangle for Notator SL v3.2 so if you're already a Notator user

you can run the two programs without swapping dongles.

Unfortunately, Notator SL will not run on the Falcon or the TT so if you're thinking of upgrading to a Falcon, you'll have to upgrade to Notator Logic, too.

The main window is the Arrange window. The basic concept is not unique to Logic and has been used on many other sequencers, but it is generally regarded as the best and most intuitive sequencer front end.

Essentially, a recording appears as an oblong box alongside a track. However, it can be dragged around the screen and placed on any other track at any position. It can be cut, copied and pasted, split and merged – as can other objects in Logic as we've already discussed.

One function I couldn't find is the ability to input notes in step time from a keyboard. If the function is lurking somewhere inside the program, we should be told where. If it isn't, it should be! Logic supports an unlimited number of tracks at a resolution of 960ppqn and tempos from 0.5 to 9,999 beats per minute! Each track has a Playback Parameter box, a concept borrowed from Notator, which includes Quantise, Loop, Transpose, Velocity, Dynamics, Length and Delay settings. These are only applied on playback so the original data is not altered although the Normalise function will permanently convert the data. Use this before exporting as a Midi file.

You can select an instrument for a track simply by clicking and holding on the track name. A flip menu appears which lets you select any of the instruments which have been created in the Environment window. There are lots of

quantisation options, including swing settings.

You can optionally show Transport controls in the Arrange window although there is a more comprehensive Transport window available.

The Event Editor shows Midi events in a list but it can also show the names of individual sequences, too – a superior version of Notator's Arrange feature. It has filters so you can home in on the type of event you want to edit and you can select objects of the same type for global editing.

The Matrix Editor is a grid or piano roll editor and shows notes as oblong bars on a grid alongside a piano keyboard. It's useful alternative to the Event and Score editors, particularly if you don't read music.

The Hyper Editor is based on the one in Notator and is used for creating drum tracks and drawing in control data. For anyone who reads the dots, most of the editing will be done in the

Score editor. The program does a very good job of translating recorded input into notation but there are lots of tools to help you tidy it up.

There's a parbox containing notes and symbols which you can drag to the score. It supports hairpins, phrase

marks, a wide range of note heads and bar lines, clefs, dynamic instructions and miscellaneous symbols.

Other features include enharmonic shifting, confirmation accidentals (when an accidental is not strictly necessary but useful as a reminder), manual stem adjustment, beaming and unbearing. Various score parameters can be set up in the Score Style window including the stave type, stem direction, beam type, split point and so on.

You can adjust the stave size and the space between them, making it very easy to tweak a score to make it fit onto a page. Polyphonic staves can be achieved by assigning different voices

Notator
Logic is a
most worthy
successor to
Notator

any window

which show the music in various ways. For example, if you double click on a block of music in the Arrange window, the Score window will open. Double click on a note here and the Event editor window will open.

Each window has a Link button which makes it move through the levels of any windows it's linked to. This lets you move in and out through the structure of your music very easily. A Catch button ensures that the current playback position is visible.

The time-related windows – Arrange, Matrix, Hyper and Score – have a bar ruler across the top with zoom icons so you can resize the display.

As well as their own set of menus, each window also has a parameter box on the left which offer easy access to various functions.

Virtual objects

The Environment window holds a virtual representation of your Midi system. It includes a number of special objects which modify Midi data which you can connect into your system with virtual patch chords.

- **Mapped Instrument.** These are used for creating drum setups. A Disable transpose function is built-in to ensure the drum parts are not transposed even if the rest of the song is. You can map any Midi note onto a new one and you can create settings for automatic drum and percussion notation.

- **Channel Splitter.** Will split an input source containing data on more than one Midi channel into the separate Midi channels and route them to different parts of the system.

- **Fader.** Faders let you create Midi data or transform it. They can generate volume (Control 7) data for example, allowing you to create a Midi Mixer, and transform incoming Midi data into a different type.

- **Keyboard.** This creates an on-screen keyboard which you can play with the mouse for testing purposes.

- **Arpeggiator.** Lets you create many different types of arpeggios from a chord.

- **Delay Line.** Introduces a Midi delay into the system for creating Midi echoes. Includes repeat, transpose and velocity parameters, allowing the creation of glissandos and so on.

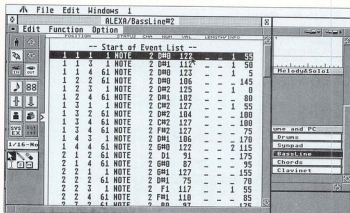
- **Voice Limiter.** This can reduce the number of notes being played simultaneously. Use it to create more realistic monophonic instrument parts such as for bass lines or to limit the notes going to an instrument if you're stretching its polyphony.

- **Chord Memoriser.** This allows an incoming note to trigger a chord of up to 12 notes, all of which can be on different Midi channels and instruments.

- **Transformer.** This is one of Logic's most potentially complex yet powerful functions. It allows virtually any kind of data alteration. You can add, subtract, multiply, flip and mirror parameter values and apply them to any kind of Midi data. Several Transform objects can be used in parallel or series.

- **Multi Instrument.** This lets you name 128 sounds (Program Change numbers) in a single instrument. These can then be accessed by name in the Arrange window in the usual way with the Flip menu.

The Event window shows Midi data in a list and will be familiar to Notator and Creator users



to different Midi channel numbers as in Notator.

There are a few score functions which have not yet been implemented in Logic but which were in Notator such as grace notes, tuplets, auto stave naming and so on but these will no doubt come with future updates. However, the score editor is still very powerful.

Printing uses dedicated printer drivers and the program comes with over 60 drivers for 10 printer types.

DOCUMENTATION

The manual is well written and informative. It has a mammoth 22-page contents list which outshines the eight-page index. Don't forget to read the manual. You may get off the ground without it but you won't fly very far.

Notator Logic breaks new ground both in its approach to sequencing and in regard to program presentation.

It lets you organise and change the layout to suit the way you want to work – and this can very easily be changed from one application to another, even

from one function to another. Notator Logic is a most worthy successor to Notator. If you haven't already got a top-end sequencer, Logic is certainly the most innovative and powerful. If you're already a Notator user you'll find welcome similarities here. Should you upgrade? You bet! Emagic are currently developing Notator Logic Audio for the Falcon so you'll soon be able to upgrade to a full-blown Midi/direct-to-disk recording system.

- *With thanks to Peter Glover and the ST Club [0602 410241] for the use of Imagocept 2 for capturing the screens of Notator Logic running on the Falcon.*

BOTTOM LINE

FEATURES

Very powerful sequencer-scoring interface, with many functions.

Excellent
Good
Average
Bad
Appalling

EASE OF USE

You need to grasp the ideas behind some of the more advanced concepts.

Excellent
Good
Average
Bad
Appalling

VALUE FOR MONEY

It's a lot of lolly but you get a helluva lot of program for it.

Excellent
Good
Average
Bad
Appalling

Product: Notator Logic
Supplier: Sound Technology plc,
Letchworth Pains,
Letchworth SG6 1ND
Telephones: 0462 480000
Price: £499
Configuration: ST/STE and Mega ST/STE,
TT, Falcon. 1Mb RAM,
BMs highly recommended

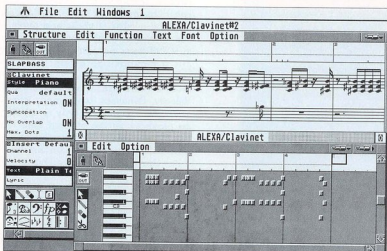
Upgrade prices

From Notator to Notator Logic:
The return of the dongle + £225

From Creator to Notator Logic:
The return of the dongle + £325

From Notator Alpha to Notator Logic:
The return of the dongle + £349

There are also special upgrade paths for Unix users – contact Sound Technology for details.
All prices include next day delivery service.



The Matrix window shows notes in a piano roll format. You can have two or more edit windows open at the same time and edit either one

If you've been experimenting with the example source code, then you've probably become annoyed by its size – particularly the time it takes to recompile after you make a change.

Well, C is designed to have its source code split into as many different files as you want, so when you change a file you only have to recompile that one file, rather than the entire program. It's easy to do, but – as usual – we'll need a little background first.

We've already come across the idea of variable types in C. What we haven't discussed up until now is the idea of variable scoping.

The scope of a variable refers to the part of the program which can use that variable. Or, to put it another way, if the scope of a variable is limited to a single function then only that one function can "see" the variable.

You've probably already come across this idea – it's the difference between "local" and "global" variables. A global variable can be "seen" – used – by any function because it's declared outside any function.

If a variable is declared inside a function then it is a local variable, and can only be "seen" inside that function. As far as other functions are concerned, that variable just doesn't exist.

The scope of a local variable is limited to the function it was declared in, but the scope of a global variable extends to the entire program.

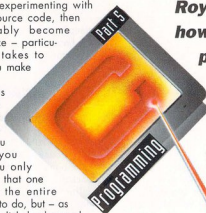
In C, a local variable is just a special case of something called "automatic" variables. An automatic is declared immediately after you open a set of braces – curly brackets – and its scope lasts until you close that set of braces.

In the case of a function, the variables you declare at its start (including its arguments, even though they are declared outside the opening brace) have a scope which lasts until the closing brace which marks the end of the function. In other words, those variables are local to the function.

No doubt you've already noticed that these automatic variables can be used to limit a variable's scope to a single block of statements. For example, consider the scope of our faithful old variables, `(int)foo` and `(int)bar`, in this small program:

```
main() { (int)foo; int bar = 17;
  for (foo = 5; foo < 23; foo++)
  { int bar = foo + 17;    printf (
    "%d\n", bar );      };
  printf (" %d\n", bar ); };
```

Roy Stead looks at how to speed up your programs by clever use of variables, and transferring said variables from C file to C file



speeding up your final program. You see, whenever you call a function from within another one then the values of all the currently declared automatic variables have to be stored – in a place called the stack – so that they can be restored to their former values when you return back into the calling function.

The fewer automatics there are, the less there is to store. The less there is to store, the less time the program will take. And one way of cutting down on the number of "active" automatics is to limit the scope of any variables which are only used in a very small part of the function.

Speaking of speed, there is another thing you can do to speed up your program, and that's take advantage of the microchip itself.

You see, when you use a variable your central processor unit – CPU – has to look up where in memory that variable is stored, and obtain or change the value at that address. Things would happen more quickly if the CPU already knew the value of the variable, something it could only do if the variable was stored within the microchip itself – rather than on a separate (memory) chip.

Now, every CPU has its own internal registers, which can store numbers, and we can take advantage of this fact by telling the compiler to store our variable's value in a register, if one's not being used. And we do this by placing

Splitting the atom

In this example, there are three ints declared. As well as the `foo` and `bar` declared at the top of the function, there is another `int` – which also happens to be called `bar` – declared, whose scope is limited to the block in which it is declared.

Since the most recently-declared version is used for preference, this little program will print out the numbers 22 to 39, but once the block is left then the `bar` inside the block ceases to exist, and the function can "see" the original `bar` again. So the final number displayed is 17.

Note, however, that it is very bad programming style to use the same name for variables whose scopes overlap – as I have done in the example above – because it can be awkward to keep track, when you are debugging, of which version of the variable is being used in which block of code.

The major use of automatics is in

the word "register" in front of the variable's declaration, like so:

```
register int foo;
```

`foo` must be an automatic variable, and it acts exactly like any other `int`, but the final program will execute faster. Of course, there are a limited number of registers on the chip, so it's a good idea to declare your register variables in order of importance – declaring the most frequently accessed variables first in the list – to get the most benefit from this technique.

A popular choice for this kind of optimisation is to declare pointer variables to be register class variables.

Now that we've covered a little background, I think we can talk about splitting our program into different files.

A variable can be visible to the entire

► program, to a single function or to a single statement block within a function. One level we have missed out is a single file.

Yes, a variable can be visible to just a single file. Such a variable will behave just like a "global" variable, in that it can be

"seen" – its value used or altered – by any function in the file, but it cannot be seen at all outside that file.

The way to declare such a variable is to put "static" in front of its declaration – in the same place as we put "register" earlier.

Statics are usually – though not necessarily – declared outside of any functions. For an example of a static array, take a look at the [int]drn_ary[] array in the DO_MOVE.C file on the CoverDisk.

Of course, we'll also need to declare some variables which are visible to our entire program, known as "extern" variables. The way we do this is simply to declare our variable in the usual manner, but we declare it outside of any functions, as we have done with [int]end_othello in the MAIN.C file.

Now, consider this: We have a variable declared to be an extern [int]foo in FILE1.C, which is used in FILE1.C and FILE2.C. We need some way of telling FILE2.C that this [int]foo we want it to use has been declared in a separate file.

Our course is clear. Since [int]foo is like a parameter to be passed to the second file then we put a line at the top of FILE2.C which says:

```
extern int foo;
```

which will tell FILE2.C not to panic, because [int]foo really does exist. [int]foo is not quite a parameter, of course, because if we change its value in FILE2.C then the value will also be changed so far

as FILE1.C is concerned.

All of which brings us to The Fancy Bit. A function is a variable. You can take the address of a function, point to it and pass it around – we'll be discussing how to do this [and why you might want to] later in the series, but for now...well, you've guessed again, haven't you? Yes, that's right – since a function is a variable, then a function has a scope as well.

Of course, a function can't be an automatic variable. But it can be – and is – either a static or an extern. If it's an extern, then you will have to declare it in any other files which use it, just like you have to declare a function when you use it within another function.

So if you have a function foobar[], which returns a pointer to a char, defined in FILE2.C and you want to be able to call it from FILE1.C then you should put, at the head of FILE1.C:

```
extern char *foobar();
```

It's also a good idea to precede all "globally-visible" function definitions with "extern", as well as putting "static" in front of those used only within the file, so that it is obvious when debugging what the scope of any particular function is. This is done in all of the files on the

CoverDisk.

And that's about it as far as variable scoping is concerned. Except for the fly in the ointment, of course.

This time, just for a change, the fly has nothing to do with C as such, but has to do with HiSoft C, which, unfortunately, handles functions in a very peculiar manner.

The practical upshot is that you must not precede any function names with either "extern" or "static" when using that package, and must never declare extern functions at the head of modules for use with that package.

When splitting programs into files, it is traditional – and convenient – to place all #define statements, typedefs and struct definitions which are used by more than one file together into a single file, called a header file.

You then put a line at the head of each file which will include all of this code at the head of your source code file before it is compiled, and so allow you to use the same standard definitions in all of your files.

The way you include the file FOOBAR.H (it's traditional to use an .H file extender on header files – it helps keep track of which files are which) is with:

```
#include "foobar.h"
```

Notice the quote marks around the name of the header file. This tells the

compiler that the first place to look for this header file is the current folder – or "directory". Had I used "angle brackets", as in this line:

```
#include <stdio.h>
```

then the first place searched would be a directory specially set up by your compiler to hold system header files, which contain all of the macros and definitions used by various C library functions, like printf() and malloc().

The ways of re-combining your files into a single final program vary from compiler to compiler, but one common method is to use a "make" program. There are lots of these in the public domain, and a makefile is provided on the CoverDisk to help you to combine that source code using a "make" program.

One final word, about the ternary conditional operator – you have already seen this in the source code. It's a shorthand way of writing "if()...else...". Its syntax goes like this:

```
(condition) ?  
(do_me_if_condition_is_TRUE) :  
(do_me_if_FALSE);
```

which is exactly the same as writing:

```
if ( condition )  
do_me_if_condition_is_TRUE; else  
do_me_if_FALSE;
```

The ternary conditional is most useful in passing arguments, such as in the printf() call in function lookahead(), or defining a macro to take arguments. There're examples of the latter in the source code, and we'll look at this more closely in a future article.

● Next month we will start to convert *Othello* into a mouse-using program by taking our first look at GEM.

Getting to grips with C

Did you miss out on a free copy of HiSoft C, given away with the April issue of *Atari ST User*?

Or maybe you missed one or more parts to this guide to programming in C?

If so you can still get hold of back issues, by telephoning your credit card details to 051-357 1275.

Alternatively, send £3.50 for each issue/s required. Cheques/Eurocheques should be made payable to Europress Direct and sent to Freeport, Ellesmere Port, South Wirral L65 3EB.

Please state clearly which issue/s you require.

Turn to page 92
for some
great C
offers

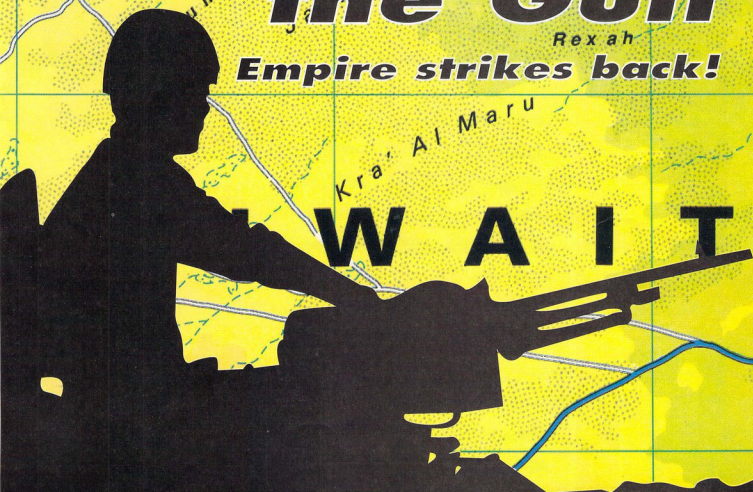
Let's all have a disco, it's

AUGUST 1993

GAMER

War in the Gulf

Empire strikes back!



REVIEWS... MESSENGERS OF DOOM • ISHAR 2 • B17 FLYING FORTRESS
• BULLY'S SPORTING DARTS • AND MUCH MORE

ALSO... ALL THE FUNKIEST AND LATEST GAMES NEWS • DRAWING BOARD SPECTACULAR
FEATURING BLACK SECT, BATMAN RETURNS AND ANCIENT ART OF WAR IN THE SKIES •
CHEAP SEATS • THE CONCLUDING PART OF OUR ISHAR CHEAT MODE

Gamer GLOBE

Just what is coming out for the ST in the fine and sunny month of August? Well, ponder dear people over the amazing, interesting and entertaining news stories underneath...

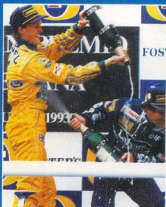
Domark take pole position

Domark have just released details of their next game, entitled F1. In a major deal with Fuji Television Network, Domark have secured the rights to publish a series of official Formula One games for the 93 and 94 F1 seasons across all major games formats including the ST.

Domark's managing director, Mark Strachan, commented on the deal: "This is the most important title Domark has ever published. The game's a winner on all counts - the licence is unbeatable, the program is superb and we will use all of our development and marketing expertise to ensure that F1 is our biggest ever hit."

It has been in research for almost two years and has been tested thoroughly - test driven by professional drivers to capture the excitement and detail of the real thing.

The licence is being developed by the makers of Vroom and will be officially launched at the British Grand Prix, to be held at Silverstone on July 11 it will be available in the shops in September. At the time of going to press prices remained to be confirmed.



No Campaign, no gain...

Empire are just about ready to release the Campaign Mission Disk, the latest addition to the incredibly popular warfare simulation.

The demand for Campaign has proved overwhelming with an amazing eight-month stand in the Gallup Charts to date. Empire say that the sales of the game are going from strength to strength.

The mission disk is a must for all Campaign enthusiasts and brings you yet another 25 maps covering most of the major land conflicts of the Second World War.

The highly detailed and exciting missions from Northern Europe to North Africa will challenge your strategic abilities as well as testing your tactical skills.

The Campaign Mission Disk will be available by the time you are reading this and will cost you only £15.99. A bargain and no mistake. Remember in order to use the disk you must already own the full version of Campaign.



THE CHARTS



1	▲	Premier Manager.....	Gremlin	£25.99	11	NE	F19 Stealth Fighter	Kixx	£16.99
2	▲	Sensible Soccer	Renegade	£25.99	12	NE	The Simpsons	Hit Squad	£9.99
3	▼	Streetfighter 2.....	US Gold	£27.99	13	▼	RBI Baseball 2.....	Hit Squad	£9.99
4	NE	B17 Flying Fortress	Microprose	£34.99	14	▼	World Class Cricket.....	Audiogenic	£29.99
5	▲	Pirates.....	Kixx	£12.99	15	▼	Treasure Island Dizzy	Codemasters	£4.99
6	▼	Civilization	Microprose	£34.99	16	▼	James Pond	GBH	£7.99
7	NE	Knightmare	Mindscape Classic	£9.99	17	NE	Indiana Jones	Kixx	£14.99
8	NE	The Chaos Engine.....	Renegade	£25.99	18	NE	Lemmings 2	Psygnosis	£29.99
9	▼	First Division Manager	Codemasters	£7.99	19	▼	Spellbound Dizzy	Codemasters	£7.99
10	▲	Prince Of Persia.....	Hit Squad	£7.99	20	-	Future Wars.....	Kixx	£12.99

Watch out, Ocean taste curly!

Ocean are once again delving into a packet of Quavers for an idea for yet another entertaining and original puzzle/arcade game. One Step Beyond will hit the streets and the shops at the end of the July.

The game finds that hero of the Quavers ads Colin Curly playing his favourite computer game while tucking in to his equally favourite packet of Quavers. As he pops the last Quaver into his mouth Colin "goes curly" and is suddenly sucked into his PC and digitised.

This is the cue for a puzzler that offers you, the games player, the chance to run about in a baffling, maze-filled universe. The way out of the PC rests on your ability to manipulate Delays (hmm), Bounce Downs (eh?), and Ray Shutters (exsqueeze me?).

One Step Beyond combines amazing puzzles, adventure and a loveable character with 12 different platforms containing a total of 99 levels each with its own wild personality.

Ocean say that One Step Beyond will prove to be one of the most addictive games of the year. I'll believe it when I see it, but you never can tell...



Gametek and Konami link-up

Gametek are continuing their rise towards the top of the global video and computer games market by signing a worldwide deal with Konami.

They have secured the US and UK rights to Konami's star-studded range on the ST, Amiga, PC and Apple Mac. At a stroke this adds 25 current titles and two new releases to Gametek's line-up and elevates the firm straight into the ranks of the world's top ten home computer entertainment publishers.

Included in the first new releases to be launched on disk formats through the firm will be Batman Returns. Meanwhile Gametek have also signed seven new publishing partners in the US market. They will now handle sales and distribution for labels such as Gremlin Graphics and Renegade Software.

Acclaim in bed with Virgin

Virgin Games have just signed a deal with Acclaim Entertainment to publish some of the biggest name games on the Amiga. The exact details are very scarce and are obviously being kept quiet, but a Virgin spokesman did confirm that it would cover at least six titles.

Terminator 2: The Coin-Op, Alien3, The Crash Dummies, Bart vs The World, Krusty's Fun House and perhaps one of the world's best beat-'em-ups, Mortal Kombat, should be winging their way to the shop shelves in time for Christmas.

Programming work has already begun on all six games. Whether all of these will appear on the ST is yet unclear, but as soon as we get more news we'll let you know all about it.

The new and improved Gamer posse

There have been a few changes in the Gamer personnel over the last month. As mentioned previously, Paul Roundell has run away from home and is now squatting in the Amiga Action department. Ben Styles has pranced away to pastures new in a desperate bid to become a "rawk" star.

To replace these two poor unfortunates we've held extensive interviews, and people from all over the world have been arriving and camping outside Europress Towers in an attempt to work on Gamer.

After much deliberation we found a bloke who could write amazing and funny copy at the speed of light and play games blindfolded with his hands hid behind his back. He didn't want the job, so we got Simon Clays instead. On the right is his delightful fact file.

Name:	Simon Clays
Age:	Too old
Height:	Ooh, about this high
Weight:	He could change his name to Slim Jim
Eyes:	Three
Sex:	Err, we're not that close actually
Likes:	Drinking beer and smoking tabs while listening to the Orb
Dislikes:	Being told off for doing the above in work time
Marks:	None that we can see... yet
Motto:	You can't lead a horse to water, but you can take it to a club if you want

I'm still here though, you can't rid of me that easily. I'm your worst nightmare. We'll still be bringing you the hottest review, previews, news and game guides that money can buy. The unstoppable game machine just keeps on rolling... Jonathan Maddock

INNARDS

Oh, come with me to the rolling sea and take a cheeky swipe at...

REVIEWS-REVIEWS-REVIEWS

WAR IN THE GULF.....66

After Team Yankee, Pacific Islands and Campaign, Empire return with yet another frenzied bout of tank tomfoolery...

ISHAR 2 - MESSENGERS OF DOOM68

Silmarils hit the adventure trail once more in the sequel to the top selling Ishar - Legend of the Fortress

BULLY'S SPORTING DARTS70

Darts you can play without rushing to the pub. Alternative Software serve up a cheapy made better by the lack of an appearance from Jim Bowen

B17 FLYING FORTRESS72

Simon takes to the skies and shouts "bombs away!" in Microprose's latest flight simulator...

REGULARS-REGULARS-REGULARS

DRAWING BOARD - BLACK SECT.....75

Billed as the French adventure game set deep in the Yorkshire Moors. Bizarre just isn't the word, but go and have look at Lankhor's latest...

DRAWING BOARD - ANCIENT ART OF WAR IN THE SKIES .76

Not content with B17, Microprose head back to the air for a fantastic flying lesson in World War I...

DRAWING BOARD - BATMAN RETURNS.....77

Jonathan heads up to Gotham City to find the Dark Knight Detective with pointy ears and takes a sneaky peek at Konami's platformer...

CHEAP SEATS78

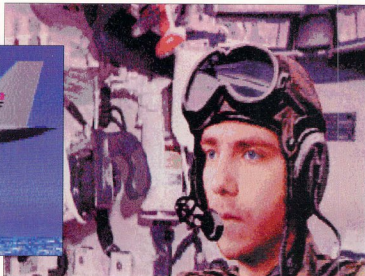
All the latest cheapy bargains perused and pondered over by your hosts. If you're on a budget turn to these pages right now...

CHEAT MODE - ISHAR PART TWO80

The second and concluding part of our fantastic guide to the ins and outs of Ishar. Ooh, you dirty little cheaters, what would you do without us?



Are you sure we're on the Magaluf flight? That's a bloody big beach down there!



Is that Kate "Scoop" Adie in the thick of it again?

I don't know what it is, but ever since I've been wending my weary way to STU Towers - which is no mean feat, as it's in the middle of nowhere, seven miles up a pig's colon - I keep getting the war games.

Please, don't get me wrong, I'm not moaning. It's just that until recently I was the type of guy who'd trip through blossomed meadows, and go around preaching love, peace and generally non-violent activities.

Now look at me, they've turned me into a child-eating, babe-butchering, war-mongering maniac. But enough of my problems, let's see what's on today's menu.

War in the Gulf is a tank sim from the same people who brought you the award-winning Pacific Islands and Team Yankee. Now before you all jump to the wrong conclusions, I'll put you right.

Tanks are not those outdated, large, lumbering pieces of metal. They're no longer the Tony Adams of the military world. Not if the American Chiefs of Staff are to be believed. In fact, a large proportion of the success of the 1990 Gulf conflict was down to the armoured divisions.

This brings me rather neatly on to my second point. This is not - as most of us thought - based on the original flare up in the Middle East.

Instead, we are swept forward in time to 1995. As always with this renowned hot spot there's trouble. Following a maelstrom of violence and political unrest, Iraq, led by Mr personality Saddam Hussein, decides to waltz back into Kuwait. Is it me or have I experienced déjà vu?

Well, there's no prizes for guessing whose job it is to take control of matters and free

WAR IN THE GULF

Ever fancied getting tanked up and kickin' up your own desert storm? Well here's your chance to cause armoured-geddon in Empires' War in the Gulf

Kuwait.

Funded by the extremely wealthy Emir, you and your mouse manipulate the destiny of Team Kuwait.

Team Kuwait comprises some of the latest hardware to grace the front drive of the US military, including the lethal M-1 Abrams main battle tank. You take command of four tank units, simultaneously controlling a total of 16 vehicles.

Following some nice intro screens, the first task in hand is to set your forces an objective. Empire are boasting 25 battle zones - so there's plenty to choose from. Being a campaign, the action begins on one particular island and moves inland as you become more adept.

Now it's time to deploy your forces. This is where the first element of strategy shows its face. Obviously different vehicles have varying capabilities, but there's more to it than that. Money-bags himself, the Emir of Kuwait, controls the purse strings, giving you pocket money to buy the hardware to do the job.

Sounds simple enough? Unfortunately he only coughs up on results and doesn't like it when you blast large holes in ancient monuments or other Kuwaiti treasures.

Next option at your disposal is whether or not to set artillery support. Having pondered that one through, it's on to the main game screen. I should really have used the plural there because the main screen really consists of four; each one of the tank units occupies a quarter of the screen.

All of these areas can be independently accessed by mouse-driven icons. So it's possible to view all of your units at the same time.

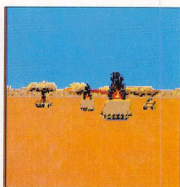
However, it's highly unlikely that you'll



Have eyes in the back of your head with the split-screen facility



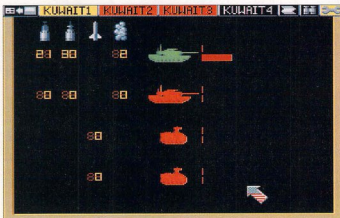
Michael Bentine's potty time? Or what?



Tanks for the memory

Gameplay map

- 1 Large screen display
- 2 Split screen display
- 3 Engine smoke - useful for confusing enemy
- 4 Thermal imaging icon
- 5 Dead stop - halts movement of a unit
- 6 Zoom icon - magnifies image x6
- 7 Rotate turret and compass control
- 8 Laser range finder
- 9 HEAT high explosive anti-tank round
- 10 SABOT armour piercing shell
- 11 TOW long range anti-tank missile
- 12 Smoke grenades
- 13 Machine gun
- 14 US/Iraq strength histograms
- 15 ETA icon
- 16 Pause
- 17 Quit
- 18 Finances available
- 19 Tank status icon
- 20 Play area icon
- 21 View map icon



Seeing red again. My tanks take a thorough pasting!

utilise this option too often, as it's hard to determine what's going on and this manoeuvre generally results in all of your tanks being ripped open like so many tins of sardines.

Instead it's a lot more canny to operate from a full screen view. Here, both tank and external graphics gain clarity and good old user-friendliness.

The tactical aspects of WIG are all decided within the battle map. Clicking on to this screen displays the geography and topography of the battle zone. It also displays your vehicles and their intended courses. You're also given options on your speed and a whole range of tactical formations.

"Yeah! Yeah!" I hear you scream. "This is all very well, but what about the action? Where's the carnage? The satiating of primal desires that we all lust for?"

All right calm down, I'll talk about that aspect of Gulf now. The main battle sequences

give us external views of the Kuwaiti terrain seen from inside the tanks. Again it's down to mighty mouse to control everything. You can practically carry out any action that the real McCoy can, whether it be a simple turret rotation or use of the laser sights to increase your deadliness. Everything's there in reach of your sweaty palms.

In terms of ballistics, you've got more munitions to hand than Arnie in Terminator 2. Your choices vary from anti-tank missiles through to smoke grenades. Firing is simple enough, moving the mouse off the control panel to the play area - as if by magic - changes the selector icon into a gun-sight.

The play area graphics are courtesy of Empire's award-winning 3D technique. They mix bitmapped, arcade-style effects and vector graphics with great results. The action is fast paced and plenty happens. This all adds to the realism which is generated. The enemy are

extremely intelligent and show no mercy when it comes to the crunch, Saddam's Republican Guard being particularly ruthless.

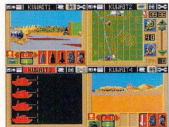
The sound involved throughout is spartan but effective. But let's face it, when you're crammed into a space the size of a filing cabinet you can hardly hear much.

What really grabbed me about Empire's endeavours is the realism. It's not so much the visual quality - which has to be said is excellent - so much as the speed. The game plays at a "real-time" pace.

This gives the player little, if no time to react to surprise attacks. There're plenty of occasions I sat there perplexed, pulling my hair out, watching my vehicles being decimated by unseen foe.

The relative cunning of the Iraqi forces makes this an incredibly tough nut to crack. There's little point in sending your forces out willy-nilly. You have to have a strategy. This element of affairs add to the overall addictiveness of War in the Gulf.

I know the Gulf conflict is a bit of a touchy subject in some areas. I also can't help feeling that there's something a mite sad about the marketing strategy employed - riding on the back of a war to sell games. However, it's been done



Split-screen shot of my boys storming Paynton International Airport

before, and no doubt it'll be done again. So, moralising apart, it has to be said that War in the Gulf is a quality product. It will appeal to both action and strategy punters alike, and is tricky enough to render it both compulsive and addictive.

So if you're a budding stormin' Norman, this is definitely the game for you. Should keep the troops amused for months.

SIMON CLAYS

VISION	
●●●●●●●●	
AUDIO	
●●●●●●●●	
DIFFICULTY	
●●●●●●●●	
LASTABILITY	
●●●●●●●●	
War in the Gulf is the latest tank action/sim from Empire and by far the best. Both aspects of the conflict are very well dealt with. The strategy is enthralling and the action explosive. 10 out of 10-ish for war-mongers!	89%
Publisher > Empire Software	
Developer > In-house	
Disks > 2	
Price > \$29.99	
HD Install > Yes	
Size > 1/2 meg	



You won't tell me. Right, this calls for a bit of mouse pointer torture!



Here is an inventory from just one of your warriors who seems to be a bit sparse on the clothing front. Cover yourself up woman. Tutt, tutt

Silmarils return with another dose of Ishar. All adventure fans hold on to your maps and grip your spellbooks...

ISHAR 2

MESSENGERS OF DOOM

Reality used to be a friend of mine. PM Down once sung that line in a song of theirs and even though they look quite stupid they were, in fact, correct. Reality is something we game reviewers don't get a taste of very often.

I know this opening sounds a bit deep and you're thinking that I've flipped my lid or been experimenting with funny smelling cigarettes, but I haven't, so stick with it!

Game reviewers are more lucky than most other games players because we get to play every game that comes out on the market and we get them all for free. I can hear you punters swearing under your breath even as I write this, and all I can say is "ha".

Don't be too disheartened though because we have to play everything including all the bad games and struggling through those is not a pleasant experience.

Disorientation is also a major problem. In one day you may find yourself flying a spaceship through the outer reaches of the galaxy shooting down waves of nasty alien beasts from the Planet X.

Ten minutes later you're a cutesy, happy-go-lucky dragon blowing bubbles at minions of evil in a world full of platforms, then you're playing football, then commanding a tank platoon, then flying a top secret government Stealth fighter, then you're a secret agent, then a terrorist, then a clown, then a superhero (yes, I think we get the idea - Ed).

Whatever you are, all these games are enough to give you a bad case of schizophrenia.

One of the best types of games for you to lose yourself in is an adventure - see, told you I'd get there in the end. Here you can take the form of a warrior, wizard or whatever takes your fancy. Forget about modern

day life and lose yourself in worlds of wonder and lands of fantasy. Last year Silmarils released Ishar and it received critical acclaim from games players and reviewers alike.

In my best Jackanory story-telling voice I will present you with a short tale. After the defeat of Krogh and his Citadel of Evil the land of Ishar has entered a new golden age of peace and prosperity.

This is an adventure game though, so the golden age doesn't last for very long. It wouldn't be much of an adventure if all you had to do was run around in fields, drink wine and be happy!

Anyway, news reaches you of a new evil demonic figure, who is incidentally the head of a spider-like network of malevolence.

Based on the islands surrounding Ishar, this evil organisation is supplying addictive mind-controlling drugs to the locals with the direct aim of unopposed power and conquest.

Once again you must strap on your sword, brush up on your spellcraft and pack your sandwiches as you head for the islands with a brand new and sparkling team of heroes.

Like its predecessor, Ishar 2 is entirely controlled via the mouse. The left-hand button is used to select and the right-hand can be used to cancel the current operation and also

close the menus selected.

Most adventurers I know, like myself, prefer to use a combination between the mouse and the keyboard and Ishar 2 lets you do exactly this.

Thus the numeric pad emulate the movements of the mouse. Various other keys can be used instead of the left and right-hand mouse buttons.

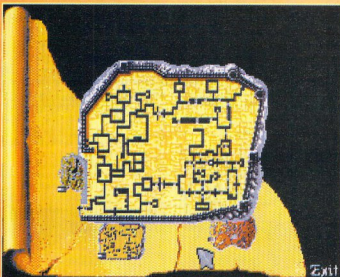
As you wander around the world of Kendoria you will meet many people and

your first job is to recruit a team. This consists of a maximum of five characters, all of which have their own

weaknesses and strengths. If you were lucky enough to play the first Ishar game and if you can still find your save disk, then you can reuse an old team from the game.

The characters will retain their characteristics, but they will lose their possessions and magic spells. Sometimes the characters' experience levels will be slightly altered to suit those present in Ishar 2.

I won't spend my time explaining every little detail about what you can do and how to control everything because it'll get very boring, plus I'll leave you to find it out yourself which will generate hours of fun for you, err probably. I'll go over



One of those ever so handy items that any decent adventure can't bare to be without... a map



The start of the game and already your one adventurer is taking a hell of a bashing!

a few of the basics, though, in a short but informative manner. The first thing you need to learn is how to survive in the world of Kendoria, and this involves a quick lesson in the ancient art of fighting.

Fights in *Ishar 2* take place in real time.

The fight panel groups together the fight icons of each player with their active weapon. These icons are arranged in a quincunx – a very big and posh word which basically means that four of them are placed at the corners of a square with one in its centre.

These fight icons represent the five characters in the team, each identified by their own Roman numeral. To make a team member strike an enemy all you have to do is click on

the corresponding fight icon.

Hits that the enemy gives to your team are represented on the picture by a small patch of blood showing the damage points that your victim has lost.

The damage depends on several parameters; the power of the weapon, strength, agility, skill in weaponry and your enemy's constitution.

Other features include options to enrol, dismiss and even assassinate members of your team. You can also give first aid to a person if they are badly injured.

To get around the world you have a compass positioned at the top of the screen, but what every decent adventurer never leaves home without is a map.

In *Ishar 2* a map of the whole archipelago appears on the screen. By selecting one of



Gerry Anderson gets into the *Ishar 2* adventure while providing the game with one of his delightful UFOs that comes complete with strings!

the island, you will obtain a detailed map of it showing your actual position represented by a flashing dot. At the start of the game the map is incomplete, but as you progress throughout the world it will slowly become more complete.

In the world there are several different places that you can visit. First are the shops which there are three different kinds; animal traders, arms dealers and general merchants.

Inns play a major part in the game – they're where you pick up information, eat food and sleep. Houses are also dotted about and you can expect to meet other people who will give you valuable information or suggest missions to you. If you're lucky you might even find a few objects in there.

To get from island to island you must find a harbour. Here you will find a boatman. He will then take you to a ship where you can select other harbours to journey to.

There are a whole wealth of options that I've not even bothered to tell you about due to lack of space, but no doubt you'll find all about them when you play the game yourself.

Oops, in one cunning swoop I've just told you my opinion of it. Yes, I'm afraid to say that *Ishar 2* is a must-buy and should get to the top of every decent gamer's shopping list.

The graphics are luscious and beat every other adventure game of this ilk down to the ground. Some of the later levels are a sight to behold and the sprites as just as fantastic.

The music is not too bad – quite atmospheric – and what sound effects you hear are more than adequate. Remember that this review is written entirely on the basis of the game being on the ST and not the Falcon. Users of the Falcon can expect the graphics and sound to be twice as good as the very last.

I can't fault *Ishar 2* on the playability and addiction front. The control and icon systems work brilliantly and even the most inadequate gamer will be adventuring before you know it.

Technically it beats all its competitors up

with a big stick, but it is getting a very old and tired format, one of which I'm personally getting a bit sick of.

You could compare it to *Dungeon Master* and you wouldn't find much difference apart from the improvements in the graphics and sound departments.

I wouldn't mind seeing something a little different the next time around, possibly something as original as when *Dungeon Master* first came out.

Apart from that little quibble, *Ishar 2* really is a winner and previous owners of *Ishar* are probably placing adulation orders even as we speak. If you want a little adventure and excitement in your life, you'd do no wrong by getting to grips with this.

JONATHAN MADDOCK



Grinzal



Our team of warriors take time out to play in Janet's superb tree-house...

VISION	GGGGGGGG
AUDIO	GGGGGGGG
DIFFICULTY	GGGGGGGG
LASTABILITY	GGGGGGGG
90%	
Ishar 2 scores highly on the technical front and the playability and addiction can't be faulted. It is getting to be a bit of a tired and old format and this might make people a little weary.	
Publisher > Daze Marketing	
Developer > Silmarils	
Disks > 3	
Price > \$29.99	
HD Install > Yes	
Size > 1 meg	

BULLY'S SPORTING DARTS

A great cheapy dart game from Alternative Software arrives on the ST, and that's no bull!

Oh happy and joyous days are here again. Sometimes a reviewer's life can get very dull and monotonous. You lot out there might think it's a barrel of non-stop laughs and it is, but not always.

Writing reviews is quite good fun, but when you receive your 520th cutesy platform game which is as good as Russ Abbott's Madhouse then you quietly go into a small corner of the office and weep into your cup of dreadful Maxpax coffee.

Most of these platforms are so non-descript and boring that you quickly run out of things to say about them. So just imagine my surprise when Bully's Sporting Darts arrived in the post (add sarcasm - Ed). At last I can write about something interesting (add more sarcasm - Ed).

The game would be very boring and bland indeed if it didn't feature Bully from top TV game show Bullseye - although it does lack an appearance from Jim Bowen and Tony

Green. Bullseye is one of the best game shows to appear on our screen in the last few years. It is what Sean Hughes (top stand-up comedian, folks) referred to as a "working class game show".

You can imagine most of the people on it living in council flats, although they probably don't - though if they did, it might cause a few problems, not least where to put the speedboat they won at the end!

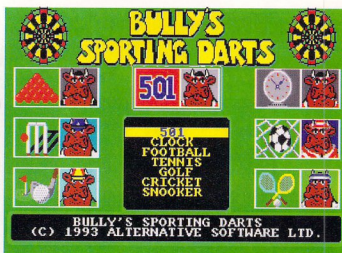
You know that they really wanted a car or a holiday and shouldn't have gambled - they should have kept the washing machine, mountain bikes and money instead.

It's even worse when they get all the prizes on the board and Bully's Star Prize and then have to make the decision to gamble it or keep it. The board starts to revolve and all the audience are screaming at them to gamble...

This is just so they can see the contestants lose everything and go home chuckling. To make matters worse, Jim Bowen takes them aside and shows them "what they could have won!" Anyway, enough warbling - Bully's Sporting Darts is here and Bully is the only feature from Bullseye to be included. The game features seven different games of darts. You can play the normal games, like 501 and Round the Board, or you can play snooker, cricket, football, golf or tennis - this is where my head starts hurting.

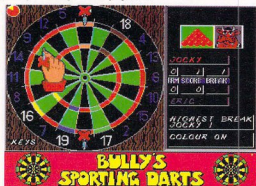
Whoever thought

Bring along Bruce, Tarby and Ronnie and get down to a serious game of golf darts. Err, good game, good game. Ho ho yes. And, ha, I said to the producer I said, ha, etc. etc. (quick get his pills - Ed)



The game selection screen. Cricket, football, golf, snooker and tennis are up for grabs or if you really, really want to you could play darts!

If "normal" darts is too boring for you, why not spice your life up with a quick game of snooker darts?



of playing other sports while using a board and three darts? Isn't the sport of darts enough for the average person?

"I know! I'm bored of darts, let's have a game of football!" said Joe Average. "We haven't got a football though," replied Henry Abnormal.

"It's OK, we can play football using my darts!" chuckled Joe. It's like something out of Viz. You don't see cricketers trying to play darts with their stumps. Hey, I guess it's just one those everyday things that are meant to confuse and torment us humans.

On the surface the game looks like the worst effort to have landed on this planet for a long time, but that opinion is formed entirely before you play it. Grab a chum and select the 501 option and before you know it you're away and actually having fun.

Laughter streams from every participant when you score more than 100 and Bully, who is situated in the top right-hand corner of the screen, roars out an unchallenged "Moo!".

The control method could've been a bit of a problem. Simply guiding a crosshair with the joystick would have been too easy and you'd score 180 every time. To combat this the crosshair wanders about the screen like the town drunk, but that aside the control method does work very well.

Apart from 501 and Round the Board, the other games are a bit sad and are just a case of getting doubles and triples in a desperate attempt to make the concept more entertaining.

The graphics aren't brilliant and look very much like a PD game. The sound is very sparse with some cheesy tunes at the menu section and the effect of the dart hitting the board. Don't let these factors put you off though because for just under a tenner you can't really complain.

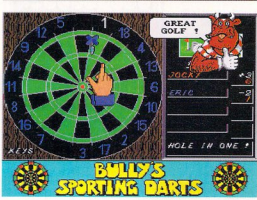
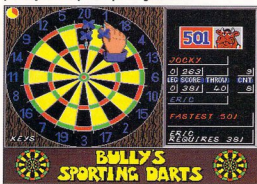
Playing the game on your own would be a very sad thing to do - you definitely need a

friend, so if you haven't got a chum, you someone off the street to join you. I would give Bully a bigger score, but even at this price it just doesn't compete with the likes of Superfrog, Flashback and Sensible Soccer. The appeal of the product tends to wear off after a while fine as it gets a bit samey.

It's a damn fine game, but you'll either like it or loathe it depending on whether you like darts or not. Bully's Sporting Darts scores 180 in my book simply because it's so playable and addictive - and for £9.99 it is quite simply a smashing, super, great game. It's a bull's-eye.

JONATHAN MADDOCK

Grab a chum, your darts, a pint and then grow a massive pot belly. The recipe for a perfect game of 501



VISION	
GGGGGG	
AUDIO	
GGGGGG	
DIFFICULTY	
GGGGGG	
LASTABILITY	
GGGGGG	
What Bully locks in graphics and sound. It makes it fun in playability and addiction. A fun game to share with a chum. Great. Super. Smashing.	73%
Publisher ▶ Alternative Software Developer ▶ In House Disks ▶ 1 Price ▶ \$9.99 HD Install ▶ N/A Size ▶ ¼ meg	

B-17 FLYING FORTRESS

Button up your flight suit and get ready for take-off - it's time to meet Microprose's latest flight sim

It's not very often I receive a piece of software and on picking up the box can actually reminisce. I recall an incident which occurred while I was a small boy, which although I relate it as a third person, I feel it will add a certain ambience to the setting of the review.

One summer I was visiting relatives in East Anglia - great aunt Fanny to be precise. During a particularly dull afternoon, I took a fancy to fiddle around in her box loft. After a short mooch I came across a ribboned bundle with June 1943 scrawled across the casing.

I gently unwrapped the mysterious package and discovered two tattered letters. The

words have stayed with me ever since and have given me a greater understanding of the American effort in World War II. Those words I shall share with you now...

*"Dear Fanny,
Thank you for keeping a lonely bomber from depression over the last few months. Missions can be such a downer especially with that Harry Connick Sir waiting away every mission. Anyway, gotta fly...
Yours, Chuck Spudwater"*

*"Dearest Chuck,
Thanks for the company over the last few*

months. Thanks also for the chocolates, nylons, rations, electric domestic appliances and other things a girl requires at what is a time of great need.

Yours, Fanny"

You must have guessed by now that I've been setting the scene for Microprose's latest foray into the world of flight simulation.

B-17 Flying Fortress puts you in the hot seat of the legendary US bomber which found movie stardom in the film *Memphis Belle*. Famed for its ability to carry large payloads, withstand severe batterings and still limp home, the B-17 soon became an airforce favourite.

Your task is to command a series of raids into occupied territory and successfully blow holes in the German War effort. The difference being in this sim rather than just controlling the pilot, the whole crew of nine fall under your beady eye. It sounds daunting

and believe me, it is. However B-17 comes with a manual thicker than the phone book that at least tries to be helpful.

Everything begins in the briefing room where your mission is determined. Here you can examine maps which show your heading, view reconnaissance films of targets, and basically familiarise yourself with the task in hand.

Having opted to carry out some hellish sortie or other into enemy territory, it's time to climb aboard your Flying Fortress.

The main operations involving you and the destiny of the crew are controlled via a top display of your bomber. Clicking on icons switch you to different locations throughout the plane.

This means you can instantly access the view from any one of eight gunny positions and take on the role of that particular crew member. Crew can also be swapped and changed around dependent on a particular set of circumstances.

Once you've made yourself familiar with the crew it's time to get yourself off the ground. During your early flights it's probably as well to let the good old auto-pilot do the dirty work. This is until you become more conversant with the multitude of mouse, joystick and keyboard controls.

Having come into formation with other bombers on your mission it's time to head for the Channel in your lumbering Fortress. After



Here we see an interesting map entitled "Fiat countries near France No 17"



Ooo-er missus! Tasty artwork!... meanwhile are you ready to be bombed by the Skunk Funk?

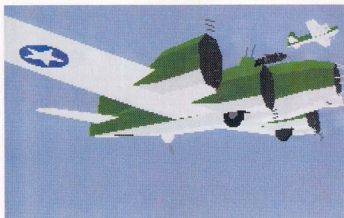


You have bailed out over enemy territory, but managed to contact the Resistance. Their leaders plan to send you home, so that you can carry the war to the enemy, after weeks of hiding in barns and running from danger, you make it back to England and the squadron.

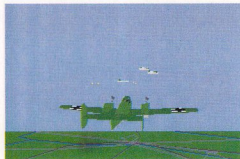


A jubilant US team celebrate after beating England 2-0! Bah!

"Ye haff counted to von Hunted. Now ve are coming veddy or not!"



Sir! We're under an inch of tread. I'll put down at Kwik-Fit!



German fighters drool in anticipation at the prospect of flying breeze blocks

crossing the pond start sweating, as you'll undoubtedly encounter the Luftwaffe.

At first the bandits appear as dots on the horizon, but they are soon screaming by your fuselage, belching out tracer and cannon. Because of the pace of the fighters your gunners get very little time to respond before they disappear from sight.

However, you do have the facility to toggle through gun stations enabling you to jump in the boots of fellow crewmen. Action-wise these engagements are the highlight of the entire mission.

Conversely, if you're not interested in blood and thunder high in the sky then you can elect to view the ensuing battle from the director's view. Here, you are shown the most exciting segments of the action, from a multitude of angles.

Next on your peril-same agenda, having hopefully seen off the fighters, is the bombing run. As you gradually rumble closer to the drop zone you can toggle to the bombardier's view.

Using your Norden bombsight, you must have nerves of steel and wait until the target below pickles on the bomb



This is the compartment screen. Unusually enough, it's full of compartments

release cue.

Having got the green light, it's just a matter of watching your arsenal of destruction whistle towards terra firma. Again it's possible to view the carnage from a multitude of angles, including the target's.

You've no doubt heard the old adage "Easier said than done?" Well bombing epitomises these much-used words. In fact, bombing is so tough that even the ST struggle



Sir! Are you sure we should have set up our picnic here?

gles to find the mark.

Obviously many things can happen on a venture of this nature, with the chance of aircraft damage extremely high, from engine fires through to wounded crew and structural damage.

However, you do have some safeguards on board to aid your survival in the skies. Utilising the correct crew member will operate fire extinguishers, use first aid on the injured and effect repairs on damaged equipment.

For example, you can manually operate such things as bomb-bay doors if they become jammed.

Sometimes all the effort in the world cannot save your doomed kite and the only option available is to bail out. If you're lucky you'll be rescued by fellow allies. However, bailing out over occupied territory will probably result in your crew spending the rest of the war on the other side of a cell wall.

If you actually make it back to the airstrip and land successfully then it's off to debriefing to measure your success. Following this, medals are awarded and increases in rank are given. Those unfortunates badly wounded are whizzed off to hospital.

As a simulator B-17 is true to its word. It simulates very accurately. What it fails to do is stimulate. It plays at "real time", so flying a full mission could take hours! Admittedly one can use an "advance time" option, but all this seems to do is leave you with bombing, fighters and flak.

Flying the B-17 is hardly orgasmic, either. Being very large it lumbers and reacts very slowly. In fact, it's a little how one would imagine flying a breeze block so it's nothing like the topsy-turvy world of single-seater simulated mayhem.

Most of the time you don't have to do much apart from prop your eyes up with matches and watch the instruments. It's rather like flying to Spain on your holidays without the duty frees and crap food.

The graphics on B-17 are fairly detailed and look relatively realistic, as vector graph-

ics go. The real disappointment – and it's not the first time on the ST – is the scrolling.

This is really jerky and made even worse thanks to the constant disk accessing which freezes the play. This I found to be really infuriating, ruining both the gameplay and any realism generated.

The sound too has to be heard to be believed. The engines whine like a deranged Flymo and the machine guns come across like a Kwik-Save cash till on acid!

Probably the saving grace of this sim is the people management. This can be quite interesting at times, but ultimately anyone who's switched on by people management may as well get a job in a supermarket!

B-17 is a very large and ambitious project for Microprose to have taken on. It has a certain uniqueness, in so much as you control so many characters in one aircraft.

Ultimately though there are just too many dull moments to contend with. While it's a difficult sim to master, I think you'll probably be asleep or have fallen into a coma long before the enemy get you. Overall it is a bit of a lame duck and really not worth zipping your flying suit up for.

SIMON CLAYS

Gamer Guide to successful parachuting



INCORRECT! This man has packed his lunch in the wrong backpack. He will approach the ground a lot more slowly if he remembers his chute next time



CORRECT! This man has made no mistakes. He can float to earth while he enjoys a tasty cucumber sandwich

VISION	
○○○○○○○	
AUDIO	
○○○○○○○	
DIFFICULTY	
○○○○○○○	
LASTABILITY	
○○○○○○○	
<p>B-17 is a large and brave attempt at a difficult scenario to simulate. However the majority of the flying is extremely tedious, and the action isn't hot enough to keep you hungry for more.</p>	51%
<p>Publisher ▶ Microprose Developer ▶ In house Disks ▶ 2 Price ▶ \$34.99 HD Install ▶ No Size ▶ ½ meg</p>	

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SHOP PRICES MAY DIFFER

Lankhor are a company from France and unlike most French software companies they don't release weird and crap software. You'd probably be able to make a connection with the company if I mentioned a game called Vroom.

Vroom was the racing game on the ST of last year and everyone in our office downed tools as it were, just to play this piece of unrivalled software.

Vroom 2 will appear on your monitor screens in the not too distant future, but before that Lankhor are widening their field into adventure games.

Black Sect is billed as the first French adventure game to take place in the depths of the Yorkshire Moors. Now if that isn't surreal then I just don't know what is. 'Ee by 'eck luv, all the action that takes place in a small village hidden in the moors.

Your find that your grandfather is dead. Worse is still to come when you find that his death wasn't accidental, but he was in fact murdered. The spell book that has protected the villagers from all wicked enchantments has also in strange circumstances disappeared.

SHOPPING LIST

Fear and terror begins to settle in the village and the mysterious Black Sect starts to infect the region. This is where you come in. There is some shopping to be done, so you grab your list and head for the local Gateway.

On the list are your items. First thing is to find a secret entrance that leads to the castle of the Black Sect, probably to be found near the fruit and veg. Second is to take revenge for your grandfather's death. Lucky for you that revenge is on special today and can be found between the meat counter.

Most important item of all on your list is the mysterious spell book because only this magic book can help the villagers of Hobdale regain peace and calm.

Magic books are hard to find, but you can often find them near the Pot Noodles. There is a mean and dangerous bit of shopping to be done and let's hope your shopping trolley can take it.

Black Sect uses the standard adventure point and click interface system which as usual is there for ease of use and user friendliness. The first thing of any note are the graphics which are quite simply stunning. Go on and take a look for yourself at the screenshots liberally dotted around this very page.

The highly intelligent bloke responsible for the graphics that you see is a chap called Serge Fiedos. He is only 20 years old, but is

ON THE Drawingboard

Most French software companies are completely bonkers, but not Lankhor. After the success of Vroom they return to Blighty and hit the adventure trail...

Jonathan Maddock packs his sandwiches..



BLACK SECT

already a master of the mouse. His incredible talent and capabilities just make Black Sect shine with the look of a number one adventure game.

Using only 16 colours on the ST, Serge really does produce magnificent graphics which reflect the mysterious and sinister atmosphere that exists in Black Sect.

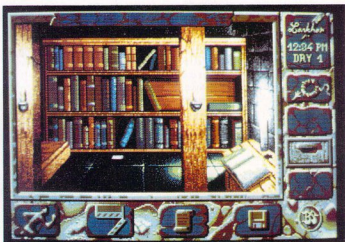
As well as having top graphics it also features a musical background with fantastic sound effects which like the artwork add that certain air of suspense to the adventure.

The authors of Black Sect are two guys called Jean-Pierre Godoy and Jean-Claude Lebon who are outside partners of Lankhor. Both men are intrepid adventure game players.

LA SECTE NOIRE

From this they decided to write their own adventure games. In May 1990 they produced La Secte Noire which was published by Lankhor and received an excellent welcome by the public in France, although I've never heard of it.

Features of Black Sect include 34 places to discover, animations that appear on each screen, character animations, an evolution of the atmosphere according to the time of

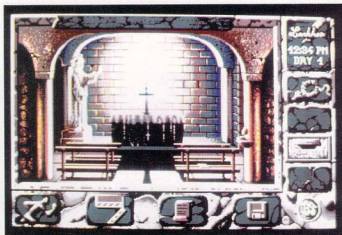


Suspense! Black sect is full of it. Yorkshire is that kind of place you know

day, and varying reactions and behaviour from other characters.

This is just a small sample of the features that are just way too long to list here, but the game should arrive on these shores any time now and you'll read all about it in a future

issue of Gamer. Black Sect will have some stiff competition from the likes of Ishar 2, but from the looks of things Lankhor could well have a winner on their hands. We shall see in time though and all I can say in the meantime is viva la France!



I could make a terrible rave type pun about alter-8. Ooops I just have done, oh well



The graphics in Black Sect are just about some of the best I have seen on the ST

A tree, not an integral part of the game, but important in its own right



ANCIENT ART OF WAR IN THE SKIES

Do you remember the days when men were men? The days when things were done properly? The days when Pinky might lean over to good old Johnny, take a sip on his G 'n' T, glance out the Noafi window and casually remark:

"I say Johnny old sport, isn't that the bally Hun I can see flitting towards our airspace? Damned impertinent blighters! Better take the old kite up and show that Baron choppie a few manners!"

Well I'd be highly surprised if any of you do! But I'm sure there's quite a few of you out there who wouldn't mind trying your hand at aerial frolics in this strategy game currently under development.

The actual roots of the project take their principles from a Chinese geezer called Sun Tzu, who some 2,500 years ago wrote a book which is still regarded as one of the best texts on military tactics.

Anyway on with the brief. The Ancient Art of War in the Skies puts you in control of an airforce full of First World War bombers and fighters. The net result is strategic air conflict, with your success and failures having an effect on the ensuing land battle below you.

TIME TUNNEL

The ultimate objective is to push back the enemy troops by bombarding their back up supply lines.

The game is set to give you a wide variety of options to select from, whether it be a simple training exercise or some extremely complex conflict from World War One.

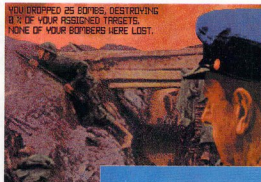
In fact, the programmers have promised to throw in a "Time Tunnel" option enabling you to pit your wits against the French at Agincourt and a whole host of other foes from the vortex of time.

You can also select who you are going to pit your wits against, as the game contains an option which enables you to fight a general – whose tactical philosophies vary – of your choice.

The main game screen is to be represented using an overhead view of the battle field. You control icons which when dragged to the edge of the screen will scroll the game through six screens.

This will enable you to view any feature relevant to the game and will also plot the

**Those magnificent men from
Microprose are back again with Tally
Ho! Chocks away! Strategy! arcade
action! Budding Baron-basher
Simon Clays finds out more...**



**Tommy Atkins
hugs the mud
while the Duke
of Edinburgh
looks on...**



flights of your flimsy bombers.

The next priority is to set your flight orders. These include such choices as altitude, speed, flight formation and of course the target. This sounds easy enough and in terms of operation, it's simple.

The complications that arise are purely tactical. For example, it's oh so easy to set your altitude incorrectly, thus come time for the wild blue yonder your brave boys plough into the side of the Alps.

So having selected which part of the front you have designs on decimating, it's over to your ST. It automatically handles all the

action unless you decide to intervene and determine your pilot's fate.

This really is where the game will transcend from one genre to another. Having so far being totally strategy based with little action, the dog-fighting looks set to be in the arcade vein.

Dog fighting over the skies of France is viewed through your computer from the side. This sounds a very simplistic system to employ for a strategy-based game, but it's extremely effective and great fun trying to blast the brownstiff off the baron.

The animation technique is pretty clever

though, with the plane able to replicate most of the classic aerobatic manoeuvres, from Immelmans to a half Cuban eight – sounds odd stuff that!

The other nice touch is that the enemy pilots will vary in ability from the killer instinct of Baron Richthofen, through to the relevant incompetence of someone by the name of Helmut von Spike!

Dependant on the outcome of the fracas with your fighters, the next arcade sequence will put you in control of the rear gunner on your bomber, fending off those pesky Fokkers.

This will work using the same side view as dog fighting and to all intents and purposes has the same feel to it, with the only difference being that your bomber is rather more clumsy and vulnerable.

Assuming you've done well enough to fight off the relentless enemy tri-planes then it's bombs away.

BALSA WOOD BOMBERS

In this sub-game you are presented with the bombardiers view looking down at terra firma through your bomb-sight. Not only are circumstances made difficult by cloud and wind, but also ground based anti-aircraft weapons are perpetually peppering your balsa wood bombers.

Matters are made worse by the fact that your bombs have a sickening tendency to drift, making it tough if not impossible to successfully destroy enemy installations.

In most cases during a campaign if success is what you'd like to taste then it's probably better to let the computer take charge of your destiny.

However, it's a sweet feeling when you fill the opposition with bullets from Blighty and see them nose dive down into no man's land.

The Ancient Art of War in the Skies looks set to become another winner from Microprose. It certainly looks like a well thought out, intelligent strategy game. The graphics are effective enough and this coupled up with a strong strategy angle should ensure addictive gameplay.

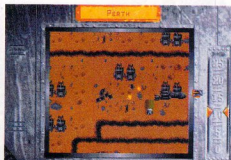
So, if it's high drama over the battle fields of the Somme or Gallipoli that gets your turbo-prop turning, this will be the one for you!



Top secret government leak reveals route of Euro-tunnel... and why it's late



Here's the flight orders options. Get it wrong and your pilots are history!



Ahh! There's nothing quite like it... dropping your load all over the enemy

Over the last five years there have been many TV and film licenses and as a general rule they're not that good. This is due to the fact that the software companies like to let the games sell on the name rather than the quality of the software.

You can't blame them, though, because it certainly works. You'd be surprised at how many idiots there are walking the streets these days.

An example of this was the case of the Teenage Mutant Hero/Ninja Turtles. At the time everybody was going turtle mad and Microsoft (how defunct thanks to Cap'n Bob's deep sea diving expedition) capitalised on it and produced a game which still ranks No 1 in my top ten of The Worst Games Ever To Have Invaded The Planet Earth.

The word "crap" doesn't even come close to describing how bad it actually was. The "kids", though, ran out to the shops and bought at least 16 copies each, err probably, and the game zoomed up to the top of the charts making Microsoft loads of money.

So do TV/film licenses equal a load of rubbish? No, not really because there has been some damn good licenses such as Robocop 3, The Addams Family, Knightmare and Bart vs The Space Mutants. The balance does definitely tip in favour of the bad side over than the good, however.

Konami have Batman Returns lined up and hopefully it will tip the scales back towards the good side.

Batman Returns - The Movie was one of the most successful films of all time. Err, I haven't seen it, but millions of you lot out there took the trouble to go down the cinema and delight at the abilities of Michael Keaton, Michelle Pfeiffer and Danny DeVito.

The game is currently under development by Liverpool-based Denton Designs and is loosely based around the film. The action is set over five levels of arcade frolicking.

Level one begins over the horizontally-scrolling background of Gotham Plaza at Christmas time. Peace reigns, but not for long - an explosion occurs and from nowhere baddies appear causing havoc and creating terror.

The Bat-signal is lit up and Batman jumps into his Batmobile, rushing to the scene of the crime to combat the evil Red Triangle Gang and eventually rescue Selina Kyle who in time will become Catwoman.

Level two is once more set in the Plaza where Bats must battle the Red

ON THE
Drawingboard

BATMAN RETURNS

The pointy-eared one revisits Gotham and manages to put in a star appearance in Konami's forthcoming release...

Triangle Gang who this time have some help from The Penguin.

The waddling one floats menacingly around on his hell-umbrella dropping bombs. The level ends when Batman

beats the end-of-level guardian, who incidently is a Circus Strongman.

The third level sees the introduction of Catwoman. Batman must partake in a one-to-one battle with the deadly woman-in-a-cat-suit across the rooftops of Gotham City.

The pointy-eared one must jump and somersault from platform to platform, while pushing Catwoman off and towards the left-hand side of the screen. She will eventually be pushed over the

building into a passing sand truck...

Batman stays on the rooftops for the fourth level. He must again battle against some vicious and evil minions; hordes of bats as well as The Penguin. The local police force are also out to stop Gotham's greatest superhero believing that he has been involved in a kidnapping.

Batman can't kill the police, so he must simply avoid them. At the end of the level Bats must fight once more with the Catwoman.

The final level is split into three sections. The first is set on a circus train where our hero must rescue some kidnapped children. The next is in the sewer system where there are hundreds of killer robot penguins to do battle with.

Thirdly, the Dark Detective must enter the Penguin's lair. Here he must fight to the death with Max Shreck and Catwoman, before finally reaching his goal of defeating the Penguin.

Batman Returns is looking very nice indeed and could well be a challenger for game of the year on the ST. The graphics are looking good as you can see from the screenshots and the sound should delight your ears, plus it'll no doubt have the playability and addiction to match.

Konami in conjunction with Denton Designs could well be a force to look out for. Batman Returns will swing onto your ST in September.

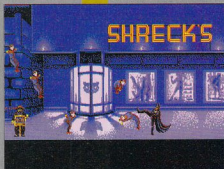
JONATHAN MADDOCK



How to do a Batman kick in 11 easy steps



The sprites from the rescue of Selina Kyle in their full technicolour glory



Batman fends off some terrible tumblers with his menacing high-kick



He's behind you! It's panto time in Gotham City



Batman gets some aggro from a clown, and that's not a custard pie he's holding

Simon's selection

The CHEAP seats



Man's quest for eternal youth has been with him for thousands of years. To be able to sink 25 pints of lager on a Saturday night, get up with no hangover and then run around for 90 minutes playing football for the Sunday team forever is the dream of many.

However, *The Immortal* has nothing to do with such pipe dreams. Instead you are cast as the sucker who has to rescue his boss from the depths of a labyrinth. In this case your boss is a top wizard type dude called Mordamir.

To make matters worse, the dungeon is inhabited by the normal quota of nasties. Doesn't sound anything at all different yet, does it?

Well actually it is! The display rather than your bog standard *Master* approach, is generated in a true 3D-style. You control your character as one would in a hack-'em-up, interacting with characters as you stumble haplessly around the labyrinth.

There are loads of traps and puzzles to contend with as well as a host of spells for your do-gooder adventurer to use.

Immortal is a visually attractive, most playable, addictive game. It's guaranteed to hold your attention for an eternity!

The Immortal
The Hit Squad • £12.99



Starblade is set in the future, the year 3001AD to be precise. Harmony in the universe is not what it should be. The nasty oppressive Federation are living up to their reputation and are being, erm, oppressive.

You fill the boots of one Stormwalker – sounds like an Apache rambler – who has drawn the short straw, and has been chosen by the rebel force to seek out and destroy the Federation's leader and base in one foul swoop.

Sent out into the void of space in the *Starblade* you must warp the time lanes searching for clues left by another, now deceased agent.

As Mr Walker you control most of the standard features available on the 3001 *Starblade* model.

Electric windows and central locking come as standard with an air bag as an optional extra! Not really!

Being serious for a moment, you take the helm and control engines, communications and most importantly, battle stations of the *Blade*.

Utilising the ship's shuttle allows you to put down on planets and socialise with the natives, while searching for clues.

To be honest *Starblade* is totally enveloped in mediocrity. The graphics are nothing flash and neither is the playability. Overall it's a bit of a damp squib.

Starblade
Daze • £9.99



Take a bunch of nutty old crackpot scientists, give them a large pile of explosives and a pile of tracks and turn tables, and you've got it. The recipe for an extremely interesting little puzzler.

Viewed from above, you must guide the bombs from start to finish where they are extinguished in a bucket of water. All sounds fairly simple, huh?

Well actually it's not. Establishing the correct route and opening the right gates is hard enough. But, matters are made worse! The meddling old gits move your gates and disrupt mechanisms in a vain attempt to upset the path of your bombs.

It sounds silly, that's because it is an extremely soft cheesy idea. Having said that it plays brilliantly, and with 30 levels it makes great value for your money.

Also, there are some great little animated sections while you're playing. Every so often one of the spectating bunny-girls, of which there are quite a few, wiggles her chest for the benefit of all and sundry.

Who ever said these old goats were mad? Great fun! Great babes! I wish I knew where this place was.

Boston Bomb Club
Daze • £9.99



Bored? Broke? Sick of pouring gallons of lager down your throat? Well if so join my partner in crime and myself, park your bum, and join us in the Cheap Seats!

Biffa's selection

Bart vs the Space Mutants Hit Squad • £9.99

Does anyone out there still like Bart Simpson? I remember when the little yellow skinned one couldn't keep his cartoon mosh out of the media. Kids used to run around school shouting "Aye caramba!" and "Don't have a cow, man." Everybody loved him, but this is no longer the case.

Well Bart is back, albeit in budget form. The original was heralded as a bit of a success because it did sell really well. Space mutants have invaded Springfield and taken over the bodies of the local citizens in a bid for world dominance.

Bart, thanks to his special shades, is the only one who can see the aliens, so it's up to the little dude to save the world. This all boils down to five levels of cartoon platform fun.

The game begins with a brilliant introduction that contains unbelievable graphics and some smart sampled speech. The game is in fact pretty good and has a good level of difficulty. The



graphics are basic, but they do have that cartoon falseness to them.

It is a fairly basic platform game that did rely on Bart's name to sell it. If you're really desperate then it might be a worthy buy, but if you're clever enough you'll have bought it first time around.

Prehitorik was one of the first games that I played when I joined the Atari ST User crew about two years ago, so it does have a small place reserved in my heart, but it wasn't that good unfortunately.

The game features cavemen and dinosaurs and looks like an episode of the Flintstones. You control a caveman and move him left to right in a horizontally-scrolling platformer.

To stay alive you have to hunt down various prehistoric animals and kill them. Held in your hairy mitts is a massive club which is used to dispose of your food. The prehistoric creatures in the game all look very cute and you don't really want to kill them, but they can be just as vicious and it's a case of kill or be killed.

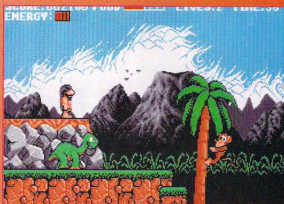
There are plenty of bonuses to help you along your way such as extra time, smart bombs and extra lives. At the end of each level there is a guardian who must be defeated before you pass onto the next level.

The graphics in Prehitorik are cutesy and cartoon-like and even better when you find out that it was programmed using STOS. The sound likewise is not too bad either.

The standard of playability is a bit rough and you'll sometimes find that you die due to no fault of your own. It's moderately addictive, but I can't see anyone coming back to this one after a few goes. The major problem is that it's just a standard platformer and it's up to you whether you want to spend a tenner on something so basic.



Prehitorik Fox Hits • £9.99



Swap Fox Hits • £9.99

If a puzzle game is done well then it is bound to frustrate and torment you, but still have that certain edge of playability and a heavy dose of addiction. If it isn't done well then it just annoys - you shout obscenities at the dog and throw it in the rubbish bin.

Swap is a crap puzzle game and deserves to be thrown out with the rest of the trash. Each level has a board of coloured tiles which you are attempting to destroy.

You move a cursor around the board with a mouse or joystick to the intersection of two adjacent files. Click and they swap places, hence the game's title. If they are now next to a tile of the same colour then they both disappear.

The more files you can destroy in the smallest number of moves, the higher score you receive. Well, it sounds exciting to me, let's go out right now and buy 1,600 copies each.

Swap features crap basic horrible graphics, crap sound, crap playability and is as addictive as running around naked in a field full of nettles. Buy it and I'll come around to your house and stay for a month and believe you me, you wouldn't want that.

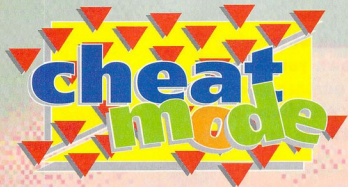


Remember that in Elwiling lives Thorm, who has some monk's robes that you will need later on, so go up to Thorm and collect them. By now all your party should be on level ten and have collected 31,000 experience points – if not, it is a very good idea to go and collect them because they will be needed soon.

You should also have four out of five members of your team carrying runic tablets which in the later stages of Ishar will offer you all some form of protection. Head back towards to the Fthulbrod Forest and then head North.

Make sure that all of the team of brave adventurers can drink a "brainwash" potion and you can use a protection spell or something similar because you will meet a very powerful wizard who could blind, invert and bind your party. Some effects wear off, but not inversion.

When you have dispatched with the wicked wizard you will gain the entrance to the Valathar Dungeon. Make sure that



We continue this month with the second and final part of our solution to Ishar which has only just been released for the Falcon

The Gamer guide to **Ishar**

your team have been refreshed. If they haven't then now is a good time to refresh them.

Having opened the door with Erwin's key you can enter the dungeon. The first few rooms contains zombies that you can burn quite easily. Be on the look-out for treasure and food, and most important of all, try to find a key.

Leave through the opening and you will find at the junction that there is a locked door. Turn right into a diamond-shaped room, this is where the Black Knight lives. Instead of swapping tales about good and evil and generally being polite, fireball him.

Continue into the next room and then turn right and enter a maze that contains treasure, oil and yet another key.

the locked door in the Black Knight's room and follow the maze. Collect the oil and eventually you'll come to a T-junction.

Turn left into a room with two levers and a key in it. Operate the lever that was on the far wall as you first came in the room. This lever opens the barred gate at the other end of the T-junction. Going that way you will encounter a spider guarding some food, and you'll also come across yet another key.

Now go back to the locked door and open it. Collect the oil and travel up the top of the corridor. To the right is a giant to be sorted out. Once the giant is defeated you will gain another key.

Go through the opening in the

Part 2

distance. You will be confronted by a bad-die through the archway, so fireball him. If you are running low on energy at this point, go back and refill – remember that the zombies you killed previously will regenerate. Find the correct combination of levers to

Free drugs!

One last tip for Ishar – how to get your potions for free. First you have to click on the face pictures of everybody, then the hands picture of the member who has the potion to be copied, then pick someone who would like the potion.

The member who has the potion should be holding a two-handed weapon. Pick up the potion, click on the shaded hand and then click on the other member's hand. Now put the potion back in the first member's hand – he should now have two bottles.

Pick up one and as soon as you click on the shaded hand the count should go up one. Now to finish, put the spare either in the first man's hand to boost his supply or the other man's hand.

gain an exit from these two corridors, at the end of which there is along corridor with a T-junction. Some Blue Ghouls will appear from nowhere and attack you; defeat them with your team. The left-hand exit has some oil to be collected.

The right-hand exit leads to some more ghouls and a spiral corridor which terminates with a key and a transporter which will take you to the next dungeon level. Now is the time to recharge again because there is plenty of work to be done before you complete the game.

Use the teleport to go to the second level, immediately go left and left again into a corridor with a lever and a door in it. This is the gas chamber, so give each of the party a drink of the "worgaz" potion to protect them. Once you've done that pull the lever, this will allow gas to enter the room, but the door will now open.

Search everywhere because there is a lot of treasure to be found. At the other end of the room is another lever; pull this and you are now through the gas chamber. There are two exits to this room, both of which are guarded by some very deadly skeletons.

Search both exits and you will gain more treasure and a key. Now head back to the

gas chamber - remember to use the correct potion again. Return to the teleport room that you first arrived at, strengthen your team and the head South. After not too long you will come across a treasure box and a corridor to the right. Contained within is a Demon.

Protect your team of adventurers before attempting to kill it. This diamond-shaped room contains two doors for you to search behind. Travel East from the diamond-shaped room and you will come across a lever. Pull the lever and travel down the corridor to the West and you will find some oil. Carry on West and then turn South and you will have a choice of three corridors. Each one leads to the same room.

This room contains the last runic tablet - however, it is guarded by lots of spiders. There are also two hidden rooms; one to the South and one to the North. Now go back to where you pulled the lever. It might be a good idea at this point in the game to go and recharge all the members of your team.

In the big room facing the lever is a maze complex containing more treasure, oil and another room containing a talisman (it looks like a jewelled brooch). While you were wandering around you should have found a wall with three levers.

These levers operate the last barred gate - it is the outside two that need pulling. You can then travel up the lost corridor and be met by Medusa. It would be a very good idea to use the "brain wash" potion again and then go and kill her.

Be extremely careful though because around the next corner is her pet dragon who will take some killing. Finish him off and then strengthen your team. You will now need to be wearing the monk's robes - after this transport there is no going back! Kill the monk and then use the transporter.

You will arrive in a very long corridor which is guarded by three powerful monks, if you've got the potions to recharge your team's psychic energy then now would be a good time to do it.

After this you will confront Krogh himself, so protect your team of adventurers and use the anti-Krogh spell, hit as often as you can with any weapon you can, because he has many hit points (the magic sword takes off 720 points) and with any

luck you should survive having killed him.

The defeat of Krogh means that your adventure is at an end and Ishar is sadly long gone and completed. Have no fear though because Ishar 2 is out now and no doubt your thirst for adventuring will continue...

● A big, big thank you goes to David Wing for supplying Gamer with this full solution to Ishar. He gets a lorryload of free software for his trouble.

'Ere, do ya want some free games?

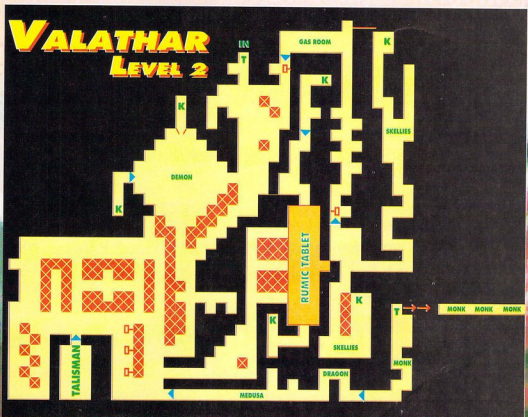
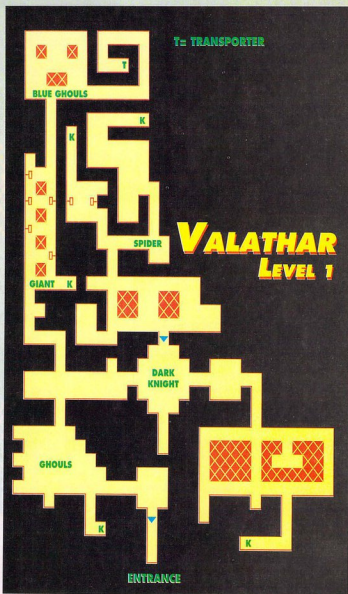
Can you complete games in less than a nano-second? Are you a computer games God? Well, if you answered yes to these questions then why not write to us chaps at Gamer, so we can share your supreme intellect with all those other hapless gamers?

If your solution is used in the mag we will quite happily send you some software, but better than that you will receive a highly limited edition Gamer badge to impress your friends and family with.

We will accept the solutions sent in any media, such as computer printouts or even the actual text file on a disk. If possible a couple of maps would be immensely helpful, but make sure we can make sense of them.

Write to us and together we'll making the gaming world and happier and more peaceful place. Send your stuff to:

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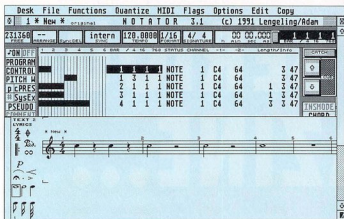
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- PhotoCD – What it is and how you can use it
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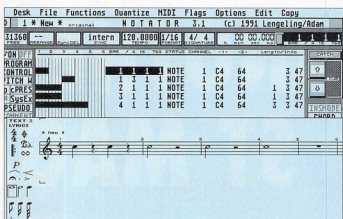


On the August issue is a great cover disk including Microdeal Concerto, an excellent commercial sequencer!

August issue out Thursday July 22



This is how Notator normally displays rests. Note that there are no rests in the event list



This is how Notator displays rests which have been converted from notes. Notice that they now appear in the event list

Although Midi is a standard, it is not always implemented in the same way on different instruments and in different pieces of software.

Patrick Morrison from Aberdeen has written with a very strange problem regarding Standard Midi files. He has been writing music with a friend who lives in Sassenach land.

Patrick uses Cubase and his friend Notator, and they have been sending music to each other in Standard Midi File format – an arrangement which worked well until Patrick received a file from his friend which contained spurious high notes.

A frantic telephone call confirmed that the file was OK on his friend's Notator. He returned the file, fearing corruption and his friend confirmed, again, that the file was perfect.

QUICK EDIT

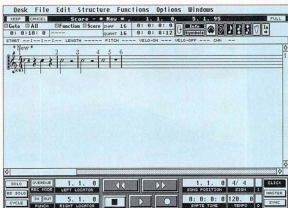
Meanwhile, Patrick noticed that the high notes should have been rests so he did a quick edit job and continued working with the music. But he would like to know why rests in Notator appear as high notes in Cubase.

This problem took some tracking down and at the end of the trail it comes down to the way Notator handles rests. Or at least some types of rest. If you record into Notator or enter notes into it with the mouse, then rests will appear naturally where there are no notes, depending on the quantise settings and so on.

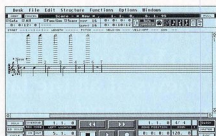
However, Notator also has a function which lets you convert a note into a rest. You do this by selecting the note and pressing Alt-R. This is useful for forcing rests in places where the program's display quantise settings would normally extend a note to cover the rest.

In the first case, the rests do not

Midi or not Midi?



This is how Notator's "natural" rests appear in Cubase



This is how Notator's converted rests appear in Cubase

form part of the event list as they are natural gaps but in the second case they do as you can see from the diagrams.

Internally, Notator regards these rests as G8 notes, the highest note available in Midi presuming, reasonably I suppose, that not many pieces of music are going to use it.

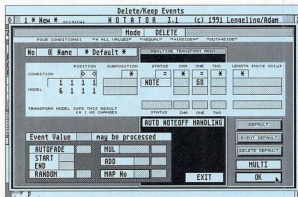
Notator filters out these G8 notes during playback but when you save a piece of music containing converted note rests as a Midi file, Notator converts the rests into G8 notes instead of filtering them.

Depending on the instrument used for playback, these notes may be ignored in which case they will indeed act as rests, but they are more likely to sound, perhaps transposed down an octave or two. To prevent this,

before saving the music as a Midi file, you can either delete the rests by hand or in bulk using Notator's Delete/Keep Events function in the left half of the Functions menu.

The whole topic of Standard

...that is the question.
Ian Waugh on why some Midis are more equal than others



You can remove converted rests before saving as a Standard Midi File using Notator's Delete/Keep Events function. Set the Note value to G8

Midi Files is littered with anomalies. Most people, most of the time don't have any problems but occasionally a certain combination of Midi file and sequencer will throw up a problem.

If Midi files are giving you grief, drop me a line listing the exact nature of the problem, the file you are using (whether it's commercial or home-grown), the version number of the sequencer you are using plus any other relevant information.

More Heavenly Bells!

Last month we looked at Tubular Bells II from Newtronic and said that a mega version of Bells I was undergoing conversion to GM format. At about the same time, Heavenly Music released a version of Bells I.

Newtronic say that there's little point in having two versions of the same piece on the market so the conversion may not now go ahead.

So let's see what HM have done with Bells I. The disk as supplied contains two mega-size files - Side One is 251k long and Side Two is 157k - enabling each side to play continuously.

This, of course, is the way the music should be played but if you don't have enough RAM to load such large files, Heavenly Music can supply the piece in smaller sections.

As you would expect from HM, the arrangement is superb. All the guitar pitch bends and twiddles are there and the volumes of the instruments are carefully balanced.

The only thing which is noticeable is that the GM sounds don't quite match Mike Oldfield's original instruments. But given the difference in cost, that's hardly surprising!

The arrangement duplicates some of the acoustic instrument effects very well. Look upon it



This is the part of Tubular Bells where the, er... Tubular Bells come in

more as the orchestral version. You can, of course, map it to your own sounds if you have other instruments.

It's altogether an impressive piece of programming, with a running time of over 42 minutes.

- *Tubular Bells I* is available in Standard Midi File format and costs £19.95 (plus £1.50 p&p) from: Heavenly Music, 39 Garden Road, Jaywick Village, Clacton-on-Sea CO15 2RT. Tel: 0255 434217.

Easel Junior

We looked at Heavenly Music's Easel, an editor for the Roland SC-55 and SC-155 Sound Canvas machines, in the June column. Now HM have released Easel Junior which runs as a desk accessory. You only need 520k, but also require a hi-res monitor or a mono emulator. It should run on the TT and Falcon.

Easel Junior has only one main screen onto which most of the Sound Canvas settings have been squeezed. This includes Parts and Voices (the names are in a list on the right), Midi channels, pan, reverb and chorus settings and so on.

Parameter values are decreased with the left mouse button but increased with the left button while holding down the Alt key. Why can't we use the right mouse button as in Easel Senior?

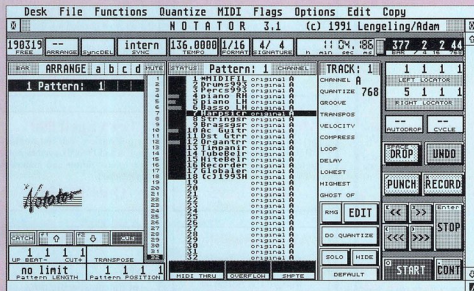
ONE SCREEN

When you select a new program number on the main screen, a list to the right shows the sound name. Here you can select sounds or a drum kit. However, when you scroll through these options, the sound reverts back to Program No 1 when you hit the Program setting again.

As there is only one screen, Junior is not very graphic. Although operation is easy and the parameters should be familiar to most Sound Canvas users, there is very little documentation on the disk.

If you want a quick and easy method of tweaking sounds from within your sequencer, Junior is worth a look. For serious use, however, I'd recommend the full version. You pay your money...

Easel Junior costs £14.95 (plus £1.50 p&p) from: Heavenly Music, 39 Garden Road, Jaywick Village, Clacton-on-Sea CO15 2RT. Tel: 0255 434217.



Heavenly Music's arrangement of Tubular Bells I is configured for a GM/GS setup

More that's worth noting in the music world

- Proteus Communications have launched a range of classical Midi files. The current line-up includes Mozart's Eine Kleine Nachtmusik, Symphony No 29, the Horn Concerto and the Concerto for Clarinet and Orchestra, plus Vivaldi's Four Seasons. The pieces are available in file formats 1 and 0 which allow them to be used with devices such as Yamaha's MDF-2 Midi Data Filter. The sounds have been mapped to GM but the files are available without program changes. Proteus claim all sequences are faithful to the original score. They cost £12.95 each. More from Proteus on 0642 300903.

- If you're want to produce mammoth music files, you may bemoan the fact that your ST can only support 4Mb of RAM. Not any more. Marpet Developments have produced upgrade kits which let you endow your ST with 12Mb! Phew! There are a few caveats but if you need the RAM, give Marpet a call on 0423 712600.

- In anticipation of the day when we will all be making music on the Falcon, Computers For Music have launched a Falcon Musician's Club. Membership is £20 per year and benefits include a regular disk magazine containing news, views, reviews, interviews, letters, questions and answers and a regularly updated listing of music packages for the Falcon. Contact Computers For Music on 081-340 1871.

- Gajits' Sequencer One Plus has just been upgraded to version 1.3. But registered users of the Gajits Automatic Update Scheme will know this as they will have already received their upgrade. New features include better handling of Volume, Pan and Program Change data in Midi files, new disk utilities, improved transposition handling and better Block operations. More from Gajits on 061-236 2515.

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Now that the Falcon030 has at last begun to land on these shores, it can be safely predicted that the emulation scene will soon receive a powerful boost from the new machine.

For the last couple of years or so, things have undeniably been a bit quiet with no new breakthroughs in either PC or Mac emulation. This settling down of the market no doubt reflects the fact that the technical capabilities of the ST have been all but exhausted by the emulator developers – you just can't squeeze any more out of the old grey box than the likes of AT-Speed, ATonce and Spectre GCR are already managing.

The TT, of course, could have made a big difference if it had ever sold in large enough numbers to entice developers to invest in it, but alas it didn't.

The Falcon, however, is pushed by Atari as a consumer and mass market computer and first prototypes of Falcon Speed have already been shown to limited audiences. Dave Small, too, is known to be working on a major

Schizophrenia!

new upgrade to Spectre GCR. As soon as details become known you will be the first to read about it on this page, but look forward to a quantum leap in colour emulation and operating speed!

No new product has not meant no sales, however, as more and more ST owners discover the benefits of emulation. This is not surprising really since PCs and Macs have become even more dominant with the release of cheaper entry-level machines and friendlier user interfaces.

BACK TO BASICS

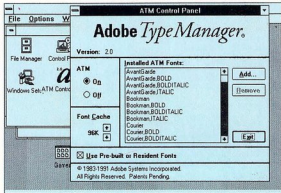
Being able to run their software on your ST is therefore more of a benefit than ever. As a result, I've had several requests over the last few months to pitch this column more at the beginner's level rather than assume that everybody's been merrily engaging in the emulation game for years.

Point taken, and your wish is my command – so for the next few months, we'll get back to basics and take you step by step through everything you need to know about starting off in the worlds of DOS and the Finder.

Even more experienced users may find something they have overlooked so far; once you're in a groove, it is so easy to stick with the familiar and ignore the obvious improvements that can be made.

To begin with, it is important to be clear about what can and what

Windows 3 is fully "ST compatible" and looks very pretty in VGA mono, but speed and general responsiveness are a problem



cannot be emulated, to decide what your needs are and if using an emulator is a sensible alternative to buying the real thing in terms of a cost-benefit analysis.

If you absolutely need to run large Windows applications fast and in multitasking mode, if you need high-resolution colour or access to industry-standard expansion cards, you will be better off buying one of the cheaper 486 PCs and another desk to go alongside your ST setup.

Much the same applies on the Mac side of things – colour and System 7 are strictly no-goes at present, as are many Mac peripherals, so if you need them look for one of the new generation of cheap[ish] Macs, at least until the new Falcon emulators come along.

The built-in limits of the ST's video resolutions restrict PC emulation to a choice between emula-

tion and colour – if you want VGA it will be black-and-white only, if you want colour, CGA's the limit.

Hardware restrictions also bear on other areas – although it is, in theory, possible to use a powerful 386 or even 486 Intel chip on an emulator board, it makes little sense to provide more processing power than the ST environment can cope with so that in practice the 386SX of the top-of-the-range ATonce is a sensible upper limit and the 286 remains the most popular choice.

SADLY MISSED

Expansion slots are out for obvious physical reasons because there is nowhere to put them; the now defunct SuperCharger was designed to provide for them in its external casing but they were never properly implemented before this sadly missed emulator bit the dust.

That said, a 286 or 386-based AT-Speed or ATonce makes an excellent choice for the majority of those whose PC emulation needs are confined to text and number crunching.

Wordprocessors, databases, spreadsheets and the vast majority of other applications will run reliably and at reasonable speed. As regular readers of Emulation Aspects know, Windows 3 will work fine but only you can decide if the ease of use and benefits of compatibility with the latest applications software is worth the considerable overheads in loss of speed and hard disk space.

● Next month we will look at how your ST in PC or Mac clothes can be made to complement the real thing most efficiently.

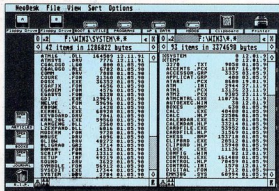
Bargain Mac emulation

The Mac uses the same Motorola 68000 series of processors as the ST so there are fewer problems on that front – in fact, there is no reason why the 68030-based Atari computers such as the TT and Falcon (and indeed STs with an accelerator board) cannot make full use of the enhanced processing power afforded by their advanced CPU.

Current versions of Spectre GCR already take advantage of the 68030, the problems on the TT being entirely related to glitches in the cartridge port lines. For this reason, the ST can actually emulate a Mac at slightly faster speeds than the equivalent Apple box – disk access is faster too.

If you do not need either colour or System 7 then Spectre GCR is an excellent bargain in terms of cost-benefit analysis, as it is highly compatible and reliable.

The main restrictions are again imposed by the ST hardware environment and relate to printing and the use of Apple peripherals.



Windows also takes up loads of space on your hard disk!

**Back to basics this month as
Günter Minnerup eases your entry
into the world of the industry giants**

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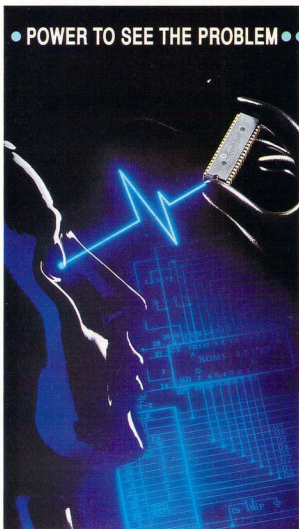
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Computers are amazingly powerful and versatile tools, which is why it never ceases to amaze me how few computer shops really utilise them to their full potential.

One retailer which certainly can't be accused of reticence in this department is System Solutions (aka Atari Workshop), who produce most of their PR material in-house on Atari computers and have several machines networked around their buildings.

Their latest venture is to provide out-of-hours facilities for their customers, in the shape of a new 24-hour bulletin board system.

The aim is to supply online product support and technical information, along with a range of value-added services. Product specification files and press releases will be made available for their entire stock range - which is extensive,

Local connection

You might also be interested to know that System Solutions are taking over the UK distribution of the excellent German shareware communications program CoNnect (see June's *Atari ST User* for more details).

Previously, if you wanted to continue to use the package after the initial public domain testing period had passed, you had to mail a registration fee directly to the author, who in turn would send you a disk containing the "key" to unlock the program for continued use.

Once you'd received this key, the program would function normally, and any future upgrade releases would also have the registered status.

Until now, the problems associated with registering foreign shareware - obtaining the correct currency or money orders, lengthy postal delays, and so on - made it difficult for UK users to obtain the full shareware version of this package.

Now, however, System Solutions will be able take care of all that for you. For the sum of £29.95 you will receive the latest version of CoNnect, fully keyed

and with a printed manual, which is currently being translated from the exemplary German version.

You will also be able to download future upgrades from the System Solutions bulletin board.

The German shareware price is DM60 (about £25), so after you've allowed for bank charges to send off your money to Germany, it is probably as cheap, if not cheaper, to register via System Solutions. Not only that, but you can register by phone using your credit card if that's easier.

Phone System Solutions on 0753 832212 for more information.

System Solutions' new bulletin board allows access to product information, an ordering service, and even a typesetting bureau



You can't beat the system

albeit often a little expensive too...

The board is available to anyone interested, regardless of whether or not you're currently a customer of System Solutions - although some areas will not be accessible unless you are given permission from the system operator.

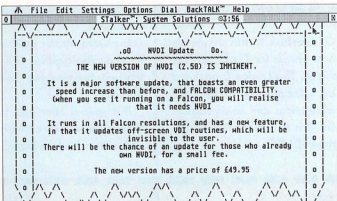
GETTING ONLINE

Dial in on 081-299 3933, using anything from a 300 or 1200 baud modem up to a full V32bis/V42bis unit.

At present, the system runs on a TKR V32bis/V42bis modem and uses the Turbo-BBS software, but that may well change in the future as they customise it to meet their ongoing requirements.

Since it is linked to their other machines via a BioData network, the BBS should be able to provide up-to-the-minute pricing and product availability information.

One of the most exciting facilities is the ability to issue software upgrades, patches and bug fixes directly by modem. An online database exists which allows you to verify the latest release versions of all of System Solutions' major



CoNnect, the excellent shareware communications program, is now available via System Solutions

programs, and if your copy is out of date you can Email the system operator with your registration details and he will enable you to download the latest version. Sometimes a fee will be

payable for this service, but since many maintenance upgrades are available to existing users for just the price of a disk and postage, presumably they will be available free. As a

new board, the message areas are currently fairly quiet, but the more users who join, the more lively the discussions will become.

Aside from product upgrade, there are several other file areas from which you can download public domain and shareware programs. If you've got any interesting files, they also welcome uploads.

STOCK CONTROL

The system will soon be able to accept customer orders for despatch the next working day. For the time being this won't extend to lying in to a stock control system to inform you if the item you have ordered is currently available, but maybe that will be implemented sometime in the future?

The BBS is also linked into the Summer Type bureau, allowing you to transmit Calamus files directly to them for high quality printing at up to 2,540dpi on their in-house typesetting equipment.

This means you can send your pages at any time of the day or night, and they will be quickly printed out and mailed or couriered back to you. For more details of this service, telephone the bureau on 071-703 1489.

● Next month: An investigation into the trials and tribulations faced by comms enthusiasts using the new Atari Falcon machines

André Willey investigates a company who aren't scared to put their computers where their mouths are...

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Going into conference

Desktop publishing can be a lonely business, especially if you're working from home and don't have many like-minded contacts who live locally.

It's easy to get into a rut, at least in terms of design, and end up churning out newsletters that all start to look the same or adverts that use the same tricks and techniques.

One of the best lifelines for the lone publisher has to be the world of online conferencing. With a modem and an ST, you can access all sorts of bulletin boards and conferencing systems like CIX and CompuServe, all of which have areas for special interests like DTP.

Our monthly communications column is the place to go if you want to know how to start up but I want to briefly look at what you can get out of it and how it can help.

ODD PROBLEMS

When you're into DTP, it's not uncommon to come up against all sorts of odd problems, particularly when you're expected to write part of the document yourself. You may need a little specialist knowledge of a subject or you may need a particularly obscure typeface or illustration.

Provided there's no desperate hurry, you can usually find someone who knows the answer. There are conferences on just about everything, including every computer invented, education, science and space, to name but a few.

CompuServe is probably the best place to start and as its prices have been dropped to more realistic levels, it's also better value for money and favours users of slower modems.

As well as the obvious ones boxed on the right, there are less specific conferences that might be of help too, such as the Working from Home conference for those trying to fit work around the vari-

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Above and below: Two fonts downloaded from CompuServe conference, converted with Fonty and displayed in FontKit Plus

ous domestic chores. Others I've used for various needs include commodity prices, share prices, UK companies (you can get instant reports on any one of 1.2 million companies registered in the UK), the newspaper library and executive news service, weather maps, the literary forum and the UK marketing library. Of course, conferencing isn't the only thing that comms gives the

desktop publisher. Many typesetting bureaux accept PostScript or Calamus files over a modem link which can certainly save time when deadlines are near.

Most will accept files at off-peak times so you don't have to pay the earth. PostScript files tend to be largely made up of text so get a decent archiver like STZIP to compress the files first.

**BUCEPHALUS
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**Comms is all the rage at the moment
- and it's especially useful in DTP, as
Andrew Wright discovers**

DTP-related conferences

Adobe Forum

Although the Adobe forum is mainly aimed at professional users, there are plenty of goodies for ST owners, including a range of PostScript fonts, all the Adobe AFM files that you can download and use with PageStream, and plenty of text files outlining tips and tricks for users of PostScript. What's more, if you're having problems making PostScript work, it's a good place to ask questions as Adobe's technical staff are on hand.

Atari Arts Forum

This one is dedicated to the ST, TT and Falcon, along with four or five others, and there are hundreds of files to download, from clip art, fonts and templates contributed by other DTPers to picture viewers and file converters.

Atari Vendors

The main player in the Atari vendors' conference is Soft-Logik. From here you can download the latest patches and various printer drivers as they appear. You can also address questions to the support staff and suggest product improvements.

For the record, the newest PostScript printer driver is v2.2.11 (v2.2.99 for colour). There are other drivers for the LaserJet 4 and DeskJets 550c and 500c.

Desktop Publishing Forum

This is the place for the best downloads as well as the ideas, despite being somewhat biased towards the Mac and PCI. There are scores of shareware PostScript fonts for downloading and new ones are appearing every month.

Perhaps the best aspect of the forum is that you can view them first as a GIF file (CompuServe allows this) before deciding to download.

There are also whole libraries of clip art and images and articles on almost any topic you care to name, from marketing and selling your work to the intricacies of design and production. What's more, it's a place for exchanging ideas and collecting inspiration.

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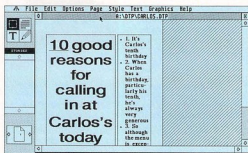
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It's Carlos's tenth birthday, and he decides to let as many people as possible know about it by means of a mailer featuring a special birthday offer. Timeworks handles this kind of work well – but if you want full or spot colour, speak to your printer about flat copy or file format requirements

Direct action

Whether your business is doing well or it urgently needs a shot in the arm, direct mail is one way in which you can achieve more orders for your product or service.

However, unless you're willing to be meticulous, and put in the effort involved in producing first-class copy based on an offer worthwhile to the customer, using a mailing list which is likely to bring good results, you could be wasting a lot of time and effort.

Begin by making a circulation list from existing clients, market research, previous responses to advertisements and any other source of names likely to be interested in what you produce or provide.

The quality of the list will have a direct effect on the response rate, so make absolutely certain you're listing the right kind of people.

You will probably already have some idea of what your offer to recipients of your direct mail is to be. Simply stating the service you provide, together with your name and address, is hardly good enough unless you've miraculously hit on something everyone wants and you're the only one providing it. Even then, further persuasion helps.

The basic rules of copy writing are fairly simple:

- Don't swamp your targets with reams of literature – the message must be short and very easy to absorb
- Aim to get over your main

points about the special offers, advantages and so on of buying your products or services straight away, with no tedious detail to distract from the main points

- Make absolutely certain that it is very easy for your recipients to reply, by including a form in the direct mail. Speak to the Post Office if you're ambitious enough to want to provide a Freepost or prepaid card or envelope
- Try to avoid sending your mailing in brown envelopes. The extra cost of white or some other brighter colour is worth the investment – people associate brown envelopes with bills and officialdom

- Unless you have an expensive colour laser printer (and who does?) it's best to have the job printed professionally. If your funds run to it, use colour printing. If you can't afford full colour, two-colour is still much better than black and white.

However, I've seen several very successful mailings done in mono on ST owners' own computers and printers – and, of course, professional printing does not rule out your doing the DTP part

Direct mail can work wonders – but time and money could go directly down the drain if you don't do it well.

Richard Williams is your guide to good copy writing

The power of the media

Is your PR up to par? It may not have occurred to you that your business is newsworthy, but the chances are that it is, provided you can find the right angle for a story.

For a small business trying to attract new customers, an independent recommendation in a newspaper, an radio or even on TV is worth a small fortune – yet if you can achieve it, it's yours for free!

Many larger firms have their own PR departments which constantly bombard the media with information about new products and services, management changes, new markets and so on.

Other firms have contracts with PR agents who employ teams of "executives" to send out press releases, arrange events like the launches of new products, Press trips to new recreational or holiday facilities and the like.

For the humble sole trader, husband and wife team or other very small firm, PR will probably be a DIY affair – but there's no harm in that, as you obviously know more about your company than anyone else.

With a bit of foresight, research, determination and perhaps, on occasion, cheek, you should easily be able to grab the odd column of newspaper or local radio slot for your new product or service, or even for existing ones.

The latter point is important: don't think that because you've perhaps not currently launching or changing anything that you can't arrange a mention.

If you're the local greengrocer and enjoy writing, why not offer your local paper a column based on best buys in vegetables for the coming week, perhaps with a recipe or two for the kind of veg that's just coming into season?

Offer to do it for nothing so long as your firm gets a mention in the column every time – and make sure the mention is as prominent as the editor will allow.

There is definitely something about having your company mentioned in print or over the airwaves that helps to lend it an authenticity in the public mind.

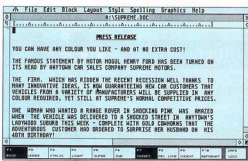
Your service or product will be no better for it – but the public's perception of your enterprise will be greater and better, and believe me, perception is the largest part of the battle for many businesses.

Approach it professionally, use your ST for the production of press releases, mail-mergers, databases of likely outlets for your publicity and so on, and leave the public in no doubt that your product or services are worth investigating further.

If there's an unusual angle to your business, exploit it for all it's worth in your press release to local and – if the story's good enough – national media. A good wordprocessor like First Word Plus is

time for producing press releases. Send pictures as well where possible – but make sure they're good quality

yourself. Research has shown that, depending on the number of recipients, the quality of the mailing list and of the mailer itself, response



rates can range from around a quarter of one per cent up to more than seven per cent, so no matter how good you think your mailer is, don't be surprised when the vast majority fail to reply.

With practice, you can become extremely adept at identifying, copywriting and designing offers for mailing. Monitor the results each time – the differences in response will open your eyes to which offers and mailers sell, and which are doomed to the wastebins.

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 A/R 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
• Cross fade looping



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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 steptime. 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. Midplay 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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- Extensive and informative 170 page manual



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Product	Price	Order No.
TruePaint	£37.95	9250

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The scanning package comes with the excellent Touch Up and Merge It packages and the AlfaData scanning rule. By using the Merge It software you can scan A4 pages in several passes and paste all the scans together. Other features include 100-400dpi scanning resolutions, 256 greyscale conversions, easy to learn & intuitive user interface, easy installation with 1 text and 3 photo mode selector switches, and award winning package.

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BOOKS

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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£9⁹⁵

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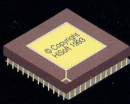
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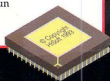
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