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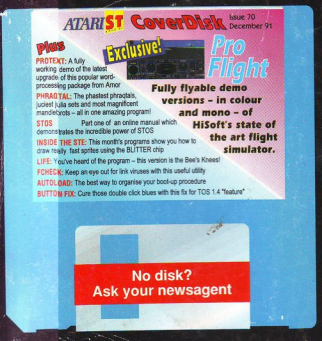
December 1991 • £2.99 • Issue 70

ATARI ST USER



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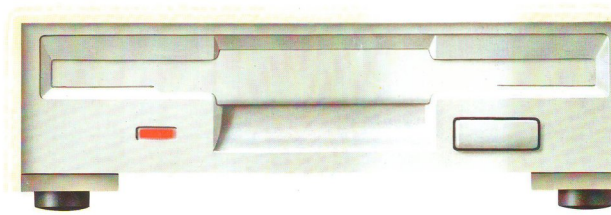

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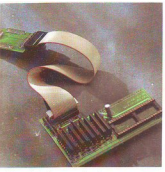

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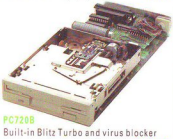

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CHAIRMAN Derek Meakin
FINANCIAL CONTROLLER Ian Bloomfield
PUBLISHER Richard Williams

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Atari ST User welcomes articles for publication. Material should be sent on an ST readable disk. The return of material cannot be guaranteed. Contributions can only be accepted by Europress Publications on an all rights basis.

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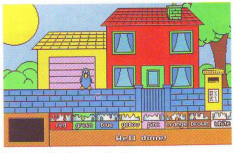

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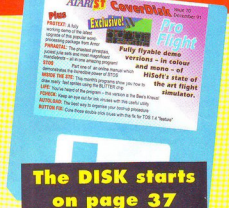

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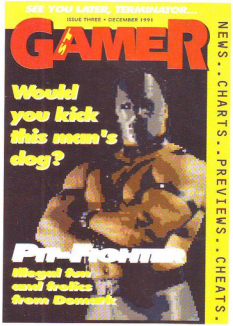

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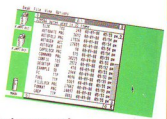

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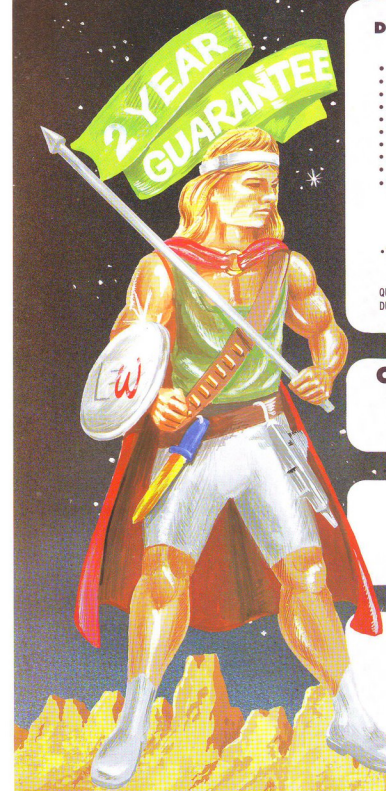

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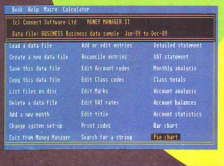

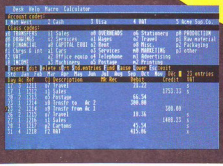

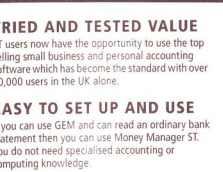

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ST USER News

Jaguar computer rumours denied

By John Butters

REPORTS claiming that Atari's Jaguar project is a combined home computer and games system have been dismissed by the firm as "pure speculation", but Atari have confirmed that a new super TT will be released next year.

Jaguar will use a 32-bit 68030 processor and a 32-bit graphics and sound processor simultaneously, and cartridges will be used for storage. But when asked whether the machine will be ST-compatible a spokesman replied: "I doubt that you could stick a 3.5in disk in and it work."

He described Jaguar as a next generation console and said it "will be much further up the games playing ladder". Atari would like to sell Jaguar for less than £100 but the technology involved is likely to lift its price nearer to £200.

Future STs are likely to take advantage of Jaguar's much improved graphics and sound processor although there are still no signs of Atari working in this direction.

ST Marketing Manager Darryl Still says that the Research and Development division have been looking at new products for more than a year, but was not willing to reveal further information about plans for the ST.

He did, however, finally confirm that the Texas R & D plant are working on Falcon, an improved TT. The current machine's 68030 processor will be swapped for a faster 68040 to make it up to five times faster than today's model.

Falcon should have broadcast-quality 24-bit graphics with 64-bit access. On reports claiming Falcon will have a CD-ROM drive Atari said: "There are various projects in the States."

The gap in ST production, caused when the computer giant sold their Taiwan assembly plant and moved production to contractors in three countries, is causing headaches for the UK division this winter.

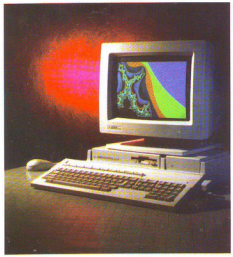
The firm are flying standard STs into the country to meet demand, but have warned customers buying a machine for Christmas that it will have to be ordered before the end of November to avoid disappointment.

Still says that to keep the Family Curriculum Pack available the company are bundling 520STEs with upgraded memory and that from mid-December there will be a lack of STs for a month.

He said that computers being sold now would normally have covered sales from mid-December to mid-January, but added that Atari are flying them in to the UK rather than using sea freight because they need to get STs here by Christmas.

And as we went to press Atari claimed Mega STEs would be available from November. After a six-month delay the firm said that the boat carrying the top-end STs was close to the country.

Meanwhile, it has been announced that ST portables STBook and STylus which have been previewed at various shows around the world should be freely available in Britain by the middle of next year. Prices remain to be fixed.



The only computer under development which Atari are willing to confirm is Falcon. It is based on the TT but will have broadcast quality graphics

Fractals make music

ST MUSICIANS can now buy a new program which uses fractal mathematics to generate original musical compositions and ideas.

Fractal Music Composer uses Mandelbrot and Julia set fractals to create music to rules laid down by the user, and allows original fractal images to be created for saving to disk or printing.

Music can be saved in standard Midi file format so that it can be used with other music software. It can be bought from Fractal Music, PO Box 1938, Hornsey, London N8 7DZ for £67. Educational discounts are available and a demonstration disk costs £7.

Building the power

AN OPTICAL drive with 128 megabytes of storage capacity heads a line-up of new ST products due from **Power Computing** (0234 843388) during the next few months.

It is an external drive which enables information to be stored on fully-rewriteable 3.5in optical cartridges. Manufactured by computer giant IBM it has a seek rate of 60 milliseconds and plugs directly into the ST's DMA port.

It has its own power supply and built in fan and costs £1,199. Cartridges can be bought for £36 each.

The second product from the Bedfordshire firm will be the first hand scanner to cost less than £100. With an auto-setting resolution of up to 400 dots per inch, Power Scanner will support true greyscale and enable a printer to be connected to the ST too. It is priced at £99 including software.

And Power have struck a deal to become the official UK distributor of American hardware giant ICD's products. ICD's hard disk drives and ADspeed accelerator are included under the deal and are no longer available from Silica Systems.

"We are working hard at developing new ST products," said head of Power Computing Tony Ianiri, "and we've got many more ideas for next year."

Is it adios Amiga?

ATARI have scored points with dealers by doubling the length of their dead on arrival warranty and claim that the ST is now outselling the Amiga for the first time in 18 months.

The new warranty comes at a time when many independent retailers are furious at Commodore for changes made to their returns policy during the summer, which they say they cannot afford to operate. Recent incompatibility problems with the new entry-level Amiga have added to dealers' anger.

Atari's new 60-day warranty is the result of several meetings between the firm and NASCR (National Association of Specialist Computer Retailers) since May and both parties were quick to state that it had nothing to do with Commodore's present difficulties.

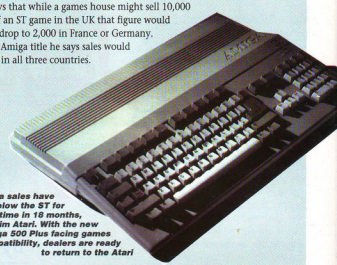
Atari claim that they can afford to make the move because of the ST's very low failure rate, which in a recent survey carried out by trade newspaper *Computer Trade Weekly* was found to be about half that of the Amiga.

"The only reason the Atari tailed back so dramatically was because of the way the independents created the Amiga and downgraded the Atari for the support we didn't used to get from Atari," said NASCR chairman Clive Bishop.

"We are destocking Commodore as fast as is possible and I know other NASCR members are doing very similar. This could be their last Christmas of any know. We cannot afford to stock Commodore."

Bishop added that because dealers now get better support from Atari they might choose to take the ST back on board in favour of the Amiga. Delighted Darryl Still at Atari says his firm are having a successful time, claiming that the ST is now outselling the Amiga. Still says that the only thing holding them back is the reluctance of some software houses to produce ST games. For the reason he points his finger at mainland Europe.

He says that while a games house might sell 10,000 copies of an ST game in the UK that figure would perhaps drop to 2,000 in France or Germany. With an Amiga title he says sales would be equal in all three countries.



Amiga sales have fallen below the ST for the first time in 18 months, claim Atari. With the new Amiga 500 Plus facing games incompatibility, dealers are ready to return to the Atari

Hunting for drives

A DUNDEE firm have joined forces with staff at the city's university to launch a range of ST hard drives, with between 70 and 210 megabytes of storage space.

Each features an internal cooling fan, DMA input/output giving full daisy-chaining for up to seven devices, SCSI ID select capability, auto-boot, auto-park, a battery-backed clock and ICD SCSI software utilities.

"The reason behind development of the drives was that we found drives for the Atari were rather overpriced compared to those for the IBM PC," said a spokesman.

"We decided that we could probably do something for a friend at a competitive price. Having done this we decided that we should start selling drives commercially."

Prices start at £399 for a 70 meg drive, £449 for a 110 meg version and the 210 meg model costs £849. Call Hunter Business Systems on 0382 581035.

DO YOU KNOW SOMETHING WE DON'T?

Although *Atari ST User* have 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. All information supplied will be treated in the strictest of confidence.

Capital link for Shopper

VISITORS to the Christmas Computer Shopper Show will have the opportunity of winning one of four flights in Capital FM's Flying Eye plane during its traffic monitoring duties.

The London radio station have linked with show organiser Blenheim Pel (081-868 4466) to support its Share a Capital Christmas Appeal, which aims to provide toys and food during the festive season for underprivileged families.

Capital FM will ask people to take gifts for the appeal, and in return they will receive a raffle ticket for a daily draw. Top ST firms promising to attend the event include HiSoft, Evesham Micros, Roland, Power Computing and Silica Systems.

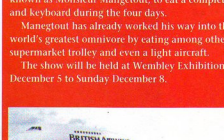
People will also have the chance to try their hand at being a DJ in a special studio being built within the show, to be manned by Capital FM personalities. While there will be no live broadcasts, people will be able to take away a tape of their attempts.

"This is an ideal opportunity for us to help make it a brighter Christmas for youngsters who are supported by Capital's annual appeal," said Blenheim's Stephen Bozdan. "Flying over London's skyline will be a tremendous experience for the four winners."

An added attraction is an attempt by Frenchman Michel Lotito, better known as Monsieur Mangetout, to eat a complete computer, monitor and keyboard during the four days.

Manegtout has already worked his way into the record books as the world's greatest omnivore by eating among other things television sets, a supermarket trolley and even a light aircraft.

The show will be held at Wembley Exhibition Halls from Thursday December 5 to Sunday December 8.



Four visitors to this Christmas's Computer Shopper Show can look forward to a flight in Capital FM's Flying Eye plane – providing it's not found first by Mangetout!

Copycare on the move

THE UK supplier of 3K ComputerBild's ST publishing software have moved premises and announced the immediate availability of a vector-oriented drawing program, Didot Lineart, and an image manipulation package, Retouch.

Page layout program Didot Professional and a colour version of Retouch – Retouch Professional – are planned for release in December. Copycare Graphics Systems (081-686 8121) now live at 19 Ledbury Place, South Croydon CR0 1ET.

Output for Calamus

A NOTTINGHAM firm have just started a service for ST desktop publishers using Calamus. CY Services (0602 406377) will print files on bromide or film within 24 hours of receiving a disk, or straight away for callers.

One A4 copy costs £5, with reductions to £1.50 for orders of more than 100 copies.

Cherry fonts to UK

BRITISH ST users are now able to buy Cherry Fonts' new range of seven Calamus font packs from System Solutions (0753 832212).

POWER COMPUTING

POWER CLOCK

Make use of your cartridge port with the Power Computing Battery backed clock! This compact cartridge contains a full calendar and clock which ensures that your files are always dated correctly. Software utilities are included to set the time in your computer, and examples are given of how to access the clock from your own programs. A thru' port is available so you can plug in your existing cartridges.

Available with or without cartridge thru' port

Plugs neatly into the cartridge port

Power Clock without thru' port	£14·95
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ith thru' port

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to 1·5MB/s Data transfer rate

y rewriteable (At least 1,000,000 Erase/Write operations in any portion of the s area)

B Optical Hard Drive (External cased) £1199
B 3½" Optical Media Cartridge £36 each

ULTIMATE CARTRIDGE

The Ultimate Cartridge will break into any Atari ST program. Whether you're a programmer, hacker, games player, or just curious about your Atari ST, The Ultimate Cartridge gives you the power that you need.

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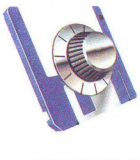
The cartridge the ST has been waiting for!



£25

Power Computing Ltd Unit 8 Railton Road Woburn Road Industrial Estate Kempston Bedford MK42 7PN. Tel 0234 843388 Fax 0234 840234

All prices include VAT, delivery and are subject to change. Specifications are subject to change without notice. Next day delivery £4·50 (U.K. mainland only). Dealer enquiries welcome.

Software from Santa?

Now you can have the latest and best series of fun learning programs for children. Dorothy Brumleve's internationally acclaimed "kidprg's" are cleverly thought out, entertaining, and introduce new skills with computers, reading and drawing to children from aged 3. These are not programs that will be used once at Christmas and forgotten by Boxing Day.

SUPER KIDGRID £19.95 - for ages 3+
Create beautiful geometrical on-screen designs and pictures using a pre-defined grid. Print out colour-by-numbers pictures. Mouse-driven, easy to use even for the youngest.

TELEGRAM £19.95 - for ages 5+
Write musical "telegram" messages and then deliver them to characters in the program's little town. Music, reading, sing-along and fun all in one program.

KIDPAINTER £24.95 - for ages 5+
Not just another painting program. Make your own colouring books, puzzles, paper cut-outs. Engrossing and productive.

KIDPUBLISHER £29.95 - for ages 5+
Thankyou letters for granny, stories with pictures, party invitations. Four font styles, prints on any printer capable of ST screen dump.

Kidprg's run on any Atari ST/STE or Mega ST with a colour monitor or tv.
Order now for Xmas delivery (p&p £2.75)

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Phone: 0753 832212 Fax: 0753 830344

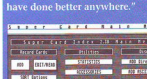
B.Ware to write more

BECAUSE of a huge response from *Atari ST User* readers after the inclusion of the personal database Supercard on September's CoverDisk, B.Ware Software (0455 613377) have decided to release more programs as shareware.

Hundreds of users registered for version two of the database and one delighted user even wrote to the firm enclosing an advertisement he had prepared and cheque to cover the cost of placing it in a magazine.

New programs on the way include a children's art package called Masterdoodle which is due to appear on our CoverDisk soon, and a strategy game named Penguin.

"The idea that people can look at something before they buy it is a very good idea," says B.Ware proprietor Chris Beale. "We are really, really pleased with the response from *ST User*. Supercard couldn't have done better anywhere."



Enthusiasm from readers when we included Supercard on the CoverDisk has led to B.Ware's releasing more programs as shareware

Silica open longer

PEOPLE wanting to buy ST software and hardware before Christmas will have the opportunity to do some late night shopping thanks to a decision made by Silica Systems bosses to extend their opening hours throughout December.

To aid customers who need help with their new computers after Christmas, the firm will open their support departments, shops and mail order lines on December 27, 28 and 30, 1991.

A spokesman said: "We've had many request asking if we could stay open for slightly longer to allow customers to come in or call us after work. We are happy to help and keep our Central London, Sidcup and mail order branches open into the early evening."

For full details of opening hours call Silica Systems on 081-309 1111.

New firm for music

THE FIRST product from SynTec Systems (081-977 5270) is Protone, a tone editor for Roland D5, D10, D20 and D110 synthesisers, which offers full visual editing using click and drag sliders and graphic displays of envelopes.

SynTec boss Nick Denville says that the firm aims to supply high quality music software at an affordable price. Requiring a hi-res monitor, Protone costs £29.95.

Racers put foot down

AIMED at games players is a new Spectravideo (081-900 0024) foot pedal designed to make leisure titles which involve pushing the joystick upwards to move forward or accelerate easier to play.

Foot Pedal Controller works as an enhancement to a conventional joystick for car racing games. It is supplied with three pedals which can be pressed by the foot in much the same way as a car's clutch, brake and accelerator. Price: £24.99.

DIARY DATES

1 December, 1991
All Formats Computer Fair
Organiser: Bruce Everiss
(0225 868100)
Venue: City Hall, Candleriggs, Glasgow

14 December, 1991
Venue: Royal Horticultural Hall, London

15 December, 1991
Venue: University of Leeds Sports Centre, Leeds
Plenty of bargains and heaps of public domain software.

5 to 8 December 1991
Computer Shopper Show
Organiser: Blenheim Pel
(081-868 4466)
Venue: Wembley Exhibition Halls
An opportunity to buy some bargains before Christmas. It's expected to be much larger than last year's show with more than 50,000 visitors.

14 to 16 February, 1992
Fifth International 16-bit Computer Show
Organiser: Westminster Exhibitions
(081-549 3444)
Venue: Wembley Exhibition Halls
The first post-Christmas show for ST owners, and a new venue for this growing event.

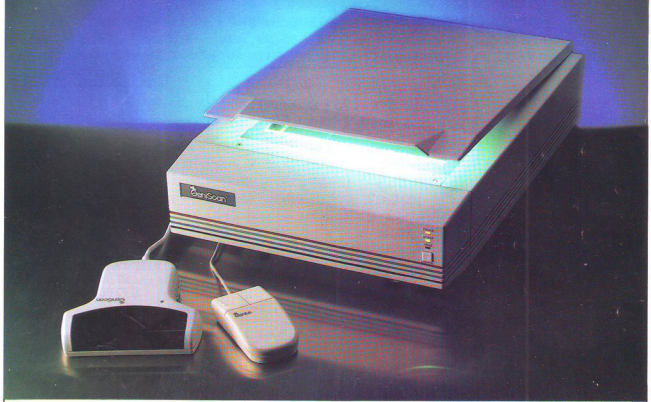
12 to 14 April, 1992
European Computer Trade Show
Organiser: Blenheim Online
(081-868 4466)
Venue: Business Design Centre, London
A trade-only show where many of the year's releases can be previewed.

28 to 31 May, 1992
Spring Computer Shopper Show
Organiser: Blenheim Pel
(081-868 4466)
Venue: Olympia, London
Promised to attract many ST exhibitors.

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

Genius

A GENIUS FOR ATARI/AMIGA VISION!



Genius Flatbed Color Scanner for AMIGA/ATARI

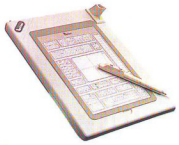
16.7 million colors can read full color, gray scale, and B/W modes. The fastest scanning speed in full color mode is 90 sec. for A4 size images, SCSI built in to the interface.

Genius Hand-scanner for AMIGA/ATARI (Gray Scale and B/W)

Makes you stand apart from the DTP crowd. With true 256 gray scale, you don't have to be a professional to create high quality graphics.

Genius Triple Mouse for AMIGA, ATARI ST AND AMSTRAD PC 1640

With a DPI of 350, the TRIPLE Mouse increases your productivity in desktop publishing, spreadsheets, and graphic applications.



Genius Tablet for AMIGA/ATARI

9" x 6", 12" x 12", and 18" x 12". No matter if you're a student or a professional user, the Genius range of tablets can meet your needs.

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200 Disks	£80.00	£137.00		£83.00	£143.00
500 Disks	£182.00	£325.00		£185.00	£331.00

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GM PC MOUSE.....£15.95

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1 BOX	£14.00
2+	£13.00
5+	£11.00

MF-2HD 30's
30 DSHD 3½"

1 BOX	£21.00
2+	£20.00
5+	£18.50

MF-2DD 10's
10 3½" DSDD

1 BOX	£6.00
2+	£5.00
5+	£4.50

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System Solutions go top speed

NEW ST releases and upgrades are to be available in the UK soon from System Solutions (0753 8332212) including a TOS 1.4 replacement.

EOS 2.0 is aimed at increasing disk access and program loading speeds by 40 per cent, fixing more than 80 bugs from TOS and Offering completely overhauled BIOS, XBIOS, GemDOS and AES.

The entire character set including foreign and graphic characters can be used from the keyboard and the keyboard repeat and delay rates have been changed to more appropriate default values. The TOS line editor had been expanded, text entry into dialogue boxes simplified, an error handling option has been introduced and the size of the operating system reduced by 20K.

Tests in Germany, where it sells under the name KAOS, have found it to be fully compatible with most software and hardware. Compared with TOS 1.4, the Quick Index benchmarking utility returns values of 234 per cent for TOS text, 185 per cent for TOS string, 130 per cent for TOS scroll and 826 per cent for Gem dialogues.

To use the alternative operating system, one of three Turbo accelerators have to also be fitted to the ST. Turbo 16 is a low-power 16MHz CMOS 68000 processor which enables programs to run up to 200 per cent faster than the standard CPU, and has a 32K cache RAM.

Turbo 20/20 runs at 20MHz but has a true 8MHz mode to ensure that it is completely compatible. Claimed to be the world's fastest 68000 accelerator, it speeds the ST along at up to 250 per cent its normal rate. Prices for Turbo accelerators range between £189 and £269, and EOS – supplied in six ROMs – sells for £99.

Colourscan 3000 is an A4 flatbed colour scanner available for £1,495. It has a resolution ranging from 3 to 300 dots per inch selectable in steps of 3dpi, and can handle line art, halftones and colour photographs.

A white light lamp ensures that the colour and tone graduation is even and natural, with colour accuracy being maintained with automatic white calibration and an optic test before every scan.

Bundled with Colourscan 3000 is a copy of ReproStudio scanning software and an interface to connect the scanner to either an ST or TT.

Many products available from System Solutions have been developed to use the extra power found in the Mega STE and TT. One example is a VME Bus which can be bought for Mega STE or TT Tower 4 systems to accept up to five interface cards for items such as graphics cards and electronic system controllers. Price: £389.95.

Falling Stars

CONFIDENCE in the economy has led to immediate price falls for printer giant Star's range of 24-pin models.

The LC24 line sees their prices drop by up to £20 and the company has also slashed the cost of their four-page-per-minute laser printers.

"We are now seeing a significant increase in sales following the summer lull as businesses become more confident in the economy," explained Star's Roger Bayley. "The improvements in the price/performance ratios will only help increase demand for these models in preference."

Stop that thief

RESEARCH shows UK crime rising and with that comes a warning to secure valuable items such as ST setups from thieves.

A small firm in the Midlands has just launched what they describe as a compact, practical and inexpensive way to reduce the risk of theft in the workshop, office or home.

Securit is a do-it-yourself locking device which can be fitted to a wide range of products including computers and monitors to enable them to be locked to a surface.

Made of two metal locking bars and plates, it is supplied with a fixing kit which covers most fitting applications. Prices start at £47.50 from L.R.M. Consultants (0676 34095).

It is becoming increasing important to secure your ST setup from theft. Securit prevents secured items from being taken

Porn crackdown

A 24-year-old man is expected to appear in court soon accused of contravening the Obscene Publications Act at the start of a police blitz on the use of computers for displaying pornographic material.

Greater Manchester Police discovered material at the centre of the case by responding to advertisements in the computer press. Once an offending disk was received they joined forces with Wiltshire Police to swoop on a Swindon house. A computer setup and disks were seized.

"The pictures on the disks are exactly the same as the pictures in magazines – still pictures of a pornographic nature," said a Greater Manchester Police spokesman. "There's no difference, it's only the medium that's different.

"It's lack of continuity that we're trying to address, making people aware that if you have the stuff on your bulletin board or whatever else you are doing with it, the minute you show it to somebody else or sell it you are committing an offence."

If found guilty the man could face a prison sentence of up to two years.

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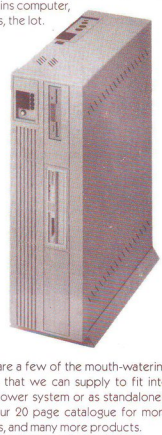

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ST User BEST ....BUYS

The Hard and

Studio quality music from your ST? The results can be amazing and it's probably much cheaper than you think. Let Ian Waugh tinkle your ivories...

The Midi sockets on the range of Atari ST computers have made it the UK is – and Europe's – premier music computer. In spite of an assault on the music scene by other machines, the ST still has the biggest and best range of music software of any computer on the market and more developers than ever are continuing to produce music programs for it.

To make music with your ST you need two things – music software (a sequencer) and music hardware (a musical instrument). We'll look at the hardware first.

The hardware

The sound quality of your music depends entirely on the instrument producing the sounds. Features to consider are the number and variety of sounds which come with the instrument. If you want to create your own sounds are they easy to edit? Is there a good selection of third party sounds? Check the polyphony and multi-timbral capacity, too.

Most sequencer users plumb for a keyboard (as opposed to a Midi guitar, for example). They're not too difficult to play and ideal for entering notes into a sequencer as Midi was designed with keyboards in mind.

Master keyboards

If your budget will allow, you'll get greater flexibility by buying a master keyboard and an expander. Master keyboards have no built in sounds but have a better Midi spec than most synths. You can then build up a range of sounds using cost-effective expanders.

Cheetah (0222 867777) produces the biggest range of master keyboards. If you're on a budget the one to go for is the SV (£299) which has a five octave velocity-sensitive keyboard on which you can create eight zones, four Midi-outs and 100 Performance memories.

In the medium price band it's Cheetah's top of the range 88-note 770 (£899) with a "piano weighted" feel. If money is no object, take home Roland's (0252 816181) A-80 (£1,799), a very professional piece of kit with 88 notes, a piano action keyboard, four zones, velocity and after-touch curves. It can also store System Exclusive patch data.

To go with your master keyboard you need an expander. The best all-rounder is Roland's new Sound Canvas (£499) which has 315 preset sounds plus nine drum kits. It is 16-part multi-timbral and 24-note polyphonic.

Yamaha's (0908 366700) TG77 (£1,299) is a piece of heavyweight kit, an expander version of the SY77 synthesiser. It uses a combination of sampled sounds (AWM) and Advanced FM (AFM) synthesis to produce a range of realistic and truly stunning sounds. It has a combined polyphony of 32 notes (16 AWM plus 16 AFM), is 16-part multi-timbral and has a built in digital signal processor.

The professional's machine is not a synth as such but a sampler – Akai's (081-897 6388) S1000 (£2,499). This can record and play back samples of real instruments maintaining the highest audio quality. The astute user will also have a library of samples of his favourites synth sounds – saves buying the synths!

Keyboards

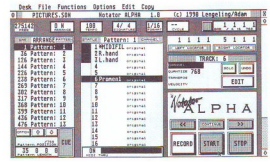
If you resent spending money on a keyboard which doesn't actually make a sound – although it has its advantages – you need to buy the most comprehensive instrument you can afford.

If you only have £199.99 then go for the Yamaha PSS-795. It has mini keys, that is they are a little smaller than the keys on a piano, 100 presets and it is 28-note polyphonic. It also has a built in sequencer.

But far better is to go for a well-specified synthesiser such as Roland's U-20 (£799). This has a 61-key velocity and aftertouch sensitive keyboard, 128 presets based on sampled PCM sounds, a maximum polyphony of 30 notes – this depends on the sounds you select – and built in digital effects. It is six part multi-timbral with an additional part available for rhythms.

At the top of the ladder is Yamaha's new SY99 (£2,499). It shares similarities with the SY77 – on which the TG77 is based, remember – but it has an extra octave of keys, more master keyboard features (you wouldn't need a master keyboard with this unless you wanted a weighted keyboard) plus the ability to load samples for use in the AWM section. You can record snatches of vocals or harmonies, raps – anything! However, you'd need a separate sampler to do this, as the SY99 doesn't have built in sampling facilities.

If the ability to create your own sounds is important then Roland's JD-800 (£1,848) is a must. It has 24-note polyphony and is six part multi-timbral, but its most exciting feature is its accessibility. Unlike any other digital synthesiser, the JD-800's front panel is covered with knobs and sliders making programming a far easier and intuitive process.



Notator Alpha has most of the major features of Notator although only four tracks can appear in the scorewriter at the same time

The software

The heart of any computer-based music system is a sequencer. If you want to dabble before splashing out on a commercial product, check out the Cosh Sequencer and Alchimie Junior which are both available for a few pounds from all good PD libraries. Most sequencers are

Music and Midi jargon explained

Multi-timbral: The ability of an instrument to play more than one sound at the same time via Midi. Most current instruments are 16-part multi-timbral although some Roland instruments are only six part multi-timbral.

Polyphony: The maximum number of notes an instrument can play at the same time. Most modern instruments have at least 16-note polyphony but the trend is towards 24- and 32-note polyphony. Some older instruments only have eight note polyphony. If you want to produce piano music then 16-note polyphony is the minimum you should look for.

Expander: Essentially a synthesiser without a keyboard. If you already have a keyboard they are a very cost-effective way of increasing your range of sounds as you don't pay for a second set of keys.

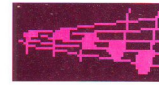
Zoning: The ability to assign settings such as Midi transmission channel, velocity and after-touch sensitivity and so on to a small section of a keyboard. It can effectively give one keyboard the controlling power of two or more.

Aftertouch: The ability to create vibrato, pitch bend or alter the filter by pressing down harder on the keys after playing a note.

System exclusive messages: Midi messages which are exclusive to a particular manufacturer and/or synthesiser which are used for editing and storing voices.

Midi file format: A generic file format which allows sequences to be handled by any sequencer which supports the format.

the soft of it



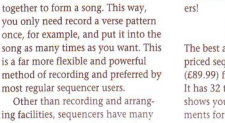
designed to mimic an analogue multi-track tape recorder in operation. They have Record, Play, Stop and Fast forward/Rewind buttons. In keeping with the analogy, recording generally takes place on a number of tracks which play back simultaneously.

The minimum number of tracks you want is 16, which ties in nicely with the 16 Midi channels – although some sequencers have more, and a few less. Because sequencers are more flexible than tape recorders, you don't have to record your music in a linear fashion from beginning to end.

Many sequencers let you record a number of patterns – each with, say, 16 tracks – and then link them together to form a song. This way, you only need record a verse pattern once, for example, and put it into the song as many times as you want. This is a far more flexible and powerful method of recording and preferred by most regular sequencer users.

Other than recording and arranging facilities, sequencers have many editing and data manipulation functions. It's the power and ease of use of these which make one sequencer better than another.

The most common form of editor



Steinberg's SY77 editor. The complex – but graphic and accessible – screen showing the elements which go to make up a Pan Flute

is the grid editor which shows notes as bars on a grid rather like a piano roll. It suits many musicians, especially if music notation is not their forte.

For more accurate editing, an event editor is useful. Most sequencers have these as standard. If you can read the dots then you may prefer to edit your music on the stave in traditional notation.

The next most important consideration is quantisation. Basic quantisation will pull all notes onto a specified beat. Every sequencer can do this. It gets more subtle if you can only partly-quantise a line or apply a swing quantisation (great with Bach). I'd say support for Midi files is pretty essential, too. It will allow you to swap music with friends and play many commercial and PD music files, even those created on other computers!

Cubeat's main screen is similar to that of Cubase. It shows sections of music which are easily dragged around to form a song

Sequencers

The best and easiest to use budget-priced sequencer is Sequencer One (£89.99) from Gajits (061-236 2515). It has 32 tracks, a grid editor and it shows your music in one bar increments for easy block editing. It supports the Midi file format and you can record in step time quite easily, too.

The budget-priced power users' sequencer is Prodigy (£135) from The Digital Muse (071-828 9462). It's a cut down version the up-market Virtuoso. It has 32 tracks, a range of quantise "feels", a grid editor, a pattern arrange page, an auto-save feature and online help.

A scoresheet module is available for another £40 but if you really want scorewriting, check out C-Lab's Notator Alpha (£199) from Sound Technology (0462 48000). Scorewriting doesn't come cheap.

Mid way between the budget programs and those at the top of the range is Steinberg's Cubeat (£285), a cut down version of Cubase, distributed by Evenlode Soundworks (0993 898484).

It has the same front end as Cubase and it's a joy to use. It has 64 tracks which appear on the main screen as long bars. These can be dragged around with the mouse, joined, split, placed alongside each other and so on. Building up a song has never been easier. The professional's choice – and that of many semi-pros and amateurs, too – comes down to the two market leaders, Steinberg's Cubase (£550) and C-Lab's Notator (£499).

Cubase has the same superb front-end as Cubeat plus a few more bells and whistles. In particular, the IPS – Interactive Phrase Syntheiser – which is a sort of algorithmic music generator. Brave of Steinberg to put this in their top-flight program as it won't appeal to everyone but if you're of an adventurous disposition it's a lot of fun and can produce some very interesting results.

Notator has recently been upgraded to include GAM – Graphic Arrange Mode – which lets you arrange four patterns side by side, graphically. It's not quite as flexible as Cubase's front-end but it's an improvement on the previous textual arranging method.

Notator is still far and away the most powerful and comprehensive sequencer-cum-scorewriter available on any computer.

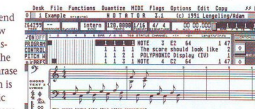
Editors and librarians

It's all very well having ultimate control over the notes in your music but you also need control over the sounds in your synthesiser(s). If you enjoy programming you can probably find several voice editors from a variety of manufacturers to assist you – far easier than wading through umpteen nested menus in a two-line LCD on the synth.

If you're on a budget, check out the range of editors from AMG (073088 383) which average between £55 and £75. Excellent value for money. More up-market editors for a wide range of synths are available from Steinberg and Dr. T, distributed by Zone Distribution on 081-766 6564.

If you have or aim to acquire several synths or expanders, it makes sense to go for a generic editor. These are based on a central core program to which you add modules or profiles.

The two major contenders are Dr.T's X-OR (£219) which supports over 90 Midi devices and C-Lab's brand new Polyframe (£341) which, at the time of writing, only supports half a dozen although this will increase in time. X-OR is very powerful but the trade off is a degree of complexity. The profiles, however, are supplied with the program.



Setting up a four voice polyphonic display in Notator's comprehensive score edit screen. Notice the link to the event editor at the top of the screen

Polyframe is more graphic in operation but the modules will cost between £30 and £50 each. The basic package includes a universal module with advice on how you can adapt it for use with synths yourself. But not for the novice.

However, whether you program your own sounds or not you will need a librarian to help sort through them, select sounds and load them into your synth, preferably without leaving the comfort of your sequencer. The ideal companion is Chameleon (£89) from Keynote Music Software (0761 32610).

It can run as a standalone program or as a desk accessory and there are over 350(!) profiles which can handle virtually every synth on the market along with each of their peculiar multi, configuration, voice and bank setups. I couldn't work without it.

Finally, bear in mind that all prices quoted are RRPs and, in spite of what some shops and manufacturers would have us believe, no one pays RRP.

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The SM124 monitor gives a high resolution monochrome display which is ideal for working with serious applications. Manufactured by Atari, its colour blends with the ST on the desk

Based on the ST, the TT is a fast and powerful machine but its technology will be wasted with most day-to-day duties

Hard disks make life much easier, saving time and floppy disk swapping. There are a few well made models but generally they are expensive. Breaking this trend are Protar with the ProFile range

The world's cheapest nine pin printer. It's nothing fancy and output is fair but the SP-1900AI is superb value for money

Do you really need an Apple Macintosh or PC compatible in your business? John Butters has been looking at ST solutions for the office

Mind your own business

No matter how you feel about the ST and its capability there is little argument against the fact that its games image is dug very deep. But it copes well with every application that heads its way and all over the world people are using it for serious work in the home and office.

Only an hour's flying distance away in Germany, a country where cost rarely comes before qualitY, the ST is considered an ample business machine. The multinational giant Siemens, for example, have more than 100 1040s sitting in their Munich offices.

Here in the UK, the ST makes it into small firms. Large corporations usually buy an Apple Macintosh or IBM compatible PC system simply because they're in the ICI office next door and managers then have to pay a fortune for software.

For a firm with a single office and only a few staff such computers are wasted doing administrative-type work. Why, for example, buy a PC setup with industry-standard software at a cost of about £1,000 when a 1040ST and monitor at a total cost of £550 and public domain program ST Writer will do the job?

So what do you need to get started and get the best results? It depends largely on how much money you've got floating about in your bank account but those starting out on the tightest budget could get away with spending as little as £674 for a complete hardware setup.

The entry level ST with half a megabyte of memory works fine but its limitations are too great for it to be considered a worthwhile buy for small business users. The 520ST is unable to handle the increasing number of serious applications which are demanding at least one megabyte of memory.

You can either get this from a 520ST with a memory upgrade or by picking up a 1040ST. At the end of the day the difference in cost compared to effort of fitting extra memory makes the 1040ST the better choice.

A good eye

High resolution monochrome displays are another necessity. True, you could get by with a colour television but as most work will involve reading text, the clearest possible screen should be bought to avoid eye strain and nasty headaches.

Few commercial games are able to run in hi-res and there might be the odd serious program that asks for medium-res, but these are few and far between and so this factor does not involve the cream or majority of software.

It is fair to say that Atari's SM124 is the winner in the mono monitor category. But it has to be, as there isn't any competition unless you take into account the large screens used for computer-aided design and desktop publishing work. Atari have priced it fairly and its quality is acceptable.

In most cases it is possible to get by without a hard disk but a printer is needed alongside most of the software you'll be using. A cheap but robust model is the Seikosha SP-

➤ 1900AI – aimed primarily at home users – coming in at £125 from Silica Systems (081-309 1111).

The price shows in its nine-pin printing which does not give the best business type but, unless you want to part with more than twice its cost, is the best value. Like more expensive models it has a couple of letter quality fonts and a draft mode.

So, you have a one megabyte ST, a hi-res monitor and nine-pin printer. This is the minimum hardware requirement but software will be needed for each part of your business.

Adding the software

Wordprocessors are by far the most popular ST application and have been responsible for the death of millions of typewriters. Words can be tapped into the keyboard, read, edited, formatted and spellings checked before the text hits the page.

ST Writer is a basic wordprocessor but is quite capable of simple tasks such as turning out letters or memos

Huge amounts of time can be saved by storing frequently used files on disk. For example, a club which requires annual subscriptions could have a standard letter lurking in a disk box and the name and address of subscribers added within seconds whenever their payment is due.

The cheapest wordprocessor is given away in the public domain. For the cost of a disk and a small charge to cover a library's overheads you can get yourself a copy of ST Writer Elite, currently up to version 4.2.

First impressions should not prevent a closer inspection. It has scores features found in expensive commercial packages but some functions not always needed are missing. One omission is a word counter, although plenty of these can also be picked up as accessories.

Its text editor is like any other and functions are documented in a READ_ME file which can be printed as a hard copy if required. In use it looks daunting, using few common keyboard commands – stick with it and you'll soon pick them up.

Some options can be selected from a front menu including the ability to save and load Ascii or ST Writer files. Alternatively, click on either mouse button to activate drop down menus.

The program keeps up with normal typing speeds and is remarkably stable. This baby is used in the *Atari ST User* editorial office to ensure compatibility with outside writers and the program has coped well with the heavy work it faces daily.

Databases are less popular but are equally important in a paperless office. Kuma's K-Data has established itself as a program to be depended on at the lower end of the scale for keeping a record of contacts or similar formats of information. K-Data scores points for its ease of use and it has a good text editor.

If the ST is to be employed for making forecasts and the like under different defined circumstances then a spreadsheet package will be needed. Mini Office Professional Spreadsheet is priced low but is a reasonably powerful package with 255 rows by 255 columns. There are also Mini Office programs for communications and presentation graphics.

Without decent up to date records of your company's accounts you are soon likely to hit problems. There are various financial programs available and before parting with money you will need to understand a little about accounting.

A great percentage of programs offer only half a solution and might not be what you require. Digita International's Cashbook Combo, for instance, combines Cashbook Controller and Final Accounts to make a good double-entry bookkeeping system but does not have a sales and purchase ledger and so is not an integrated business system.

Complete packages for small businesses come from Sagesoft, Digita and Equinox but most are quite costly. At the budget end, however, Double Sentry is a comprehensive double-entry bookkeeping system which is popular among the self employed.

Small businesses are unlikely to need continuous contact with share prices and company information databases so a modem and communications setup aren't really needed.

Any of these recommendations are ideal for a small company. They are intended for the administration side of the firm and are unlikely to be sufficient if you need to branch out into other aspects of computing.

At a glance – Entry level

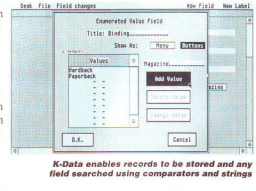
Product	Recommended	RRP
Computer	Atari 1040ST	£399.99
Monitor	Atari SM124	£149.99
Printer	Seikosha SP-1900AI	£125
Wordprocessor	ST Writer Elite	PD
Database	Kuma K-Data	£51.70
Spreadsheet	Europress Software Mini Office Pro	£24.99
Financial	Finansoft Double Sentry Elite	£74.99

At a glance – Mid-range

Product	Recommended	RRP
Computer	Atari Mega STE1	£822.49
Monitor	Atari SM124	Supplied with Mega STE1
Hard disk	Protar ProGate	From £280
Printer	Star LC24-200	£309
Wordprocessor	Arnor Protext	£99.25
Database	Arnor Prodata	£99.87
Spreadsheet	Kuma K-Spread 3	£94
Financial	Sagesoft Accountant	£299
Online system	CompuServe	£Various charges

average prices. Storage range from between 20 and a massive 440 megabytes, they have an access time of 24 milliseconds and arrive ready formatted. A model between 40 and 80 megs will satisfy most business needs.

In the middle price bracket, 24-pin dot matrix printers become affordable. Printouts from these are perfectly acceptable and common for business letters and a good buy is Star's LC24-200. The LC24-200 has a 7K buffer, five letter quality fonts and



K-Data enables records to be stored and any field searched using comparators and strings

Mid-range

With a few more notes tucked away a slightly better selection of equipment is affordable. The computer recommended in the middle bracket is a Mega STE1, from the latest family of STs, which has an SM124 monitor included in its price.

For the average user one of its biggest attractions is a remote keyboard which allows for a much better working position and an improved desktop. Its guts are housed in a flat case, which can sit below the monitor quite comfortably to save desk space. A hard disk drive can fit between the two nicely, the storage capacity determined by individual needs.

Best buys in this area come from Protar UK, whose unparalleled ProFile range comes from Germany and gives extremely high quality and looks at a design that makes it look as if it has just popped out of a wind tunnel.

The noise level is acceptable for an office or home environment and when printing in high-speed draft mode it can whizz along at 222 characters per second. A colour version costing £60 extra adds red, blue, violet, yellow, orange and green print but other specifications are identical.

Various communications systems hold databases of company information and up to the minute share prices which will be useful as the size of the business increases.

If you need to access this type of data then a modem, comms package and subscription to an online system are essential. An extra telephone line will allow you to be contacted while online. There is a wide choice of modems and so the best piece of advice here is to shop around. Don't jump to the cheapest model with limited features, it could end up costing more – buy one with a speed of at least 2,400 baud. Although it will cost more than others, it will cut tele- ➤

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phone bills. A suitable piece of software needs to be used on the ST. *Mini Office's Communications* program works quite well and has a Viewdata mode for Prestel. But like all packages it has glaring omissions – the lack of Z-Modem support for example.

In the words of one ST comms expert: "Whichever package you recommend, it won't be suitable for somebody's needs. They all have flaws but Mini Office and FastComm are reasonable."

Once you have the equipment, an ideal service has to be found. CompuServe is the world's largest online service, giving access to hundreds of databases including yearly reports from UK firms and financial information, although it generally has a strong US bias in its content. Charges are high but if it saves you from entering a deal with an unstable company it will have proved itself worthwhile.

For ease of use and decent specifications, one of the best wordprocessors available is Arnor's Protext. Now selling as version 5.5, earlier copies with fewer features can be picked up at quite reasonable prices.

The Collins thesaurus is the major feature missing from version 4.3 but it does have a spelling checker. Help is available from within the program and commands can be typed if preferred.

From the same Cambridgeshire stable comes Prodata, which like its sister has just received an upgrade. Quick and sophisticated, visual form designs are possible and data editing is fast and easy. Version 1.2 gives it pull down menus, automatic record numbering and a host of other functions.

Kuma have five different versions in their K-Spread range of spreadsheets. Halfway through is *K-Spread 3 which has many of the features* of the later versions but costs £50 or so less.

Going to the top

The wealthier group of small businesses can afford a top-end model from the family. This means either a four megabyte Mega STE or the fast and powerful TT.

The TT is nice but for most it is little more than an excuse to spend more money than is necessary. If you are going to be using computer-aided design or desktop publishing packages then it scores highly but it's far too overpowered for wordprocessing and the like.

Go for the Mega STE4 – a splendid piece of kit, which is supplied with a 48 megabyte internal hard disk drive and, again, the SM124 monitor. The best printers for an office are laser or inkjet. Results from both are very similar, a very high quality print which does not show any sign of the dots noticeable with dot matrix models.

Atari manufacture their own laser which was upgraded early this year. While the SLM605 is neater than its predecessor and has a faster print, it is put at a disadvantage with its rather high price and requirement of two megabytes of memory.

This puts Hewlett Packard in the running with their DeskJet 500 printer. It is a third of the price of Atari's yet gives 300 dots per inch from a compact unit. Being a non-standard printer it is incompatible with certain software until public domain drivers are added. In an *Atari ST User* review in August, Andrew Wright found that the quality was superb and said that he needed a magnifying glass to distinguish between it and a laser printout. Because such a high standard of print is required mainly in desktop publishing and wordprocessing work, the 24-pin dot matrix will be sufficient if you do not wish to use such programs.

Choosing a top-end wordprocessor is very controversial. Whichever package is chosen is going to offend several software houses, and users of other programs are likely to disagree with our choice. In the end wordprocessors are largely down to personal choice rather than specifications.

In the running are That's Write from Compo Software, Working Title's Calligrapher Professional or Protext v5.5 from Arnor. After progressing with Protext through three types of home computer it is easy to recommend it as a favourite.

However, Calligrapher Professional, which sells under the document processor label is filled to the brim with features and has a superb wysiwyg user interface.

Ready for the poison pen letters, we recommend this as the ultimate ST wordj1 processor.

The queen of databases is certainly Superbase Professional but for its price it should be. It is the most sophisticated database management package for the ST and it has intelligent relational and graphical form design, a mini wordprocessor for mailmerge and a powerful programming language to enable professional customised systems can be built.

There is really only one contender competing to be the spreadsheet used in the office, again in the K-Spread series. K-Spread 4 is a Gem based program which loads Lotus .WKS, .WK1, Symphony, Ascii and DIF files and functions include graphs, forms and designs, Gdos output, macros, trig, conditionals and database. For a little extra cash K-Spread 4T gives the ability to download share prices from teletext services and a timer function which access data automatically.

For the best financial pack we turn our heads to Sagesoft, a company well known for their reliable and solid PC packages. Financial Controller is very expensive but is a full accounting suite that needs to be installed on a hard disk. A PC conversion, it does not use the Gem interface but nevertheless is fairly easy to control.

Bottom line

Remember, another beauty with the ST range is that emulator boards can be bought to fool the computer into thinking it's IBM PC or Apple Macintosh compatible. Compo Software have AT-Speed C16 and Vortex offer ATonce Plus for those wanting to run PC software and Gadgets by Small have Spectre GCR for Macintosh.

They open up a new library of software which has been developed especially for business needs, making your ST setup compatible with other systems outside of your office.

Both PC boards are based on a 286 chip, but the maths co-processor on AT-Speed C16 makes it the ideal choice. However, for Mega STE owners the best one to go for is the Vortex's ATonce-386SX, the only 386 PC emulator for the ST.

Whichever route is taken to develop your office the best piece of advice is to shop around for hardware and software. One firm will offer the cheapest price for one product yet a company at the other end of the country might give the best deal for

At a glance – Professional

Product	Recommended	RRP
Computer	Mega STE4	£1291.32
Monitor	Atari SM124	Supplied with Mega STE4
Hard disk		Supplied with Mega STE4
Printer	HP DeskJet 500	£358.38
Wordprocessor	Working Title Calligrapher Professional	£139
Database	Precision Software Superbase Professional	£217.35
Spreadsheet	Kuma K-Spread 4T	£159.80
Financial	Sagesoft Financial Controller	£599

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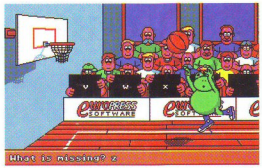


In Fun School 4, even Basketball is educational!

That's

Looking for a way to carry on your child's education at home? Daniel Whitehead looks at the pick of the crop

"But it's educational!" How many parents have been fooled into buying computers for their offspring with that immortal line? More often than not the handful of educational games that came free with the computer gather dust on the shelf while the kids indulge in another game of Lemmings, but that needn't be the case.

When it comes to education, computers are an ideal choice. It would appear that even the most tedious task becomes wonderful fun once pixelated. In many ways it's the implicit suggestion that "computers are fun" that makes this possible, and the best education packages take full advantage of this.

Ol' faithful

No mention of educational software would be complete without a doffing of the mortar board to Fun School. The Fun School series, published by Europress Software, has been going almost as long as the ST and is about to enter its fourth incarnation. Each separate chapter, be it Fun School 2, 3, or the upcoming 4 is split into three age groups with a different package for each group.

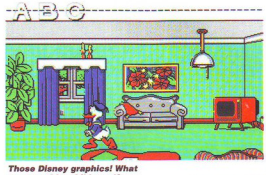
The subjects covered include basic maths, English, keyboard skills, geography, history, nursery rhymes and even computer literacy with a dinosaur database! Each program brings the subjects to life by talking to the child, rather than talking down to them.

For instance, Fun School 4 for the 5 to 7s features a game where the child must act as shopkeeper and hand out change to such colourful creations as MC Groove, and Mikey with his Walkman and baseball cap. This "keeping up with the times" approach means that learning is never stuffy or dull.

Fun School's secret is its clever blend of National Curriculum learning with animated scenes featuring the recurring characters Teddy, Freddie Frog and the new arrival, Sammy Spy. Each package takes the character through several adventures, which cunningly conceal tests and puzzles. All programs are distinguished by their colourful cartoon style graphics and humorous animations.

The educational value of the series cannot be underestimated. The gradual increase in difficulty means that no child will be left floundering, and as an incentive for good work, each program is full of great animations which are guaranteed to keep the kids glued.

If you're wondering which to buy, then you'll probably be less than glad to hear that all the packages are more than worth their weight in gold. Obviously, buying packages aimed at your child's age is a good guideline, but some thought should be given to how the child will develop onto other things. Of the series, I feel that your best bet is to get hold of a copy of Fun School 4 simply because it's the most polished of them all. Once you've done that then you can work your way back through the series to gather an invaluable collection of educational software.



Those Disney graphics! What more could a child need?

Walt's world

For many children there is nothing more magical than Disney characters, and that makes the Disney packages the perfect choice for preschool children. There are three programs, each covering different basic skills, and each starring one of the inimitable Disney funsters.

Mickey's Runaway Zoo concentrates on learning numbers, under the premise that all of the animals have escaped from the zoo, and Mickey must round them up, with the child's help, by typing in numbers that flash onscreen. This remarkably simple concept means that children can be left to play – and learn – without any assistance.

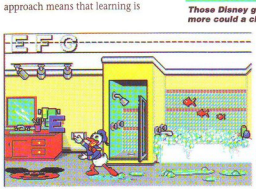
Donald's Alphabet Chase is exactly the same concept but, as you may have guessed, with letters. Donald's house has been invaded by mischievous letters who must be captured by pressing the corresponding key when they appear onscreen. Again, a simple idea means that keyboard familiarity and basic English skills can be grasped with ease.

Goofy's Railway Express relies on an even simpler idea. As Goofy drives his train through the colourful Disney countryside, shapes appear in the steam from his train. Pressing the spacebar when this happens will turn the shape into an animated object in the scenery. For example, a circle becomes a hole in a tree with a bird in it.

Magic storybook gets a well earned thumbs up from Rolf

Passengers can be picked up by pressing the spacebar when the shape in the steam matches the shape over the passengers' heads, and so other Disney characters put in guest appearances. The aim here is to encourage recognition of shapes and colours, as well as observational skills.

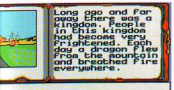
All three programs are sold separately, but as a whole present a fairly comprehensive suite for preparing the younger kiddies for school. As



Disney games allow children to help a Duck find rogue letters

Find the numbers, catch the animals from Mickey's Runaway Zoo

ducation!



Prepare to enter the Magic Storybook

you can imagine, the Disney tag means that the graphics and animation are absolutely brilliant, with Donald's Alphabet Chase featuring plenty of slapstick humour. Overall, a treat for both young eyes and old.

Magical

For a more flexible package, Soft Stuff's Magic StoryBook will offer endless hours of creative enjoyment for all ages. What the package entails is basically a collection of stories that can be brought to life by the child, and even completely rewritten.

There are five stories to experiment with, ranging from the traditional – Goldilocks and the Nativity – to the fictional fairy tales of The Angry Dragon and The Selfish Giant. Each story comes with twenty or so pages of pictures and text to be rearranged by the child.

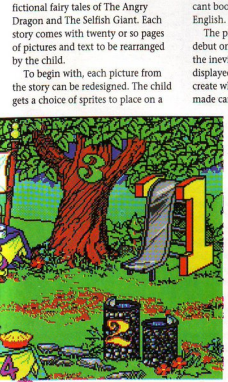
To begin with, each picture from the story can be redesigned. The child gets a choice of sprites to place on a background, to best represent the text from the story. Then the sound effects for the scene are added, and although the sounds are absolutely appalling they do add atmosphere. Parents with delicate eardrums are advised to stand well clear!

Once the cosmetics have been done, the text can be rearranged by using the same words but in a different order. Verbs, adjectives and nouns are all different colours so subconsciously, the child is absorbing an English lesson! When the child is satisfied with the revamped story he or she can rename it and watch their creation come to life, complete with animation and music.

For the more ambitious youngster, the actual graphics can be edited, allowing the child to design his or her own characters, along with the relevant animation, and the text can be rewritten rather than just restructured. This opens up a whole field of creativity and actively encourages the child to use his or her imaginations.

Once the new version of the story is complete, it can either be saved to disk for keeps or printed out to make a real book out of it. The sense of achievement at actually producing their own books will provide a significant boost to all children studying English.

The program has even had a TV debut on *Rolf's Cartoon Club* in which the inevitable bearded antipodean displayed the virtues of being able to create what are essentially home-made cartoons. With a pedigree like that, who could resist? Magic Storybook is a great investment no matter what age your child is.



Talkin' loud

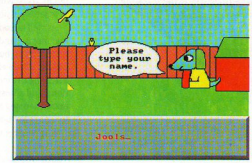
Count And Add from educational stalwarts Scetlander is a fairly simple maths program, but it stands out because of the amazing clarity of its digitised speech. OK, so maybe it's only a gimmick but anything that can grab the sprogs' attention is welcome.

Beneath the glossy and technically superb exterior lurks a handy introduction to the simple rules of maths. Initially very similar to Fun School with its menu system, each program introduces a new aspect of maths, from simple counting to some easy addition.

The parameters of the program can easily be set by parents so the program fits in with their schoolwork and the child can learn at his or her own pace. This means that there can be no confusion arising from the school using "+" and the program using "add". A wise idea, particularly in these days of the National Curriculum.

The program is introduced by Shades, a colourful cartoon dog with a digitised voice that oozes over the ears like treacle. If he wasn't in a computer program he could probably make a fortune making self hypnosis tapes! His dulcet tones congratulate the child for correct answers and lend a helping hand if he or she is having trouble. At the end of each game, the results are saved to the disk so you can monitor your child's progress over a long period.

While the variety of Fun School isn't there, the package is an excellent choice if you want to concentrate specifically on maths, perhaps if your child is having trouble getting to grips with the basics. If that's the case then Count and Add is worth a look.



Bright and colourful graphics draw children into "Count and Add"

The "Train" game introduces simple addition concepts in "Count and Add"

Where to get them

For more information on the ***Fun School*** *series contact Europress Software at:*
Europress Software Ltd
Dept STU1
Europa House Adlington Park
Macclesfield SK10 4NP
Tel 051-357 2961

Disney Software *is available at £24.99 from:*
Entertainment International
Unit 4 Stannetts
Laindon North Trade Centre
Laindon Essex SS15 6DJ
Tel 0268 541212

Magic Storybook *costs £29.95 and can be obtained from:*
SoftStuff Software
FREEPOST Tonbridge Kent
TN9 2BR
Tel 081-207 1997

Count And Add *comes courtesy of Lander Software and costs £25.99. Contact them at:*
Lander Software
Scetlander Ltd
74 Victoria Crescent Road
Glasgow G12 9JN
Tel 041-357 1659

And the rest...

The four programs mentioned here are by no means the definitive list of what's what in the education world, but they are both popular and highly rated. Don't be afraid to shop around though. There are very few poor educational programs available.

A good idea is to hunt through the PD libraries for smaller programs to test the water, and when you've found out what sort of programs go down best at home, splash out on a full price package. And remember, there's one advantage of having computer literate offspring – there's always someone to program the video!

Speaking

Whether you plan to program a shoot-'em-up or the first fourth dimensional spreadsheet you need a programming language. Marc Young helps you decide which one

It is almost certain that you have a copy of Basic for your ST. There are several different versions available, and some have been given away free with the ST. Which version you use depends largely on what type of program you want to write.

Although STOS is advertised as a Game Creator, it is actually a version of Basic. As it is aimed at the games writer, there are many commands not found in other Basics, specifically aimed at the games programmer. It also comes complete with a sprite editor, which allows you to design your own spaceships, monsters etc. and animate them with only a few lines of code.

Because of its design, STOS allows even novice programmers to produce competent games with the minimum of fuss, and there are a large number of games in the public domain written in STOS, which give a good idea of what is possible.

As well as commands for displaying, moving and animating sprites, there are also built in commands for playing sound effects and tunes, detecting the mouse or joystick positions, and a host of graphic commands ranging from drawing squares to fading the screen in and out.

It is possible to write quite serious applications in STOS, though it is at its best when used for games. It makes no use of Gem, so the environment feels somewhat like the old 8-bit Basics, as found on the Commodore 64, or Atari 800. The addition of commands such as REPEAT...UNTIL and WHILE...WEND make structured programming possible, and there is a full range of functions available. Strangely for a games-biased language, STOS works in all three screen resolutions, though the vast majority of STOS programs are in low resolution.

STOS is not a difficult language to learn, though it is quite different from other versions of Basic. The absence of Gem means that it cannot interact with other Gem applications, so desk accessories and so on are likely to be unavailable while working in STOS. STOS does, however, have its own type of accessory, which allows you to load one STOS program, and run it as an accessory. In fact this is how many of the additions to STOS work.

As well as the STOS language itself, there are a number of additions to the package which can be purchased.

Getting Serious

These include a sound sampling package (STOS Maestro), a compiler, and the soon to be released STOS 3D, which adds commands to STOS to allow true three dimensional shapes to be designed and animated within STOS programs. If you want to write games on the ST, quickly and easily, then STOS is the package for you.

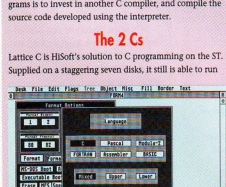
If you want to get down to some serious programming, and have

Compiling made easy

The Hisoft C interpreter is the only language of its type, and is ideal for the programmer trying out C for the first time. What it basically achieves is the ability to write C programs and run them immediately, without waiting for the often long-winded compile and link sequence. Unfortunately, there is no compilation option with the interpreter, so the only way to produce standalone programs is to invest in another C compiler, and compile the source code developed using the interpreter.

The 2 Cs

Lattice C is HiSoft's solution to C programming on the ST. Supplied on a staggering seven disks, it still is able to run



The excellent WERCS is included as part of the Lattice C package

(just) on a 520ST! The manuals are very good – the installation manual even has the words "don't panic" on the first page, so even novice users shouldn't be put off. If you are using any other of HiSoft's languages, then the editor functions will have a familiar feel to them. The language is, as near as dammit, up to ANSI standard – HiSoft simply haven't parted with the large amounts of money required to have the product officially stamped with the ANSI seal of approval.

Prospero C is another C package which is ANSI in nature, if not name! It, like Lattice, can be run from a Workbench program, which can make the compile/link/run cycle almost – not quite, but almost – a pleasure. In several tests it appears to compile a great deal more slowly then Lattice, and produces code which runs at a slightly slower pace. It is difficult to be exact on such comparisons, because of the different optimisation abilities, different libraries etc.

In a straight head-to-head, with hard cash not being taken into account, I would plump for Lattice, which comes with extras such as the excellent WERCS resource editor. If cash is tight – and when isn't it? – Prospero C could well be the better buy, especially if you are developing smaller applications.

Assembly language

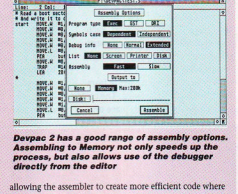
Although there are other Assembler systems available for the ST, there is one which stands head and shoulders above the rest, and that is HiSoft's DevpacST. The package comes as a complete system, comprising an integrated editor/assembler, a debugger and a linker. Standalone versions are also provided for those who shun Gem and prefer the world of the command line interpreter.

The debugger can be loaded into memory together with the editor/assembler, and programs may be assembled directly to memory, and then run either directly or via the debugger. Labels used in the source – which are allowed to be longer than the standard – are available within the debugger, and if required the original source can be viewed while still debugging, giving access to comments too!

The whole debugger is controlled by simple key presses, rather than the use of a command line, and will even run in medium resolution while the program being developed changes to low resolution.

The assembler itself is fast, and has a number of pseudo-instructions and options to make program development more of a pleasure. Macros are supported, complete with complex parameter passing, and conditional assembly is available with IF-ELSEIF-ENDC constructs, allowing simple inclusion/exclusion of routines during development.

Optimisation can be switched on at various levels,



Devpac 2 has a good range of assembly options. Assembling to Memory not only speeds up the process, but also allows use of the debugger directly from the editor

allowing the assembler to create more efficient code where possible. The assembler will produce executable code, GST linkable code or DRI linkable code, depending on your preferences. The linker provided, however, only links GST format files.

The editor, though quite powerful and certainly fast enough, is let down by only being able to edit one file at a time. This can be especially frustrating for the programmer where a routine may be required which is in another piece of source code. HiSoft have been listening to their users, though, and DevPacST version 3 will sport their new multi-window editor, capable of simultaneously editing six files. This new editor is also to form the basis of HiSoft Basic V2, which should be available by the time you read this, and Lattice C.

```
' GFA Cross Ref. Utility by Jim Hutchinson (Version 2.0)
' (C) Copyright Level Basic Limited 1990
'
REM $
FOR a=1 TO LEN(clumeword$)
  clumletter$(a)=MID$(clumeword$,a,1)
NEXT a
FOR a=1 TO LEN(noomeword$)
  noomletter$=""
  FOR b=1 TO LEN(clumeword$)
    IF clumletter$(b)=noomletter$(a)
      clumletter$(b)="*"
      noomletter$(a)="*"
    ENDIF
    noomclumword$=noomclumword$+clumletter$(b)
  NEXT b
NEXT a
PRINT
PRINT "Noomclumword$ = ";noomclumword$
RETURN
$EN ########
PROCEDURE perm(ff$,g%)
LOCAL j%
IF f%=g%
  noomclumword$=w$
  complete
```

The GFA Basic environment does without Gem, but manages to remain user friendly

decided that Basic is the language for you, then GFA Basic is possibly your best choice. It is a language which is very well supported on the ST, and many utilities and applications can be found which have been written using it.

GFA Basic has been around for some time, and is still available in a number of different versions. Version 2 can be found at public domain prices (though it is not public domain) from a number of PD Libraries. If you are considering using GFA Basic, it is well worth while obtaining a copy before buying the latest version.

GFA does not use Gem windows and the like, which can make it a little awkward for users who have grown up with the ST, however it is easy enough to get into and is a very powerful language. It is very fast as an interpreted language, and a compiler is available so your programs can be made completely standalone.

A full range of variable types is supported, including boolean, byte, word, integer, floating point and string. A clever – though potentially very confusing – option is for the user to decide how to define the different types of variable. In most versions of Basic, the variable A% would be an integer. This is the default for GFA, but can be overridden so that, for example, all variables prefixed by "int" become integers.

An extraordinary range of functions and commands are detailed in the 500-page manual. Unfortunately no help is given to the first time Basic user, so GFA can be a little confusing. There are, however, a number of tutorials available in the public domain. There is even a GFA user magazine.

Access is given via GFA Basic commands to all the functions required for writing complete Gem applications. For example the commands WIND_CREATE, WIND_OPEN, WIND_CLOSE are used to create Gem windows on the screen.

Unfortunately the manual lists only the syntax of each of the commands, so you must rely either on other Gem documentation or other GFA source code to provide you with the information on how to put the commands to use.

Overall GFA is definitely the Basic for serious programmers. Being interpretive, program development can be swift and (relatively) painless.

The compiler available allows the creation of standalone programs, and the large number of GFA programmers on the ST means that the language will be around for a long time to come.

your language

Which language?

There are many programming languages available for the ST, but which one is right for you?

Basic

Basic is an ideal language for the beginner, as it is fairly easy to understand, and quick to show results, with no Edit-Compile-Link-Run sequence to slow down productivity. Basic has come along way since its early days on eight bit machines. Many facilities associated with more "professional" languages are incorporated, such as CASE, REPEAT-UNTIL, WHILE-WEND and so on. Also most Basics on the ST have compilers either available or built in, so standalone programs are readily produced.

C

C was developed as a language for writing systems programs, such as operating systems, or program compilers. As such it allows a great deal of control over the system on which it is running, giving direct access to memory and registers where required.

The main disadvantage of C is its lack of readability. As with any language, careful use of variable names and lots of comments help reduce the confusion, but for beginners the learning curve can be both long and steep!

The advantages C has over other languages are its portability – C is a very standard language, so programs written on one system will often work on another with very few changes – and its widespread use in the "real world". Many commercial systems are written in C, even though it was never designed to be an applications language.

Assembly language

An assembler is, by its very nature, specific to the processor for which it is written. There is a great deal of confusion over the terms assembler, assembly language and machine code. Simply, an assembler takes mnemonic representations of instructions – assembly language – and produces machine code which can be understood by the processor.

Thus MOVE #65,D0 is an assembly language instruction which will be interpreted by the compiler, and turned into the six bytes "$203C00000041". When the 68000 processor encounters this string of six bytes, it loads the value 65 into register D0.

The advantage of assembly language over any other language is its direct representation of the processor instructions. While it is possible that an excellent compiler can produce very fast programs, an assembler will nearly always be better – assuming the programmer knows his onions. Also, a machine code program will have access to every function of which the processor is capable, whereas compiled or interpreted languages may not use the best feature for every job.

The disadvantage of assembly language is that it can take an awful lot of instructions to produce anything at all.

Nothing is done for you, there is no "structure" built in – you must program it all yourself. Also, assemblers vary tremendously from processor to processor. So, for example, on the 6502 – present in the BBC, Commodore 64, Atari 800 etc, the assembler mnemonic "LDX #65" means LoaD the X register with the number 65. Compare that to the 68000 equivalent MOVE.B #65,D0 meaning MOVE the Byte value 65 to the register D0.

Other languages

There are probably as many other languages as there are different types of computer! Available for the ST are versions of COBOL, Pascal, Forth and Fortran, as well as the perhaps less well known Prolog, ST Icon, Modula-2 and Logo.

The competition

HiSoft Basic 2, which should be available by the time you read this, looks like being a strong contender in the Basic stakes. With FirST Basic having been bundled with the ST for some time, many users will be familiar with the language, as FirST Basic is a cut-down version of HiSoft Basic.

Version two is greatly improved, sporting the new multi-window editor and a host of extra features, including a low-level debugger, WERCS, the resource construction program, and the ability to link programs with Lattice C or Devpac programs.

One major advantage over other Basics is that HiSoft Basic always compiles the program before running. This is generally not noticed as the compilation occurs direct to memory, and is exceedingly fast.

When it comes to games development, there are a number of other packages available for the ST, though none with the flexibility of STOS. In Europe, Omikron Basic has an add-on games writing module, but this is not yet available in the UK. Other game generators, such as the Shoot-'Em-Up Construction Kit (SEUCK), and the ST Adventure Creator cannot really be classed as programming languages.

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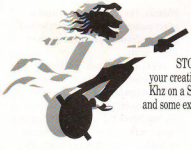

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ST User BEST BUYS

Documents by design

DTP packages can give you the ability to produce professional quality artwork and documents easily, as Marc Young finds out

One of the mistakes many first time users of desktop publishing packages make is using a DTP package in the first place! If you are going to produce manuals, leaflets, newsletters and so on in reasonable quantities, then DTP is an invaluable tool.

If, however, you just want to add a little zing to your letters, then maybe you should be looking towards a document processor or wordprocessor rather than a full DTP package. In this article, however, we will be looking only at DTP packages.

Starting out

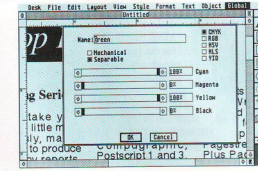
Timeworks DTP is the most widely used DTP package on the ST. There is even a book available, *Timeworks Desktop Publisher User Guide*, from the ST Club, to help you if you get stuck. Timeworks is certainly not the most comprehensive DTP software, though it will fill the needs of most casual users admirably.

Timeworks makes use of Gdos fonts, a number of which are supplied, and many of which are available from the public domain. The major problem in using Gdos fonts is their lack of flexibility. Not only must each font be held as a separate file, but also each point size. This can lead to a very crowded fonts folder.

Timeworks has the ability to import not only straight Ascii text, but also text from 1st Word Plus, among others. It also allows you to set paragraph styles from within the text, which will have the appropriate style applied on importing.

An example would be that if you create your text in 1stWord+, placing <Headline> in front of some text will apply the style named Headline to the imported text following.

The concept of paragraph styles is very important to Timeworks, and is also a very simple, and logical, way to work. Styles can be created and named by the user, so you could have one called Body Text, one called Caption and so on. Each style has alignment (justified, centred etc) text style (font, point size) spacing and other characteristics associated with it. Once created the style can be applied to any piece of text.



The ability to use colour puts PageStream streets ahead of the opposition. Here a colour is created using the Cyan, Magenta, Yellow, blacK method, though several other forms are available, RGB being most familiar to ST users

Another concept at the heart of Timeworks DTP is the Browser. The Browser can be thought of almost as a RAM disk. When you want to import text into a document, the text is loaded into the Browser, which appears to the left of the screen. Importing five different pieces of text will display five filenames in the Browser. When you want to place the text on the page, the relevant item is selected not from disk, but from the Browser. The Browser is also used to select paragraph styles, text styles and graphics drawing primitives such as line, box etc.

There are four main working modes used in Timeworks – Frame, Text, Paragraph and Graphics. Each is selected by means of a small icon to the top left of the screen. This simple layout makes Timeworks very simple to begin to use without constant references to the manual. Keyboard short cuts are provided for most options, and are, within reason, fairly logical and easy to remember.

The print quality is fairly good, as

Fonts fonts fonts

A font (which should be spelled fount, unless you are going to baptise someone in it or you are American) is a particular style and size of text. Because of the way many DTP packages work, it has increasingly come to refer only to the style of type, and not the size.

Gdos, which is a part of Gem used to handle font and graphic output, and must be loaded from disk, uses bitmapped fonts. In keeping with the true meaning of the word, Gdos requires one file of fonts for every style and size, and also requires separate copies for screen and printer fonts. This limitation can become quite serious on smaller memory machines, or when running from floppy disk.

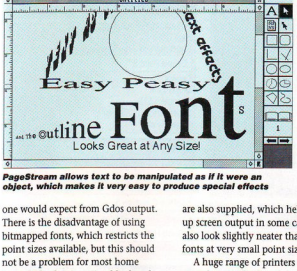
A bitmapped font is made up of a rectangle of pixels, each either on or off. Obviously, the larger the font size, the bigger the rectangle, so the more memory is required for each character. For example, for a character one inch square, such as may be used for banner headlines, created for a printer with a resolution of 300 dpi (dots per inch) the memory requirement is a staggering 11K per character.

Luckily most characters are not square, so there is a saving in the character being thinner than it is tall, and also screen fonts have a much lower resolution.

Many DTP programs use outline, or vector fonts. In this case the characters are made up from mathematical descriptions describing straight lines and curves. In this way not only are the memory requirements reduced, but also the font resolution can be scaled up or down at will, so only one font file is required for any size of text. Outline fonts will, in general, provide the best resolution possible – assuming the program has been written correctly – for a given device.

Of course, there are drawbacks. Vector fonts take longer to output than bitmapped fonts, as a number of calculations are required. Also, on the ST more than some other computers, there is no "standard" outline font format. With bitmapped fonts the standard is Gdos, which is a part of Gem.

Unfortunately there is not (at least, not yet...) a standard ST outline font system. Different packages therefore use different systems, which mean that fonts designed for one package will almost certainly not work with another. Atari are working on FSM-Gdos, which will allow the ST to use outline fonts, working in a similar way to the currently available Gdos.



PageStream allows text to be manipulated as if it were an object, which makes it very easy to produce special effects

one would expect from Gdos output. There is the disadvantage of using bitmapped fonts, which restricts the point sizes available, but this should not be a problem for most home users. Indeed, it is noticeable that the more experienced a DTP user, the fewer fonts he or she will use, which tends to create output which is more pleasing to the eye.

Although it is possible to print direct to a Postscript Printer from Timeworks, it is not possible to write a Postscript file to disk. This means that it is not realistically possible to use Timeworks to produce copy for printing by a bureau on a Postscript device, unless – and this is unlikely – the bureau has an ST with Timeworks connected to a Postscript printer.

If you are on a tight budget, but want a competent product, then Timeworks could be your best bet.

Getting serious

If you take your DTP a little more seriously, maybe using it to produce company reports, advertisements, manuals and so on, then PageStream could be the ideal software for you. Version two has recently been released, and PageStream is now among the best DTP you can get for your ST.

Although PageStream will run on a 1Mb ST with only one double sided disk drive, the minimum realistic setup for this type of program is two floppy drives. In reality, as the software is aimed at the more serious user, I anticipate that there will be few users using floppy-only systems. To give some idea, my hard disk partition containing PageStream runs at a little over 2.5Mb, excluding documents other than those supplied with the package.

PageStream has the ability to use a number of different types of font, including AGFA Compugraphic, Postscript 1 and 3, and Soft Logik's own proprietary font system. All these fonts are outline, or vector fonts, which allow the output quality to be limited by the device, rather than the font. Some bitmapped fonts are also supplied, which help speed up screen output in some cases, and also look slightly neater than outline fonts at very small point sizes.

A huge range of printers are supported as standard, each being provided as a printer driver file, which can be loaded at any time. This means that there is no

Postscript

Postscript is actually a language, developed by Adobe Systems, for instructing a printer how to output both text and graphics. The language itself is interpretive, so instructions are English-like and are interpreted by the Postscript printer. Unfortunately this means the file size can be huge. As an example, a simple A4 page containing the words "This is a test" in one font, in black, takes over 12K!

This file size makes a hard disk more or less a prerequisite when using Postscript, and can lead to problems when using a bureau for printing, as files may often be larger than a floppy disk will hold.

Another potential problem with Postscript printing is the use of fonts which are not in-built in the printer. Fonts not present in the printer must be downloaded to the printer's RAM. This can not only be time consuming, but can also soon fill the available RAM of the printer, and of course takes up disk space.

problem if you have access to a number of printers.

Output to Postscript printers is possible, either directly or via a bureau by printing to disk. If your Postscript printer supports the Apple LaserWriter Plus standard 35 internal fonts, then an optional PageStream Fonts Plus Pack can be purchased. This pack contains screen font equivalents of all 35 fonts, so that your screen output accurately matches the printed result.

For users whose Postscript printers have limited memory, there is an Unload Font option. This unloads the previously downloaded font before downloading the next. As downloading is handled automatically, there is also no need to manually download fonts before printing.

For DTP users whose budget doesn't stretch to Postscript printing, you will be pleased to hear that the output achieved on other printers is excellent. Even a humble Epson nine pin printer can produce acceptable results – albeit slowly! When printing, each driver displays the full range of print densities supported, so quick test prints can be performed using a lowerprint density.

PageStream supports full colour printing, although on the ST the colours cannot be mimicked on screen. Colour pages can be printed to a colour printer, to a mono printer using greyscale dithering, using four colour separation for full colour printing, or as mechanical separation for spot colour or extended colour printing.

Within a document, colours can be selected by name, with each colour able to be redefined or created as necessary by the user. Methods available for defining colours include CMYK, RGB, HSV, HLS/HSB and even YIQ, normally used in broadcasting. Pantone colours are indirectly supported, by either using the equivalent CMYK or, by adding them to the available palette by importing an Encapsulated Postscript file containing Pantone colours.

As well as the printer drivers, all importing and exporting of text and graphics is performed using modules. This allows for future expansion by simply adding a new module. Supported as standard are IMG, IFF, TIFF, MacPaint, GIF, DEGAS, PCX, NEO and TNY bitmap graphics, Gem, DR2D, AEGIS and ProDraw object graphics, EPS, MACEPS, IBMEPS Postscript files, Ascii, Word Perfect, 1stWord, ProWrite, Excellence, IFF FTXT and REDIGER text formats!

As with any package, the software is only part of the story. As important is the manual accompanying it. There is little point in having a multitude of features if you can't find how to use them in the manual.

The PageStream manual is superb. In fact two manuals are provided – a QuickStart manual, which takes you through a number of tutorials using text and graphics supplied on disk, and the User Manual, which explains each of the functions in detail.

The Tutorials get you used to the software quickly and painlessly, explaining every move to be made, and showing examples of the results to be expected. The User manual is laid out logically, starting with the basics, including explanations of typography and page composition. Next come chapters on working with text, working with graphics, working with elements, page layout, printing, working in colour and finally using PageStream, which covers the program defaults, font management and so on.

Appendices are provided including a glossary, a list of the numerous keyboard equivalents, special characters and finally a print of font samples. The index is full and easy to use, which is most important with a product of this nature.

Top of the tree?

For some time it has been almost an unwritten law that the best piece of software available on the ST is Calamus. When it was released reviews were unanimous – this was serious ST software at its best. Even selling at very high prices, it has remained popular. The imminent – and it's been imminent for months – release of Calamus SL, the colour version, could keep Calamus at the top of the tree, but at present it is overshadowed by PageStream and the popular Fleet Street Publisher v3.

One great advantage Calamus does have over other DTP packages is its speed. Screen redraws are fast enough to allow typing direct to page for most "amateur" typists, and its use of its own outline font system makes both the screen display and the final output to printer of a very high quality.

One criticism of Calamus is its complexity. There are simply so many icons on the screen, it is difficult to know where to start! The learning of a new DTP packages is often a difficult process, and it seems that Calamus can take longer to master than others.

Another potential problem with Calamus is its lack of compatibility. It uses its own vector system, which means utilities and extra fonts may be less widely available, and it also has no ability to output Postscript, which may be a problem for users of print bureaux.

```
e
0 0 19772 72371 setscl
Mk
11314 73871 MT
28238 73871 LT
28238 70871 LT
11314 70871 LT
CM
10000 SHADE
(Times-Roman) 3000 3000 0 setfp
(T) 1825 11314 71448 p
(h) 1491 r
(i) 830 r
(s) 1161 r
( ) 718 r
(i) 830 r
(s) 1161 r
( ) 718 r
(a) 1326 r
( ) 718 r
(T) 1825 r
(e) 1326 r
(s) 1161 r
(t) 830 r
Shore>
```

Part of the 12K Postscript file required to print "This is a test"

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COVERDISK

Yet another CoverDisk crammed full of some of the best software around – great games, the ultimate in utilities and truly devastating demos. Read on!

USING THE COVERDISK

In order to cram as much as possible onto the CoverDisk, some of the programs have been archived. To help you identify these programs, they have all been named X_???????.TOS where the question marks may be any letters or numbers. For example X_PROFLI.TOS is the archived demo of Proflight. To extract and run the programs archived in this manner, simply copy the file (X_PROFLI.TOS for example) to a blank, formatted disk, and then run the program (by double clicking on X_PROFLI.TOS in our example). The files will then be displayed onscreen as they are extracted.

SIDE ONE

PROFLIGHT

Flight simulator buffs are in for a rare treat with this fully flyable demo of HiSoft's ProFlight – exclusive to *ST User*.

INSIDE THE STE

STE owners following the magazine series will be amazed as Adam Greenwood uses the Blitter chip to fling multiple sprites round the screen at 50Hz.

BUTTON FIX

Owners of STs with TOS 1.4 may have noticed an annoying habit which the mouse has adopted. Being an impatient rodent, he occasionally substitutes two clicks for one! This program will rap your mouse over the knuckles to stop his antics.

STOS MANUAL

No more flicking through your STOS manual to find the syntax of that obscure command – this online STOS manual not only shows you the syntax, it gives you a demonstration too.

PHRAQTAL

There are a number of programs on the ST which display the Mandlebrot Set, or Julia Sets, or Fractal Landscapes. This program not only does all three, but does so at an unbelievable speed.

LIFE

Don't talk to me about life! No, it's nothing to do with Marvin the Paranoid Android, but two programs which simulate simple animal evolution. A version of the classic Life, and Bugs, where different species battle it out over several generations, with you as the genetic engineer!

SIDE TWO

AUTOLOAD

There have been a number of programs written to aid the ***ST User*** when booting his computer. None is more useful than AutoLoad – a fully functioning, fantastically featured, fandabedozie (it's Friday, it's five to five...) booting bonanza!

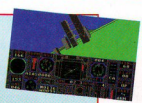
FCHECK v3

Although there are a plethora of virus killers on the market, few manage to keep you safe against the threat of a link virus. Fcheck v3 does just that, keeping a permanent check on your most treasured files, and warning you of any tampering.

PROTEXT v5.5

Protext has always been the programmer's favourite wordprocessor. This Demo of v5.5 should give you a good idea why! The demo is fully working, but you are limited to small documents, and the dictionary has been removed.

PROFLIGHT



Configuration: All STs, low or high resolution
Filenames:
PROFLITE – Folder
X_PROFLI.TOS – Automatic de-archiving program
READ.ME – Instructions on de-archiving

Running Proflight

Proflight comprises several files which have been compressed into one "archive" program. This program (X_PROFLI.TOS) must be copied to a blank, formatted disk before being run. Full instructions for de-archiving are above under the heading Using the CoverDisk.

Once all the files are de-archived onto a disk, set your ST to either low or high resolution and double click on either PROFLIHI.PRG – for mono monitors – or PROFLILO.PRG – for colour monitors.

This version is restricted in the following ways. The scenery is reduced – fly far enough in one direction and there will be no features. There is no autopilot, and no landings are allowed.

There is no combat allowed, except in training mode, and finally, you are restricted to about five minutes' worth of fuel.

There are far too many options in ProFlight for us to give details here. The best bet is to watch the demo, which takes you through some of them.

LIFE

Configuration: All STs, medium resolution, colour or mono
Filenames:
Folder: LIFE\LIFE
LIFE.PRG – The game of Life

Note: Life is contained in the self-extracting archive X_LIFE.TOS in the folder LIFE on side one of the disk. This should be copied to a blank, formatted disk before being run, and will extract the files detailed below.

Running Life

Life can be run directly from the CoverDisk by simply opening the folder and double clicking on LIFE.PRG. Instructions can be read by clicking on the button marked Info.

Life is an excellent implementation of the classic game of Life which is available on almost every computer ever built! Three examples of classic patterns are included, as is a random option. Alternatively, you can design your own patterns to see how they survive.

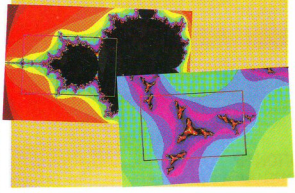
PHRAQTAL

Configuration: All STs, low resolution only
Filenames:
PHRAQTAL – Folder
PHRAQTAL.PRG – The PHRAQTAL program

Running PHRAQTAL

Mandlebrot, Julia and Fractal landscapes are all generated and displayed by this program which is the fastest we've ever seen on the ST.

Running the program is simply a matter of double clicking on the PHRAQTAL.PRG program. Full instructions are contained in the program itself, and are displayed when it is run.



BUTTON FIX

Configuration: All STs, TOS 1.4
Filenames:
BUTTON.FIX – Folder
BUTTNFIX.ACC – The program itself
BUTTNFIX.DOC – The program documentation

Running Button Fix

Button Fix is a fix program for TOS 1.4 users who have experienced their ST registering two clicks instead of one. As with all desk accessories, it must be placed in the root directory of your boot disk in order for the system to load it.

To try out the program, copy BUTTNFIX.ACC to a blank, formatted disk, put that disk in drive A and reboot the ST. The program should now be loaded, and will be accessible by dropping down the desk accessory menu on the top left of your desktop.

Button Fix corrects a problem experienced by some people after upgrading to TOS 1.4. Sometimes the ST seems to register two mouse button clicks instead of just one. This desk accessory fixes the problem on most machines, with the slight disadvantage of slowing the mouse response slightly.

For full details, read the BUTTNFIX.DOC file by double clicking on it, then selecting SHOW ROM from the alert box which appears.

BUGS

Configuration: All STs, low resolution, colour only
Filenames:
Folder: DEFAULT\BUGS
BUGS.BAS – GFA Basic source code for Bugs
BUGS.PRG – The program itself
BUGS.DOC – Instructions on running the program

Note: Bugs is contained in the self-extracting archive X_LIFE.TOS in the folder LIFE on side one of the disk.

This should be copied to a blank, formatted disk before being run, and will extract the files detailed below. See page 37 for details on self-extracting archives.

Running Bugs

Bugs can be run directly from the CoverDisk by simply opening the folder and double clicking on BUGS.PRG.

If you have GFA Basic, then you can load in the Bugs.BAS file, and run it from there as normal.

For instructions on using the program, double click on the file BUGS.DOC, and select Show from the Alert box which appears.

INSIDE THE STE

Configuration: STEs only, low resolution only
Filenames:
INSIDE.STE – Folder
BLIT_A.TOS – Example program A
BLIT_B.TOS – Example program B
BLIT_A.S – Assembler source code for BLIT_A
BLIT_B.S – Assembler source code for BLIT_B
BLIT.PI1 - Picture file used by the demo programs
SPRITES.PI1 – Sprites used by the demo programs

Running Inside the STE

The programs accompanying the *Inside the STE* series in the magazine. The two programs can be run directly from the CoverDisk.

Some readers may have noticed that some of the programs included on the CoverDisk for this series would not run properly if assembled to memory straight from the CoverDisk.

This is not a fault in the programs, and is easily avoided using the following guidelines:

– When assembling to memory, any filename should include the full pathname of the file.

– When assembling to disk, any filename should include the path relative to where the assembled program will be – usually this will be just the filename if file and program are in the same folder.

– If the source code and accompanying files are copied to the root directory of a disk then there will be no problem.

PROTEXT v5.5

Configuration: All STs, medium resolution colour or mono. 1Mb required
Filenames:
Folder: SIDE2\PROTEXT
X_PROTEX.TOS – The self-extracting archive program
READ.ME – Instructions for de-archiving the program

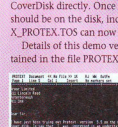
Running Protext

Please note that X_PROTEXT.TOS can only be extracted onto an extended format disk (ie formatted with at least 80 tracks of 10 sectors). To format such a disk, use the program FORMAT.PRC, in the PROTEXT folder. Don't forget to remove your cover disk and put a blank disk in the drive before starting the format! Once correctly formatted, copy the X_PROTEXT.TOS program to the freshly formatted disk, then double click on it. FORMAT.PRG and FORMAT.RSC is not required to run Protext, and is only provided to enable you to format a disk with the correct capacity. Single sided disk drive owners will be unable to use the Protext demo. The program and data for Protext have been archived to fit on the CoverDisk. To de-archive the files, copy X_PROTEX.TOS on to a blank, double sided, formatted disk, then double click on it.

Full de-archiving instructions are contained in the disk pages.

This program must not be run from the CoverDisk directly. Once de-archived, 16 files should be on the disk, including X_PROTEX.TOS. X_PROTEX.TOS can now be deleted.

Details of this demo version of Protext are contained in the file PROTEXT.DOC. To read the file,



Protext is the favourite wordprocessor of many ST users. Now you can find out just how good it is for yourself!

simply double click on its icon, then select Show from the Alert box which appears. To run the program, make sure your ST is in either high resolution or medium resolution colour, and double click on PROTEXT.PRG.

The version of Protext supplied on the CoverDisk is fully functional except that it is limited in the size of document which can be handled. Full details of the functions available in the full release are contained in the PROTEXT.DOC file.

There is not enough space here to give instructions for using Protext – the manual is 380 pages! – so here are some guidelines to get you started.

Pressing the right mouse button will produce drop down menus at the top of the screen which can be accessed in a similar way to standard Gem menus. The underlined letter can be pressed while the menu is showing to select the required function.

Pressing the Help key will show a list of help texts available.

Pressing the Esc key toggles between Command mode (denoted by the >> prompt) and Edit mode. In Command mode, commands such as Load must be typed without recourse to the drop down menus.

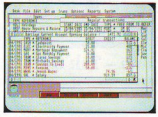
To read the documentation while using Protext, get into Command mode, by pressing the Esc key if necessary, then type in TYPE PROTEXT.DOC.

Home Accounts 2

the best gets better...

When Home Accounts was launched four years ago we had just one goal—to create the best home finance program. Over 30,000 of you agreed with us and purchased Home Accounts, not only for use in the home, but also for business, clubs and charities.

It seemed like a good idea to let you tell us exactly what to put into Home Accounts2®



Which you did.

Some of you didn't like the restriction on the number of income accounts, expenditure types, and transactions. So we removed them.

Some of you wanted more graphics so we added pie charts, scatter and line graphs. We thought we'd better smarten up the bar graphs, so we added 3D effects, stacking and overlaying, and we made sure you can print them.

Many of you wanted to calculate mortgage rate changes, loan repayments, retirement planning and so on. So we added a pop-up calculator and interest calculator. There's also an option to take account of inflation.

Since nearly half of you use Home Accounts for small business bookkeeping, we added options for VAT and business style reports.

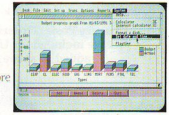
Then, our technical people added a little . . .

Investment accounts, net worth statement, password, cheque numbering, custom reports, flexible year period. And (to save you disturbing them on our free support hotline), an on-line help system, should you need it.

They also added our innovative *Human Interface Protocol*™. Which, as you can see, sets a new standard in speed, style and elegance for the desktop. (It also contains a screen saver, *Playtime* games and a few other goodies.)

Commands are logically grouped under a series of pull-down menus, accessible either by the mouse or keyboard.

Home Accounts2 is written in the UK by Digita® Which means you'll be using a program designed for the way British finances work, and you'll know where to come for professional support.



The only way you can really appreciate Home Accounts2 is to use it. Phone 0395 270273 for more information or, write to Digita, FREEPOST, Exmouth EX8 2YZ.

Home Accounts2 costs £54.99, which includes VAT, postage and packing. If you already own a home finance program and purchase Home Accounts2 direct from Digita, you can save £25 by returning your original program disks with your order.

As it turned out, listening to Home Accounts users was a pretty good way to write software. The best just got better.

Machine support
Requires ½ MB of memory and double-sided disk drive
Supports: Mono and colour ST, STe, Mega, TT.

DIGITA® INTERNATIONAL

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Digita International Ltd Black Horse House Exmouth EX8 1JL ENGLAND Tel: 0395 270273 Fax: 0395 268893

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STOS ON-LINE MANUAL

Configuration: All STs, low resolution only
Filenames:
STOS.MAN – Folder
PART_1.TOS – An executable version of the program for non-STOS owners
PART_1.ACB – A STOS accessory version for STOS owners
PART_1.MBS – Data file required by both versions of the program

Running the STOS On-Line Manual

With its huge number of commands and functions, it can be difficult to remember the syntax of every command available. The On-Line STOS Manual will not only show you the syntax of the commands, but in many cases will show a working program example.

STOS owners can simply load the accessory version in the normal way, then execute the program from within STOS. If you don't own STOS, simply double click on the file PART_1.PRG.

When the program is loaded, the screen will show five boxes, each containing an icon representing a range of commands available in STOS. Clicking the mouse on one of these will enter a sub-screen covering that range of commands.

The commands within a sub-screen are available as drop down menus. Simply point and select the command which interests you, and the screen will display some text describing that command. An Exit button is displayed to return to the sub-screen, and the right mouse button will exit from there. If a demo of the command is available, this will be shown by a button labelled – you guessed it – Demo.

As you may guess from the file name of PART_1, this program contains only a part of the full STOS command set. Further programs will be appearing on future CoverDisks which cover the remaining commands, so watch this space!

Some readers may have experienced a problem running the two STOS programs on the October issue CoverDisk. Only owners of STEs with TOS1.62 will have experienced this problem, which causes the program to freeze.

If you are one of the frustrated few, bung a formatted disk in an envelope, include an sae, and send it to *I've got TOS1.62 and I can't use it, Atari ST User, Europa House, Adlington Park, Macclesfield SK10 4NP* and we'll send you a working version of both programs.

Link Virus Detector

Configuration: All STs, colour or mono
Filenames:
Folder: FCHECK3
READ.ME – A list of program updates
FCHECK25.PRG – The file checker program
FLIST37.PRG – The configuration program
LISTCHK2.TXT – The program documentation
FILELIST.LIS – An example file list

Running the Link Virus Detector

A program which automatically keeps an eye on your programs to help prevent an attack by a link virus. The program FLIST37.PRG must be run first, to create a list of files for FCHECK25.PRG to check. FCHECK25.PRG can be run manually by double clicking, or by placing it in the AUTO folder of your boot disk.

The Link Virus Detector comprises two programs. The first (FLIST37.PRG) must be run first to create a file FILELIST.LIS. This file will contain a list of all the files which you want to be checked. The program will check the current length of the file, and then create a checksum. Once this file is created it should be placed in the same folder as FCHECK25.PRG (or in the root directory if FCHECK25.PRG is in the AUTO folder).

Now when FCHECK25 is run – either manually or on booting – it will check the files listed, and let you know if the length or checksum of any has changed. This should provide a good warning of a link virus on the loose.

It should be remembered that, if a program is upgraded, its length and checksum will also change. In this event, the list file should be updated to reflect the latest version of the program.

```
AutoLoader 1.04

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Hold the RIGHT SHIFT key down on bootup
to interrupt loading system software.

Loading  C:\TOS1_4.PRG

Loading  C:\SYSTEM\ICDTIME.PRG
ICD ST Clock Driver v1
```

In action, the Autoloader program keeps you informed about what it is doing

AUTOLOAD

Configuration: All STs, colour or mono
Filenames:
Folder: SIDE2\AUTOLOAD
X_AUTO.TOS – The self-extracting archive program
READ.ME – Instructions for de-archiving the program

Running AutoLoad

The program and data for AutoLoad have been archived to fit on the CoverDisk. To de-archive the files, copy X_AUTO.TOS onto a blank, formatted disk, then double click on it. Full de-archiving instructions are contained in the disk pages. Please note that this program should not be run from the CoverDisk directly.

Once you have extracted all of the files to the root directory of a blank disk, then you can boot with your hard drive – if any – switched off, and the disk in drive A, to see AutoLoad in action.

AutoLoad will have to be configured to your individual requirements to be effective. Read the documentation in AUTOLOAD.DOC by double clicking on AUTOLOAD.DOC, and selecting Show from the resulting alert box.

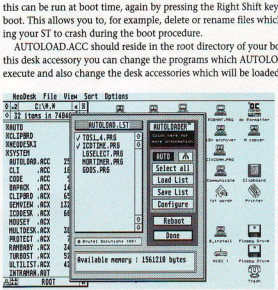
For full details of running AutoLoad, please see the documentation on disk.

AUTOLOAD.PRG should be placed in the AUTO folder of your boot disk or partition, together with a file AUTOLOAD.LST. AUTLOAD.LST is read on booting by AUTOLOAD.PRG, and the programs listed in the file are executed. Thus only one program need reside in your AUTO folder – the other programs can be anywhere.

A number of programs in the AUTOLOAD.LST file can be "marked". By pressing the Right Shift key while booting, you may select that AutoLoad only executes the marked programs. Thus a minimum configuration can be decided upon, and accessed simply at boot time.

A CLI (Command Line Interpreter) program can be defined to AutoLoad, and this can be run at boot time, again by pressing the Right Shift key during the boot. This allows you to, for example, delete or rename files which may be causing your ST to crash during the boot procedure.

AUTOLOAD.ACC should reside in the root directory of your boot disk. Using this desk accessory you can change the programs which AUTOLOAD.PRG will execute and also change the desk accessories which will be loaded.



The AutoLoad desk accessory makes configuration a simple process for your own system

stereo MASTER

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AMIGA &
ATARI ST/STE

stereo MASTER

When you are considering purchasing a sound sampler there are several to choose from. Why compromise? Your choice should be the new full featured STEREO MASTER for the Atari ST range of computers. The package that gives you more extras than a M series BMW. By purchasing this state of the art product, which combines a quality sampler with the expertise of over ten years of software programming, you are purchasing a top quality product in the knowledge that it is not only compatible with existing Microdeal products but will also be with future ones.

What is Stereo Master?

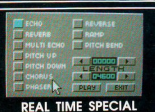
Stereo Master is a low cost, high quality sound sampler for the Atari range of computers. The sampler cartridge enclosed in the package plugs into the ROM port at the side of the computer and allows you to analyze the sounds, coming in, change the way they sound using realtime special effects or record them from devices such as personal cassette players, Compact disc players etc. Once in the computer STEREO MASTERs unique editor will enable you to edit the sound in practically any way you can imagine. Once you have the sound sample how you want it, you may incorporate it into other programs such as Quartet or play it using routines supplied for many of the commonly available BASIC's.

THE MAIN EDITOR SCREEN

The Sampling Software

Includes many features you would expect to find in a professional editing suite;

- Realtime playback ghost cursor marker
- Cut or Delete selected sample area
- Mix sample with full or half volume
- Shrink by 33%/50% by drag or wipe
- Fade in/out with selectable degree of fade
- Filter sample with hard/soft filter
- Full editting and control facility for Left/right channels
- Hifi Stereo playback option through PLAYBACK cartridge
- Record Frequency from 3.0 to 27.9 Khz in ST mode
- Record Frequency 6.25, 12.5 and 25K in STE mode
- Bounce sample
- Decrease Volume
- Increase volume
- Trigger recording
- Loop sample
- STE Volume,Bass & Trebie control
- Clear Left/Right samples
- Selectable trigger volumes
- Paste sample (using buffer)

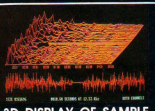


REAL TIME SPECIAL EFFECTS MENU

The Special Effects Software

For the first time ever you can emulate sound effects in real time, just like the sound labs can for film studios, normally the hardware to produce these effects would cost many times more than this package. Features on the FX menu include;

- Built in realtime special effects including, Echo, Reverb, Ramp, Pitch up/down, Multi Echo Chorus, Phaser, Reverse and Pitch Bend.
- Parameters of FX can be modified to provide 1000's of different effects.

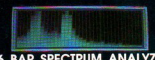


3D DISPLAY OF SAMPLE

The Analytical Software

A whole host of pro-type analytical functions include;

- 3D display of sample frequencies (Fast fourier transform)
- 3D display also includes 2D envelope display plus sample information
- Built in realtime spectrum analyzer
- Stereo Oscilloscopes with trigger markers



36 BAR SPECTRUM ANALYZER

THE MIDI CONTROL PANEL

The MIDI Software

Now you can trigger samples using external MIDI keyboard or the ST/E's keyboard. Just look at these features;

- Selectable MIDI channel
- Omni/Poly operation
- MIDI keyboard splits
- Up to 10 stereo or mono samples
- Samples can be mapped across a MIDI note range
- Load/save sample set (with all MIDI settings/spilts)

Other Innovative features;

We know this product is years ahead of its time and these additional features justify our boast.

STE ADDITIONAL CONTROLS

- New style stereo cartridge
- Saves AVR and RAW samples
- Playback routines for HISOFT, GFA, STOS and ATARI Basic
- Including walkman type cable
- Full STE stereo support

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TOS DOS

ST FORMAT GOLD

ST Format Gold 92%
Issue 25 – August '91

SUPERCHARGER SCplus 286

The new SCplus 286 co–computer is not an emulator, it is a full 16 MHz 286 PC AT computer that you attach externally to your Atari ST or TT. This gives you full TOS/DOS multi–tasking power at your fingertips – you can run an animation package on the PC while you desktop publish on the ST!

The SCplus 286 has two built in 16 bit PC slots that allow the use of any PC card that you desire – Super VGA, Scanner, Hard Drive, Fax Card, etc.

Comes complete with:

1Mb Ram (expandable to 2Mb or 4Mb)

Two 16 bit expansion slots (plug in any 16 bit PC card)

80287 Math Co–Processor socket

DOS 4.01

Built in Power Supply

DMA through port

Spectacular New Price

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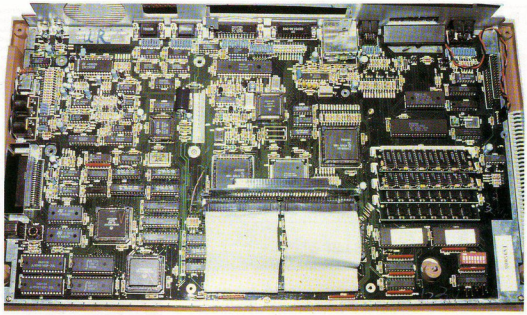
After months of waiting, the Mega STE has finally arrived on British shores. Was it worth the wait? Marc Young has the low-down

Mega STE



In years gone by there were two STs – the STFM and its brethren, and the Mega STs. The two were aimed at different markets, with the cheaper STFMs primarily the "entertainment" machine, and the Mega STs the "business" machine.

Unfortunately that was about the only difference between the two except for price! While a business user may be prepared to pay more for the separate keyboard, it was a lot to ask of an upgrading home user.

With the appearance of the TT the serious side of Atari has become more apparent. Even with the STE replacing the STFM as the entry level computer, the gap between entry and top-of-the-range became too great.

Filling the gap

There certainly was little prospect of users "upgrading" from an STE to a Mega ST! What was needed was a Mega ST equivalent of the STE. It has actually been available for some time – if you live in Germany. At the time of writing, Atari UK are just awaiting their first shipment for sale to the general public of the long-awaited Mega STE.

On meeting a Mega STE for the first time, the most noticeable point is that it looks almost identical to the TT. The keyboard is identical and interchangeable, and the separate housing for the system is identical in all but colour – while the TT is off-white, the Mega STE retains the familiar ST Grey. The keyboard has the same layout as the STE, but is more pleasant to use, with a little more "springiness" in the keys. The familiar parallelogram function keys are gone, replaced by a row of function "buttons". The mouse plugs in to the right-hand side of the keyboard, without any necessity for turning it upside down, or crawling on the floor! The joystick port is on the left, and is again easily accessible. The keyboard is connected to the system unit by means of a telephone style plug and a curly lead.

The system unit is flat topped, and is plenty strong enough to be used as a monitor stand, which leaves the desk uncluttered. The keyboard cable is long enough to sit some way back, or you can place the keyboard on your lap with your feet on the desk, if your eyesight is good enough!

The ins and outs

The Mega STE has most of the expected connections to the outside world, a couple of new ones, and one conspicuous by its absence.

At the left is the cartridge port, Midi in and out, a LAN (Local Area Network) connector and the reset button. To the rear come two phono sockets for stereo audio output, two serial ports, the printer port, another serial port, a VME port, an ACSI (Atari Computer Systems Interface – AKA DMA!) socket, TV output and an external floppy drive socket. I will cover the uses of these ports later.

The astute reader will have noticed the absence of the two extra joystick ports on the Mega STE. Although it is true to say that these ports have not been utilised on the standard STE, the presence of a built-in analogue to digital interface was a potentially very useful addition to the STE.

Besides the obvious benefit of allowing the use of analogue joysticks – great for flight simulators and so on – an A/D port would also allow the use of the ST as a metering device. This makes the STE an ideal tool for use, for example, in the physics or chemistry department of a school, where it can be used with fairly simple and cheap components to monitor and even control experiments.

The Mega STE is to be sold in three basic configurations. 1Mb memory with no hard disk drive, 2Mb memory with a 45Mb drive or 4Mb memory and a 45Mb hard drive. For customers taking the 1Mb option, a hard drive upgrade kit will be available, though details have yet to be confirmed. Prices for the three models, inclusive of mono monitor, are £699, £999 and £1,099 respectively (all exclusive of VAT). There are presently no system-only or colour monitor options available.

The memory is, like most STEs, in the form of SIMMS. These Single In Line Memory Modules (read RAM chips on a plug-in board) are widely available, and it may be cheaper to buy a Mega STE 2 and upgrade the memory, than to opt for the 4Mb version. Upgrading a 1Mb machine will be more expensive, as the 1Mb of SIMMs in place will need replacing, as these will be on the form of four 256K boards, whereas the 2Mb will be comprise two 1Mb boards, and the 4Mb option, four 1Mb boards.

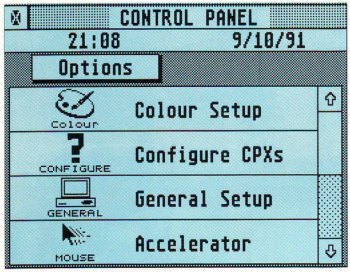
As the Mega STE has no SCSI port, the hard drive requires a controller. The disk drive itself is a SCSI device, so the controller required is much the same as many third-party offerings currently available, and I suspect it will not be long before upgrade options are available to add hard drives to the Mega STE.

A great advantage of the system used is that it is a very simple procedure to swap the supplied 45Mb drive with one of a larger capacity. One would assume that this option will be provided by dealers in the months to come, if not by Atari themselves.

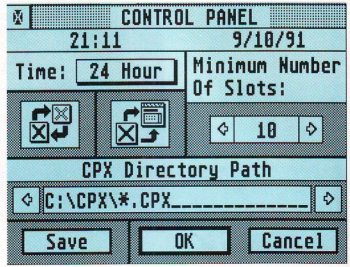
Inside the Mega STE

Getting in to the Mega STE is a somewhat simpler task than has been the case on previous computers. After undoing the fixing screws and lifting the lid, anyone who has looked at the inside of an ST (or TT) before will notice the complete absence of metal shielding. This has been achieved by spraying the inside of the case with a radiation-absorbent material, and makes the Mega STE and future TTs much more accessible, and lighter.

The photograph shows the inside of a 4Mb Mega STE and reveals some interesting changes. The most important changes by far are revealed at the front left of the machine. The 68000 processor sits above four cache chips, and a 68881 maths co-processor. The 68000 is switchable, in software, between 8MHz – as normal on the ST ➤



The Control Panel in action. The number of CPX slots can be defined by the user, unlike the situation with Desk Accessories, and available CPXs appear in a scrollable window. The Date and Time can also be set from the main accessory, and CPXs disabled and enabled (in fact this is achieved by renaming the file with a CPZ extension, in the same, somewhat "dirty" method, as used by many PD Desk Accessory selectors)



and STE –16MHz and 16MHz with instruction caching.

Nobody at Atari is certain whether the 68881 will be included in the machine as standard, or will be available as an upgrade. Certainly all the machines imported thus far by Atari have included the chip, but if it is important to you, you should certainly check before parting with cash.

More changes

Other changes of note are the custom chips, including the SCU (System Control Unit), the GSTMCU, which performs the functions of the GLUE and MMU chips on earlier STs, and the GSTSHFTR shifter chip, which is now square rather than rectangular. The Blitter is supplied as standard, as it is on all STs now.

Another new chip is the Zilog 85C30, which provides the multiple serial ports, as well as the LAN. The clock on the Mega STE is run from a small battery, so at long last you can say goodbye to all those "set date and time" utilities!

One major addition to the Mega STE is the inclusion of a VME bus, allowing the plugging in of VME cards for high speed Asynchronous parallel communications with another device. Although there are no cards available at present, the use of the VME standard will hopefully make it easier for third parties to develop hardware add-ons for the machine, such as enhanced graphic cards.

The card plugs into the slot inside the computer, held in place by the metal guide provided, and has access to the outside world through the rear of the machine. It is through the same hole that the third serial port is provided, so it may be that you are restricted to only two serial ports when using a VME card. However, it may be possible to squeeze the serial ribbon cable through the gap if necessary.

The floppy drive is a standard 720K drive and not, as may have been hoped, a 1.4Mb drive. It is almost certain that a 1.4Mb drive will be included in the future, but for now an upgrade would be far from simple and, while the software may read and write to the drive, a 1.4Mb formatter is not built in to the operating system.

When powering on the Mega STE, there is an automatic wait of two minutes before the computer begins to boot. This delay is provided in order for both the hard drive, and any external devices such as may be connected via the LAN or VME bus to initialise themselves. Don't worry, though, pressing the spacebar forces the boot procedure to start.

At first glance the desktop looks like any other ST. In fact, the Mega STE contains version 2.05 of TOS. This version contains several enhancements over TOS 1.62, which is the latest version in the current STEs. The good news for STE owners is that TOS 2.05 should work happily in their machines too, and installation will be a matter of simply replacing the two ROMs.

Enhanced

One of the many enhancements in version two is the use of CPXs (Control Panel eXtensions) in place of the desk accessories used on all previous STs. Although the Mega STE will still happily load desk accessories, the use of CPXs allows the sort of control over loading and running of accessories previously only available using third party software products such as Multidesk.

In essence, the new CPXs are controlled by a single desk accessory, named X_CONTROL. This program searches a folder named CPX for all files with the .CPX extension. These are then made available to the user, and can be enabled, disabled, made memory resident and so on at will.

This is a far better method than the usual desk accessory, as large accessories may be loaded only when they are needed, but will still be available from within any well behaved Gem program. In fact, during testing, I did come across a problem using some CPXs, which required the use of another Gem window, from within both Calamus and Fleet Street Publisher – though they worked fine from PageStream.

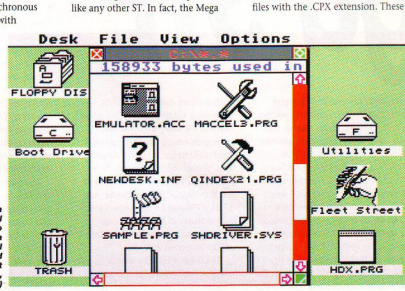
Although no errors were encountered, these CPXs simply failed to run. In the time available I was unable to determine for sure whether this is a CPX fault, or a problem with Fleet Street and Calamus, though given that the CPXs worked quite happily from other programs, I strongly suspect the latter.

The desktop

The new version of TOS brings a brand new desktop which has most of the good features of the replacement desktops such as NeoDesk and DC Desktop, with the speed and memory advantages of being in ROM.

One of the very welcome enhancements is the ability to use a keyboard short cut in place of the drop down menu commands. As an example, pressing the F key could create a Folder, while the D key could save the desktop. All of these keys are user configurable, and each of the function keys may also be defined to give direct access to a program.

With careful selection, most users will simply be able to use their ST by using the function keys to call up the required software. Functions such as opening a disk window can also be performed using, for example, con- ➤



Though not a particularly useful option, the ability to colour each part of a window differently will keep the kids amused for hours! (well – it kept me amused for a bit, anyway)

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Colour Option Extra - See Accessories

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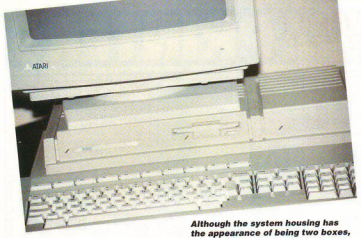

Although the system housing has the appearance of being two boxes, in fact the "lid" is in one piece. At the front is a 3.5in disk drive, and to the right of this, the smaller "box" contains the hard drive.

trol and A to open a window on drive A.

Programs, files and folders may be dragged to the desktop itself and run directly from there. As this information is saved when the Save Desktop option is selected, the new ability to load a Desktop.Inf file is welcome, as this gives you the ability to, for example, have one desktop designed for DTP work, one for mono scanning and touch up, one for programming, and so on.

As with many replacement desktop programs, there is also the ability to assign a different icon to any of the "normal" icons. So, for example, your wordprocessor may use an icon represented by a pen writing, while your CD ROM drive uses an icon looking like a CD!

I have to confess that, while there is no doubting the popularity of this practice, I personally finds it slows down the use of the desktop if too many different icons are used, as the eye more readily recognises words than someone's attempt to "iconise" a certain file type in a few pixels. It is therefore no loss, in my opinion, that the icons supplied cannot be amended or added to.

For those with external devices in addition to the internal hard disk drive, the Install Devices option will be a welcome one. This option scans the attached devices, and installs icons on the desktop for each it finds. This means that there is no longer a need to reboot or run a program if you switch on an external drive midway through a session.

If you thought that the concept of an Installed Application was complex on earlier STs, then TOS 2.05 will be a nightmare! In fact the additional options available mean that there is a more flexibility in using the feature. For example, a program can be set to run every time a file with a certain extension is double clicked.

The current path will be set either to the file or program folder name as required, and optionally the full path or just the file name sent to the program. A Gem program can also be made to run during the boot sequence – as with TOS 1.4 onward.

There are many other changes to the desktop, such as the ability to select file "masks" for windows, and so, for example, show only *.DOC files in one window and only *.AC in another. There is a "no sort" option in the View menu, handy for sorting out which Auto program runs when. There is a "size to fit" option for icons, so that all icons in a window will always fit horizontally, reducing the need for sideways window scrolling.

One of the less useful, but most noticeable, options is the ability to use different colours and fill patterns for both the desktop and each of the elements of a window. This can lead to some spectacularly illegible screens – especially if the palette is changed!

Speedier than thou

One of the obvious reasons for buying a Mega STE will be the additional speed offered by the 16MHz 68000. The speed of a processor, measured in MegaHertz, or millions of cycles per second, determines how fast each machine code instruction can be processed.

On the ST – and any other 68000 processor based computer – each machine code instruction takes a number of "cycles" to be executed. The time taken for a given instruction also depends on the amount of work it has to do, so shifting a long word by one bit takes less time than shifting it by seven bits.

Running at 16MHz, you might expect the Mega STE to run twice as fast as the STE. It seems a reasonable assumption, but in fact speed increases of this magnitude will not be the achieved.

The problem lies in the rest of the ST hardware which will, in effect, slow down the processor as it waits to be given the next byte of memory.

Don't be disheartened, however, The clever chaps at Atari have thought of this and installed 16K of processor cache RAM. This is very fast RAM (and therefore very expensive - hence only 16K) which is used to store each instruction as it is executed. If that instruction is then executed again – for example in a loop – the cache is used to get the instruction, rather than the processor going back to main RAM, which is a comparatively slow process.

It is a fair bet that much of the work performed by any program is performed in a loop. Assuming that this loop is reasonably small, then the cache memory is used to the full, and the processor can carry on processing at top speed.

Table 1 shows some example timings achieved using three DTP packages (with different documents on display) and a simple machine code loop looping 16 million odd times. It can be seen from this final example just what a difference cacheing can make!

While these timings should not be compared against one another, they do show that it is cacheing which speeds up program execution, and not the processor speed alone.

A further speeding up of some programs may take place by courtesy of the 68881 co-processor. Unlike the co-processor for the 68030, as used in the TT, this chip requires code to be written specifically for it and, therefore, is unlikely to show a marked increase in speed with the majority of software.

Example timings

Program	8MHz	16MHz	16 MHz with Cache
PageStream	26	26	16
Calamus	7	7	4
Fleet St.	9	9	7
M/C Loop	27	27	11

Table 1

There is no difficulty, however, in using the chip for your own programs, assuming the language you use supports use of the chip.

HiSoft's Lattice C currently has an option to produce code which will check for the presence of a co-processor, and use it if present. Hopefully, with the chip now becoming more widely available, more software will be written to support it.

It seems strange at first glance to see the Mega STE with no less than three serial interfaces! There is good reason for this, however. The chip used for the Local Area Network (LAN) control, also provides for two extra serial ports.

In fact only three out of the four may be used simultaneously – but I can't see that being a problem. The ability to use a LAN means that the Atari will be able to, given the right software, share peripherals with other machines, so we may well see PCs, STs and Apples all networked together.

The addition of a VME bus as standard will also hopefully see the development of third party add-on devices using this method of communication with the ST, possibly for use with Ethernet.

With the targeted buyer being the more serious computer user, it may seem strange that the Mega STE has a TV modulator, allowing a TV to be used as a colour monitor.

However, bundling a mono monitor with the machine would otherwise leave some users unable to access colour software at all, and with the education market obviously being looked at, this may be an important requirement.

Given this circumstance, though, I confess to being bewildered that Atari are not actively pushing a multisync monitor, which would give the best of both worlds.

Better Midi

With music still being very important for Atari users, it is nice to see the Midi ports being slightly upgraded. The new Midi controllers now run twice as fast as earlier, which should allow software to be that little bit more accurate – ideal for the Flight of the Bumble Bee! The question to ask of any new computer is "Would I buy one?". In the case of the Mega STE, I think the answer is "Yes". There are unlikely to be any of the compatibility problems currently being suffered by Amiga owners, so all my software should run happily on the new machine.

The integral hard drive certainly makes for a more tidy desk, and the ability to replace the drive with a larger SCSI device if necessary makes for a good upgrade potential. The extra speed will be useful for many applications, such as DTP, and the networking capabilities could, given the necessary software, make the ST a much more viable tool for the office.

If you are thinking of buying your first ST for serious use, then the Mega STE must be the best choice. If you already have an STE and want to upgrade, then the choice is more difficult to justify.

If you have a pre-STE machine and have been looking enviously at the STE, then it may be worth saving the extra for the Mega STE. Certainly a lot of power, and without too much price!

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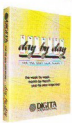

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Public Sector

You don't have to spend the best part of a week's pay packet to get a decent piece of software, as John Butters has been finding

Picking up a bird

Even without fancy packaging and blurb, games can be original and fun to play – in fact, the marketing-free public domain is one of the best places to find "new" games.

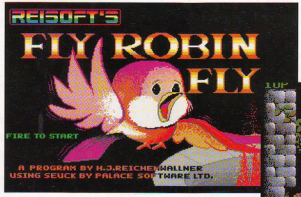
One such release has you guiding a robin to rescue baby birds. The exact setting for the game remains a mystery through the lack of documentation. The most popular opinion is that it's a forest, but why the brickwork at the edge of the play area and candles in the middle of the screen? Oh well, who cares?

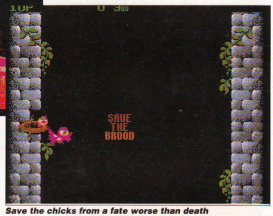
Fly Robin Fly has been written using Palace's Shoot-'em-up Construction Kit and this is recognisable in the program's graphics, though the game is actually more along the lines of a pick-'em-up and the joystick's Fire button is redundant throughout the play.

Points are awarded for successfully collecting any birds from their nests along the side of the screen and the score increases further if you make an effort to eat the flies that come onto the screen from time to time.

The main hazards are burning candles, falling fireballs, wasps, spiders and an unfriendly pair called Crazy Mice who drop heart-shaped chunks at you – how unsocial. Hit any of these nasties and you can say *adios* to one of your three lives.

Some areas of the game have a noticeable lack of excitement but generally there's plenty of fun to be found. For colour monitor users only, it can be bought on the South West Software Library's Disk 1723.





Guide the robin to pick up birds and flies but make sure you don't touch anything else along the way

Save the chicks from a fate worse than death

Fine art

Version 1.1 of ST Tools is a useful Gem-based utility which works in a similar way to the MS-DOS package PC Tools for examining disks and memory.

The main display is taken by two windows which show a directory tree and list of files which can be selected by clicking the mouse pointer over them. Once picked, they have an asterisk at their side and can be deselected by clicking once again on the filename.

The foot of the screen shows floppy disk and hard disk partition icons and the current disk is highlighted. All functions are accessed by using drop down menus and can be used in medium or high resolutions. Options include List Disk Information, List FAT Entries, HexDump File, Sector or Memory and Search File, Sector or Memory.

When using the Search mode, the string being looked for can be entered in either hexadecimal or Ascii – normal text – and you can choose whether it should be case-sensitive.

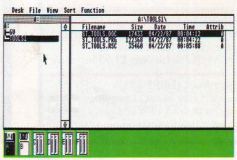
As the disk is searched most of the screen is handed over to displaying its contents in a hexadecimal format, but at the far right a smaller window shows the same information in good old plain Ascii.

Two menus are used for setting up the program and once you're happy with its configuration it can be saved to ensure it looks the same next time the program is used. If you need such a program you'll find this one easy to use, clean and bug free. The disk is also home to an art utility. Few, if any, art packages are compatible with all types of ST files and this leads to problems for those that frequently look at computer art.

Degas files with extensions .PI1, .PI2 or .PI3 are one of the commonest and can be loaded into Degas Elite and several other programs. Atari's NEOchrome Master is one animal that cannot handle Degas files but has the advantage of being compatible with .IFF and its own .NEO. And so the list goes on.

Gemview gets around the difficulty by loading most types of artwork into machines with more than one megabyte of memory. After looking through the list of compatible files it seems that nearly all types are covered.

Pictures can be viewed individually or in a row by pressing a key to scroll forwards or backwards through the files. Once onscreen, work can be clipped ➤



ST Tools is an ideal program for searching in either hexadecimal or Ascii through a disk or the computer's memory. Files are selected through two windows which give a directory tree of a disk or hard disk partition

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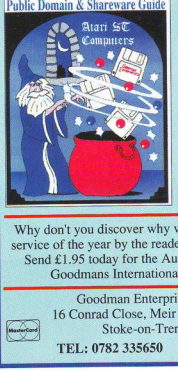

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Find a career

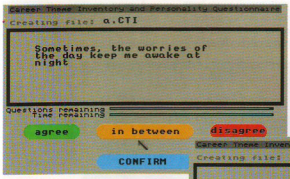
Finding the right career can be a tiresome task for school leavers. While it's a pretty safe bet that you want to make an absolute fortune, you have to decide whether you've got what it takes to be a lawyer!

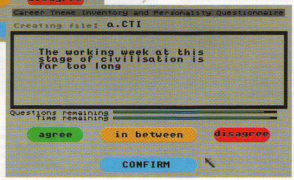
Career Themes Inventory is designed to help. To get a clear picture of your character, it asks a series of personal questions which are presented in the form of a statement such as "You argue with your boss/teacher". You can agree, disagree or say the truth is in between.

Two READ.ME files recommend first thoughts should be entered and that this stage should not take more than 30 minutes to complete. Taking longer will result in a false analysis, it says.

All the information gets stored in a file – the name is defined before the start – and at the end a chart tells you all the things you didn't know about yourself. However, it isn't possible for Joe Public to use the program for finding the right job because the data has to be sifted through by a qualified person.

For a list of jobs you should be aiming for, the file should be sent to the author who has a string of letters after his name. He charges £5 for the service and offers discounts if there is more than one person's record on the disk. Written for the recent Goodman Enterprises STOS programmers' competition it is available exclusively from the library on disk GD1359.





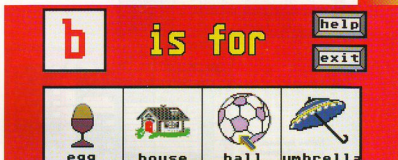
Half an hour should be set aside before starting to answer simple questions. At the end you're likely to learn some interesting things about yourself

As easy as ABC...

Alphabet is, as its name suggests, a simple alphabet learning tool which has been put together using STOS for the public domain.

A short boot up sequence introduces a teddy to the young, and this friendly character is then used in every part of the program. The alphabet is displayed on a keyboard at the bottom of the screen and four empty boxes line up above.

Using the mouse for control any letter can be clicked on. The boxes become filled with different objects, one of which starts with the chosen letter. The child decides which this is and the letter remains in the top left-hand corner so that it is not forgotten.



If there were more programs of equal quality on this disk it could easily be mistaken for a £30 package. But if you have a very young child, sit them in front of this one to keep them quiet for a while

A correct entry causes teddy to jump around and a nursery rhyme to play. If incorrect teddy shakes his head in silence and the mouse pointer prepares for another go.

If necessary, the answer can be forced out of the computer by clicking on a small Help box. The correct item flashes in its box and clears for the child to identify it by his or her self.

At the end of a session the program is finished by choosing the Quit option. Teddy says goodbye by waving under a quarter moon and there is an option for all the program's words to be printed to a printer which is selected by pressing Y.

Very bright and clean graphics make an appealing piece of software that is likely to hook pre-school children to the computer for quite some time. Speak to Goodman Enterprises and ask for disk GD1238.

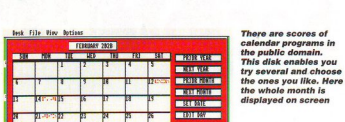
Diary dates

In these days of the so-called paperless office, it's convenient to have as much information as possible only a keyboard touch or two away. Diaries are important to the majority of people and these can be incorporated into the ST's role easily.

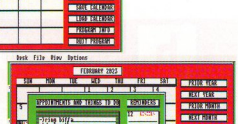
A disk from Goodman Enterprises holds some useful examples. Among the best on GD1376 are CALENDAR_MH, which basically takes over the job of a desk diary and a complementary program called CALEN21_MH.

CALENDAR_MH is used by double clicking on its .PRG file and before ➤

Public Sector



There are scores of calendar programs in the public domain. This disk enables you try several and choose the ones you like. Here the whole month is displayed on screen



Notes for each day can be tapped into the program and stored on disk in a .DAT file

➤ proceeding further a password has to be entered. This is asked for whenever the file needs to be viewed.

Operation is straightforward. Any month can be displayed on the screen in a calendar format and appointments and other information for specific dates can be entered after selecting the day with the mouse pointer. This is then kept in a special .DAT file on disk.

When looking at the month, days which have notes are indicated with an asterisk. To examine further simply click on the day and a text box will appear.

The other program can be used to help with all sorts of calendar problems. This German utility works from the keyboard and boots to give a menu from which all the options can be selected. Examples of what it can be used for include finding what day of the week any date will fall on, years in which a given date falls in the same weekday and movable feasts and holidays in a year.

There are other calendars on board the disk including one which displays reminders on the screen when required. Unfortunately, this one had been poorly written and the result is screens which don't clear correctly and so forth.

But at the end of the day if your ST is begging for a diary then you could do a lot worse then get hold of a copy of this collection. CALENDAR_MH works well if you need to keep notes for days.

Public Sector News

A commercial version of the shareware database program Personal Database has been released by Bay Computers (0524 831162). Personal Database Plus is designed to compliment and add more choice to the original version and sells for £12.95 to registered users of the shareware program.

Words of a robot

Hangman has always been a favourite with kids and now there's a variation for the education side of the ST being sold as licenceware.

Children are given the opportunity to play Robot Words 1 over three levels of difficulty. In many ways it is identical to hangman, the most noticeable is that the end is reached when a robot has been built rather than the man hanged.

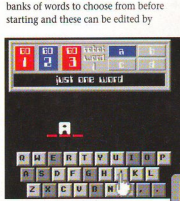
Level one gives just one word to be found, 10 words need to be discovered in level two and level three is the same except that the game is made more difficult because it only allows 10 mistakes between all the words.

The only clue is being told how many characters make up the word. Letters can be entered by either clicking on a QWERTY keyboard displayed on the screen or through the real keyboard. If it's in the word, it will place itself automatically. A wrong try adds an extra part to the robot.

Once a letter has been used it is shaded grey on the keyboard and cannot be tried again. At the end of a game a television news room is shown with a video of robots shooting at each other – can anybody guess what this has got to do with the hangman?

To prevent the game's words from becoming predictable there are four banks of words to choose from before starting and these can be edited by pressing Shift and F10. The existing words in the bank are erased when this option is asked for.

A colour monitor is required and it can be bought from licensed distributors or from the author, Ian Blair Enterprises, for £2.95.



Instead of hanging, the end of the game is reached when the robot is fully built. This is on level one but quite often the three letter words are the hardest

The reason for this news room sequence remains a mystery. Any ideas?

Where to get it...

Caledonia PDL, 250 Oldtown Road, Hilton, Inverness IV2 4PT.

Elmsoft, PO Box 17, Loughton, Essex IG10 2EE.

Floppyshop, 45 Provost Graham Avenue, Hazlehead, Aberdeen AB1 8HB.

Gemini Shareware, 10 Warwick Avenue, Slough SL2 1DX.

Goodman Enterprises, 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, Staffordshire ST3 1SW.

Ian Blair Enterprises, 78 Carmarthen Road, Swansea SA1 1HS.

MT Software, Greensward House, The Broadway, Isle of Wight PO39 0BX.

NBS, 132 Gunville Road, Newport, Isle of Wight PO30 5LH.

Page 6, PO Box 54, Stafford ST16 1DR.

Public Dominator, PO Box 801, Bishop's Stortford, Hertfordshire CM23 3TZ.

SoftVille, Unit 5, Elettra Avenue, Waterlooville, Hampshire PO7 7XN.

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

Sphinx Software, Erw Fynydd, Carmel, Llanelli SA14 7SG.

TRuST PD, 18 The Park, Southowram, Halifax HX3 9QY.

Public Sector News

An organisation set up by a group of UK public domain libraries to support software authors and end users has a new member, Jennix PD. PD Confederation aim to provide telephone support and free advice on PD, have an exclusive collection of licenceware, maintain high standards of software and attend top shows.

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ARCADE PACK 4

Mixture: Another excellent pack with shoot 'em ups, platforms and more shoot 'em ups includes G-orb, Colony, Castle Frankenstein and Asteria Blue. A special 4 disk pack: Order Code GPS7.

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G39	GNUCross excellent text adventure. £3.00.	B12	Mushroomz excellent fast mad maz'ma. £3.00.
G97	NMS - NOT SITE 1.62. The Star Trek game.	B13	Zarrith arcade space battle. £3.00.
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G105	The Name Game.	B17	Make a break trivia quizz where you
G107	Monopoly Mondo a stock market		have to answer numerical questions. £3.00.
	simulation.	B20	Bomb the Bunnies bomb. £3.00.
G112	Upstart a sheet the cherries an arcade	B22	Slippery Sid great maze game. £3.00.
	game. reviewed!	B23	Ultimate Wizard's Xenon type blast 'em up! £3.00.
G113	Spaceballer an platform excellent game.	B41	Exodus superb graphics arcade game. £3.00.
G114	Orky thanks to an excellent platform game.	B70	Bomb Squad the greatest ever
G115	Bumper Jacky a great platform game.		implelation of Boulderdash. £3.00.
G118	Hi Rise Rescue.	B71	Sky Fighter. A role-playing adventure with 3D view. £3.00
G119	England Team Manager football game.	B72	Arena Blue A superbart horizontal scroller where an endless
G121	Top of the Pops record company simulation.		number of aliens appear and you have to destroy them. £3.00.
G125	Sidex 3D a 3D maze and blo game.	B73	Dark Star a fine game adventure that attempts to follow the rise
G126	Virus the Game, you must protect your ST against the Mach-		of a regular Police investigation of a robbery. £3.00.
	ine Code Virus and the Boot Sector Virus. £3.00.	B74	Clunk a Puzzzle! puzzle-a-like with a few novel ideas. £3.00.
G127	Sidex a great version of Sir. There's one missing and you've	B77	Dennis and Denise. Control Dennis and rescue Denise who
	got to find it! Excellent graphics.		has been captured by the evil tyrant Mr X. £3.00.
G129	Invaders excellent Space Invaders clone.	B78	Clackter. A Klax clone with a twist. £3.00.
G130	Snakes and Ladders the game.	B79	Hangit a hang-man type game, except you do not get
G131	Wordgames, you are a word and it		hanged, you get eaten by a shark instead. £3.00.
	will show all the possible anagrams.	B80	Dragon Slayer a text adventure to rescue the globe.
G134	Dizzy Collection 3 arcade adventure, spiral and other world	B90	Dragon Mine. Text adventure with a visual part. £3.00.
	classics, include Fantasy World	B92	Crush. Your city is being bombed by a malicious craft.
B1	Dermond a good space game. £3.00.	B93	Excellent arcade and sound effects. £3.00.
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The following 7 Clip'rt packs are all Black and White Quality only disks.

Each contains over 100 quality pictures suitable for any program with graphic capabilities. Each pack contains 9 disks except pack 7 which contains 3.

C001 - Subjects covered: Sports, Flags, animals, cartoons, humourous, Xmas, Jewish, Borders, Halloween, Valentines, horses, eyes, alphabets, hands, Mother's Inadequate, cats, dogs, lots more. £12.95.

C002 - Subjects covered: men, women, illuminated A to Z, arrows, stars, explosions, humourous, cartoons, pointing hands, food and more. £12.95.

C003 - Subjects covered: Pub, herbs, meat, arrows, special occasions, vegetables, kitchen utensils, cups and glasses, art deco and brushfonts. £12.95.

C004 - Subjects covered: More Art Deco, Bottles, Boys and Girls, lots of Christmas pictures, Xmas fonts, Xmas borders and a complete set of graphic ornamental. £12.95.

C005 - Christmas Clip Art Pack: over one hundred images of christmas from santa to trees and from father christmas to turkey, christmas fonts and borders. Perfect for creating posters, cards and invites etc for any christmas occasion. £12.95.

C006 - Fantastic and Mythological Creatures and Monsters: an excellent collection including Dragons, Unicorns, Pegasus, Mermaids, Trolls, Myth Arrenny, South America etc. some dating back 4000 years! All sorts of weird and wonderful creatures

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D107 - Space Ace Animation Pack.

D020 - NOT STE. Preston 5th.

D021 - Mandelbrot 2.

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D022/D026 - NOT STE. MB. Dragons Lair game animation demo by IRS. £6.00.

D024 - Inner Circle Decade demo.

D044 - Star Trek The Enterprises leaves dry dock and Zaxxilleri wimdrams of the Reliant flying through space.

D045 - Star Trek Dirty Dick's Bitch demo.

D046 - The Last Ninja - Cloth Cloud Hacker Software. Bless their cotton socks it certainly is! £6.00.

PDI 145 - Special Offer! The entire Persistance of Vision demo collection of 90 disk packed into a small box! One of the best demos for the ST for only £90.00 fully inclusive! The PDI demo disks are fully described in our disk catalogue and are available individually at £5.00 each.

D219 - 32 Min Jaggie! Mega animation 1MB!

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D035 - STE Official Atari Forrest demo!

D036 - MB ICS. Ant Colony. The Cave Beers demo.

D039 - NMB. The Jungle demo!

D040 - Digital Dreams cool 8 bit stereo sound and the bitterschop. Has the middle finger waving up and out of the top!Whirlpooling looks and all!

D034 - NMB. Psychedelic House II By The Overlanders! Acid!

D031 - This Blade Cuts STE demo excellent!

D032 - Cuts Even more STE demo brilliance!

D224 - Tomorrows World 3D stereo demo! Experience real 3D scenes on your ST/E when connected to your HiFi.

STE DEMO

These demos will only work on an STE/MegaSTE

D201 - NMB. BOING a bouncing ball with colours scrolling through it and hundreds of ball!

D203 - NMB. 3D Scroller, sounds of 70's Disco and overpowering!

D205 - Digital Dreams cool 8 bit stereo sound and the bottlerschop. Has the middle finger waving up and out of the top!Whirlpooling looks and all!

D204 - NMB. Psychedelic House II By The Overlanders! Acid!

D201 - This Blade Cuts STE demo excellent!

D202 - Cuts Even more STE demo brilliance!

D224 - Tomorrows World 3D stereo demo! Experience real 3D scenes on your ST/E when connected to your HiFi.

FONTS

MP5 - GDOS GEM Font Pack - 171 fonts, the GEM Font Master font editor and a PD version of GDOS plus full details on using GDOS. £6.50.

MP6 - Calligrapher Font Pack - 1 - 150 fonts for Calligrapher. £6.50.

MP7 - Calligrapher Font Pack 2 - 150 fonts for only £6.50!

MP12 - Signum Font Pack 1 - 73 x 24 pin printer screen fonts. £6.50!

MP13 Signum Font Pack 1 - 66 x 24 pin printer screen fonts. £6.50!

AD1/AD2 - Font Kit V3.01 an Epson printer, ST screen and Degas font editor.

AD3/AD4 - Font Kit V3.01 an Epson printer, ST screen and Degas font editor. Megafont.

DOMINS

444 - StarNet BBS.. Setup your own Bulletin board system.

AD1 - Uniterm v2.0c. Features: Xmodem, Ymodem, Xon/Xoff, Vt52, Vt100, Vt102, Vt220, Tektronix 4010.

AD2 - Flash 2.0. Features: Xmodem with many variants. Requires Mono Monitor. Freeden, Cansolemnit, Auto Dial and much more.

A19 - Flight Simulator v1.1 an 1200/75 comms program for Prestel.

AA1/A19/A20 - Pocket ham radio software. £6.00.

AA3 - The VD ice terminal program.

PROGRAMMERS

MP1 - Starter Utility Pack: this pack was compiled with the new ST user in mind, a file compressor, 44kB disk, Disk Doctor Spooler, BIG colour emulator, Monochrome emulator, Key Killer 2 picture converters, disk formatters, time and date programs, Mouse Key, Mouse Speed, Mouse Accelerator, Auto Boot File to run all your programs, Data Handler file database and Sheet file spreadsheet. Only £6.50!

MP7 - Home Business Pack: Databridge and First Base 2 databases, STBase and Sheet 2 excellent spreadsheets, STWriter Elite the excellent word processor and Double Entry the accounts package. £6.50!

A19B - Databases: Address book v1.21, Database, Print base and Database

A49 - STSheet a simple spreadsheet.

A50 - STWriter Elite a word processor for while personal accounts.

A51 - Sheet v2.0. Brilliant spreadsheet.

A19A - BBS, Brilliant, sophisticated graph, visto analysis.

A31 - Psion - Essential Psychic Predictor v3.0.

MP2 - STWriter Elite v4.1 word processor.

A32 - Text Scan document processor and typesetting system. £20.00.

A33 - 1MB. Opus v5.10 wordprocessor system.

A33B - Double Density v3.0 word processor.

A15 - STSWriter will spit STs memory into 2 seperate parts allowing you to run 2 programs at once.

A37 - STWord Junior Word Pro.

A49/A52/A57 - Star Wars Utilities: Includes The Vault backup and much more. £9.00.

A41 - Monochrome Monitor Emulator v5.

A65 - DCFormat v2.03 THE ST disk formatter includes MEGDS.

A66 - Superboot v4.0 THE ST custom boot program. ScreenDump2nd v2.0 Allmaps zoom plus Epson LQ850 or compatible.

A67 - Virusfighter v2.01. Flexyy v1.0 for diskjoiner.

A71 - Flicker v2.1 Flicker screen alternative file selector.

A72 - Headcash v1.1 auto boot GEM programs. Manual Master v2.0 requires GDOS.

A87 - Cookie - cures most super oops, disk, cr, copy track, discopy, hidetwo and others.

A88 - Recover allows you to recover lost data. Bootdrifo allows you to put any text on screen at boot up.

A104 - Boot Drive Select allows you to select a drive to boot from when you reset your ST. Grid Tool and Chartmaster are 2 good graph creators.

A107 - Custom Screen allows you specify how much display space you want.

A108 - The Complete Amateur Astronomy Guide.

A161 - Gemini desktop replacement. Excellent replacement Desktop similar to NEODesk.

A167 - BIG Colour Emulator colour screen emulator for monochrome monitors.

BP5 - Music Cassette Label Printer. £4.00.

A173 - ARC v6.02 file compression. ARC shell v1.96. Lharc v0.0s and v1.13.Turbarc, ARCII sctn arcs and unarcs entire disks.

A183 - Imagecon 1.0 the ultimate printer controller. Printpac v1.1 prints 1ST Word Plus documents.

A187 - Ksawdrer expands a single sided disk to a double sided. MiniRES STE is a fix to the resolution bar at top of STEs. Turbo ST speeds up your ST.

A196 - PCops 3 the excellent disk copier.

A198 - Video Master v2.0 allows you to catalogue your videos.

WT - Type to The brilliant touch type tutor.

BP28 - Wide Screen Design Wide scrolling sequences with fades, tinings, sound speech, graphic imports, backgrounds, text etc £4.00.

AD3 - Grandpa is a mathematical puzzling program for potentials, exponentials, logarithms, arc, hyperbolic, area, integrals, integration and other mathematical terms. There is for surface calculation. Matrices lets you define variables and functions.

AD4/D95 - HP Deskjet disks - Loads of utilities and drivers for the Deskjet printer. Totalling over 40 disks. £6.00.

A204 - Resource File Analyser allows you to load resource files and print out complete break down of the contents. More.

A207 - Grabber, this program allows you to store any 4 graphics in RAM and then switch between the other programs.

A208 - Aztec v1.10 calculates the position of the planets, sugys and zodiac signs. Also has a calendar and diary facility.

A209 - Pixel Cruncher Perm Checker and Tone Fixer.

A214 - Pulcher v2.0 an excellent X-ditch Designer that allows you to use degas pictures.

A215 - Fastbase amazing shareware database, brilliant and very easy to use

RUNNERS

M15 - The Accompanist MIDI 16 voice sequencer by Henry Cosh.

M18/M18/M26 - Soundtracker player and Soundtracker modules converted from the Amiga, over 200 examples and some source code in 68000 and GFA basic on Soundtracker formats and different frequencies. £9.00.

M21 - Notemaster.

M22/M23 - Quartet samples lots of samples for use with Quartet. £6.00.

SOS MIDI - We now stock the entire 'Sound on Sound' Midi PD library. Send for a free disk catalogue. Each disk is described in our disk pack for only £1.50.

PROGRAMMERS

L1 - 68000 Assembler, Xlisp, STLogo, Tiny basic.

L2 - STBasic.

L3 - PD C Full C compiler.

L6 - Toy Prolog.

L7 - Xlisp v1.7.

L13 - Modula-2 Bradley Framework.

L13/L14 - Modula-2 development system v1.0. £8.00.

L15 - Scorpion C compiler.

GRAPHICS

MP4 - Graphics Pack 1: ANI ST the excellent animation package allows you to create your own animations! Pearle the ray tracing package with full examples, Mini Paint the excellent low cost colour painting package.

MP5 - Graphics Pack 2: Master Painter the excellent fully featured paint package that includes multiply screens, ColourBurst II the 800/3200 shades on screen at once paint package, Flow Line the drawing program, Fractal Zoom the most comprehensive fractal generator on the ST, the Atari IMagePRocessor (1MB), MegaBit the paint package, Degas Elite and VariDegs2 excellent paint packages. £8.50!

GR6 - Degas Pack - 155 fills, 10 brushes, 7 fonts, printer drivers.

GR14 - Public Painter v0.1. Requires a Mono Monitor.

GR17 - Picture Converters, Print Master, Degas, Neo, Tiny, IFF, Spec512, IMG, AM, Postscript.

GR19 - Fractal Zoom v3.1 the most comprehensive fractal generator program available.

GR20 - IMG picture file utilities: Convert2IMG v3.0 converts any Degas, Tiny, NEO, Megapaint, Spectrum picture to IMG format. Plus an IMG slide show and viewer.

GR21 - ANI ST the fully featured animation package.

GR24 - Pearle the 3-D ray tracing package.

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Fontkit Plus – the ultimate font editor

Since its launch in 1988, Fontkit Plus has become indispensable for users of Gdos programs such as Timeworks Desktop Publisher and WordUp. Andrew Wright puts version 3.4 through its paces

One of the major disadvantages of the Atari Gdos system has always been the difficulty in getting hold of good quality fonts. Most Gdos applications such as Timeworks, WordUp and EasyDraw come with only a handful of typefaces, nearly always variants of the widely used Times and Helvetica styles. Few commercial sources of Gdos fonts exist and those that do can be very expensive for the average ST owner.

As is so often the case, the ST Club has the answer. Fontkit Plus is a font conversion and editing utility which can import a wide range of fonts in different formats including Calamus and Signum. They can then be turned into Gem font format and used in virtually any Gdos program. Very little editing or tidying up is required except at smaller point sizes, which makes Fontkit Plus extremely easy to use, even by those with little experience of font design.

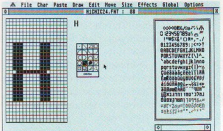
The true measure of its success, however, is the large number of Gem fonts in the public domain catalogues, many of which owe their existence to Fontkit Plus.

Basic features

Jeremy Hughes, the program's developer, is continually upgrading and improving the program and the latest version, 3.4 – which should be available as you read this – has a number of very useful, new features. Not only has the program been considerably speeded up but it has a unique space-saving font compression facility, which is particularly useful for Timeworks users, and an even wider range of import capabilities than before.

For those of you who are unfamiliar with Fontkit Plus, it is a Gem-based application which is capable of creating and editing fonts in a number of different formats, including ST screen fonts, DEGAS screen fonts, downloadable printer fonts for Epson-compatible 9- and 24-pin printers, standard Gem (or Gdos) fonts and Signum fonts.

It has a full set of drawing tools to simplify the design of new fonts or tidy up re-scaled ones and it can also add a wide range of special effects such as shadowing, shading, thickening and outlining. Probably the most powerful features, however, are its import modules – separate programs which can be run from inside Fontkit to convert Calamus outline fonts, Hewlett-Packard laser fonts, Signum screen, dot matrix or laser fonts and Apple Macintosh screen fonts into Gem fonts at almost any screen or printer resolution required.



An Apple Mac font is converted to Gem format and tidied up using the drawing toolbox

Public domain

There are scores of these fonts in the public domain in addition to commercially available ones from suppliers such as Gate Seven and PCG, which opens up a wide range of quality fonts to users of Gdos programs and other applications such as That's Write, Write On, Fleet Street Publisher 3 and Calligrapher. What is more, with Fontkit Plus retailing at under £20, the cost can be kept relatively low. Fontkit is supplied on three disks with a comprehensive ring-bound manual extending to over 250 pages. It contains detailed chapters on common font formats used on the ST, foreign and scientific character sets and converting/editing fonts from different sources as well as in-depth instructions on how to use each Fontkit tool and menu command.

It works well on a 520 ST but 1Mb is recommended for higher resolution fonts at large point sizes, especially if desk accessories and other memory resident programs are to be used. Screen requirements are a medium or high resolution monitor and the latest version is claimed to be fully TT compatible.

The manual does suffer from being too technical in places and lacks easy step by step guidance on how to convert and edit fonts. On the other hand the Gem interface and well thought out menu commands make it so easy to use that you can start converting fonts almost straight away.

Fontkit comes with a useful selection of fonts in various formats including a very high quality set of Gdos Century fonts, ST screen fonts several downloadable printer fonts and sample Signum, Hewlett-Packard and Calamus fonts. Also included in the package are several bonus programs which are well worth using. Fontswitch is a superb desk accessory which allows you to change the ST's system font to one of several supplied with the program.

Those of you who like Harlekin's Mac style screen font but can't spare the memory will find Fontswitch a far less memory-hungry alternative. Fontswitch also manages downloadable printer fonts in conjunction with Fontprint.

Fontprint is an excellent AUTO folder program for dot matrix printer owners that emulates the downloading facilities of Epson printers by using the ST's memory to store fonts. High resolution printer fonts such as those used in Juki and Star printers can then be used to print out documents on basic dot matrix printers such as the popular Citizen 120D.

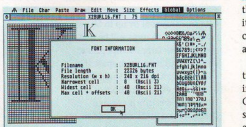
Output from First Word Plus and other packages which use the printer's internal fonts can be transformed into high quality documents, printed at almost the same speed as if the printer's own fonts were used.

Another utility, Copyfont, is a desk accessory that allows you to grab characters or images from the screen and save them in Gem font format to be edited in the main program.

Creating fonts

On loading the Fontkit program the user is greeted by the Gem menu bar, a character grid on the left and a complete character table for the font on the right. Fontkit can work with 300 dot per inch laser fonts up to 36 points in size which allows considerable flexibility in the creation and design of font sets. On the other hand, it is far easier to convert existing fonts or use them as the basis for others than to start entirely from scratch.

When a Gdos font is loaded or another font format is imported and converted, individual characters in the font can be selected and viewed by pressing the relevant key. Less common characters can be viewed by selecting with the mouse from the table to the right. A screen-scale ver- ➤



A PD 9-pin Signum font (Burlington) is imported into Gem format. Note the number of unusable characters present – Trimfont gets rid of these

sion is also displayed so that users can see the results of changes immediately but, if necessary, a ten-level undo function ensures that mistakes can easily be rectified. A show font facility allows the entire font character set to be viewed onscreen and if a Gdos printer driver is loaded the full font can be printed out in the same way.

A status line along the bottom of the screen shows various measurements and relevant values, including character width, horizontal offset and workspace available.

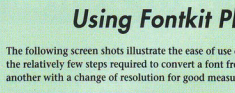
The drawing tools are brought into use by clicking the right mouse button to reveal an onscreen menu consisting of curves, lines and shapes. Editing is easy, with various pen nibs to aid in drawing thick lines and a convenient erase facility.

Tools include zoom in and out, add or remove columns or rows to or from the character cell and various functions such as mirror, rotate and align commands. For special effects, Fontkit is equipped with a powerful set of global commands enabling entire fonts to be altered by adding shadow, shading, 3D effect and outlines.

Although the program itself is easy to use, there are a lot of intricate details you need to be aware of before you can attempt successful font creation, including the logic behind horizontal offset tables, Intel and Motorola formats and the relationship between grid height/width and point size/resolution. A good read of the manual is a must for beginners but it is easy going from then on in.

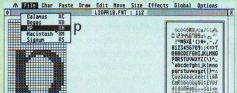
Using Fontkit Plus

The following screen shots illustrate the ease of use of Fontkit Plus and the relatively few steps required to convert a font from one format to another with a change of resolution for good measure.

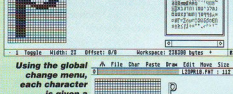


A public domain Hewlett-Packard 300 dpi laser font, in this case Optimis 10 point, is imported directly into Fontkit Plus using the HP import facility

Using the global change menu, each character is given a special effect by simply selecting 3D from the pull down menu



Next, the resolution is changed to 180 dpi for a 24-pin printer. Clicking on the point size then automatically converts the font to its 180 dpi equivalent – in this case an 18 point font. A matching screen font can be created in a similar way



The entire font can be viewed at any time quickly and easily or printed out for test purposes

```
!"#$%&'()*+,-./0123456789:;
<=>?@ABCDEFGHIJKLMNO
PQRSTUVWXYZ[\]^_`abcdefg
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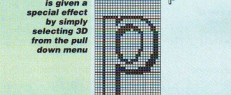

Once the converted font is saved, it can be used in any Gdos program – including the ever popular Timeworks

Bottom line

FEATURES: *Fontkit Plus's vast array of features allows users to convert a wide variety of fonts into a format usable in popular Gdos programs*

EASE OF USE: *Whether you need simple conversion facilities or full-scale design from scratch, Fontkit Plus is the perfect font editing tool*

New features

Two new features reflect the growing reliance on the PC world as a source of good quality fonts. Fontkit's ability to import Hewlett-Packard laser fonts, including compressed LaserJet III format fonts, and convert them to Gem format opens up a wide range of possibilities as there are a number of such fonts in PC-based PD libraries. In addition, version 3.4 can now read and write fonts in the PC's Gem/3 format. This also opens up more sources, particularly for ST owners with access to PC software.

Downloadable fonts for the increasingly popular Canon Bubblejet printer can also be read and edited as can Gem fonts without the standard .FNT extension. The latter includes That's Write, Write On and GST's Timeworks 2 style fonts which have been designed with additional information in the file header.

In terms of the program itself, there have been a number of improvements. It runs much faster than earlier versions and features many more keyboard short cuts, faster disk operations and an option to run other programs from inside Fontkit itself. Non-Gem fonts can also be displayed onscreen or transferred to the paste buffer and saved to disk for later use.

Compression

Fontkit provides useful space saving facilities in two ways, both through the accompanying Trimfont program. Trimfont is a small utility that can load a standard Gdos/Gem font and remove a large number of unwanted characters.

Careful selection and removal of these characters, especially those with Ascii numbers over 127, can reduce the size of the font by up to 50 per cent. Timeworks users will be well aware of how large 300 dpi printer fonts are and how much space they take up on a hard disk. Floppy users will benefit even more from Trimfont, especially if running Timeworks on an ST with 1Mb or less memory. The second method is true compression. Using an algorithm developed for PC fonts, a typical laser printer font can be reduced in size to as little as 15 per cent of its original. Screen fonts can be compressed much less as they are smaller to start with. In tests on my own Timeworks installation, the 40-odd font files were reduced to well over 25 per cent of their original size – a very useful saving on storage space for many users.

The real benefit of compression, however, is that another utility is present which enables automatic decompression when the font is required by Gdos. This means that the space can be saved on the working volume of the hard drive. For floppy disk users running Timeworks from a Ramdisk, it means that many more fonts can be installed and used.

Conclusion

Fontkit Plus has probably done more for Gdos and the ST than any other single utility, opening up an increasing range of fonts to be converted into Gem/Gdos format. It also allows a wide range of special text effects to be employed in DTP programs such as Timeworks and graphics packages such as Hyperpaint, Hyperdraw and Degas Elite.

Even with the much talked about replacement for Gdos and the outline font support in the new Timeworks 2, Fontkit Plus remains essential for editing and managing Gdos font collections. No serious ST owner should be without it.

Product: *Fontkit Plus v3.4*
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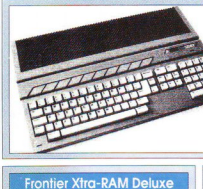


Atari Hardware

520STE Discovery Xtra	£294.99
1040STE Family	£359.99
Mega 1 STE	£599.99
Mega 2 STE + HD	£914.99
Stacy 2Mb Ram 20Mb HD	£1344.99
TT 2Mb Ram 40Mb HD	£1429.99
TT 4Mb Ram 40Mb HD	£1934.99
TT 8Mb Ram 40Mb HD	£2139.99
SM124 Mono Monitor	£134.99
SC1435 Colour Monitor	£229.99
PTC1426 Multisync	£409.99
MEGAFILE 30 HD	£344.99
MEGAFILE 60 HD	£469.99
Portfolio	£181.99
Lynx II	£79.99

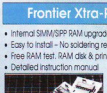
Frontier Xtra-RAM Deluxe

- Internal SIMM RAM upgrade for Atari ST-/STF-/FM and Mega ST
- Easy installation - No soldering on most ST's
- Free RAM test. RAM disk & printer spooler software

- Detailed instruction manual
- 10 day money back offer!
  - 0.5Mb populated £62.99
  - 2Mb populated £104.99
  - 4Mb populated £179.99

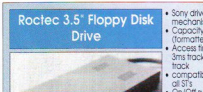
Frontier Xtra-RAM ST-E

- Internal SIMM/SIPP RAM upgrade for Atari ST-E Computers
- Easy to install - No soldering required
- Free RAM test. RAM disk & printer spooler software
- Detailed instruction manual



- 0.5Mb populated $35.99
- 2Mb populated $79.99
- 4Mb populated $149.99

Roctec 3.5" Floppy Disk Drive



- Sony drive mechanism
- Capacity: 720k (formatted)
- Access time: 3ms track to track
- compatible with all ST's
- On/Off switch at rear
- 28.5mm high
- Very quiet!

£57.99

Forget-Me-Clock II

- Clock cartridge with full pass through port
- Sets system & keyboard clocks every time you turn on or reset your ST

- Two year guarantee - including battery
- 10 day money back offer
- Only **£22.99**

Contriver Euromouse

The most responsive microswitched upgrade mouse on the market. Comes complete with mouse pocket and carries a 10 day money back satisfaction guarantee. **£14.99**

Contriver Trackball

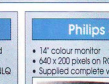
Save on desk space with this ultra-responsive trackball. Features three locking drag buttons and carries a 10 day money back satisfaction guarantee. **£24.99**

Seikosha SP-1900AI Printer

- 192/160 cps Fast/Std Draft
- 48/40 cps Fast/Std NLQ
- Push tractor with paper parking
- Auto paper load and eject
- Co mplete with centronics cable

£119.99

Philips 8833/II



- 14" colour monitor
- 640 x 200 pixels on RGB input
- Supplied complete with cables
  - Optional tilt/swivel base available
  - Free F-19 Stealth Fighter

1 year on-site warranty

£239.99

Software

Word Processors/Text Editors

1st Word Plus	£59.95
Calligrapher Junior	£69.99
K-Word 2	£29.95
Protext v4.3	£49.95
Protext v5.5	£102.99
Tempus2	£28.95
That's Write	£89.99
Wordfair	£69.95
Word Perfect	£178.95
Word Writer	£36.95
Write On	£44.95

Desktop Publishing

Fleet St Publisher v3	£169.94
Pagestream v2	£164.95
Pagestream Font Sets each	£44.95
Timeworks Publisher 2	£89.95

Assembler/Compiler/ Language

Devpac 3	Call
FTL Modula 2	£48.95
FTL Modula 2 Developer	£69.95
GFA Basic Compiler	£23.95
GFA Basic Interpreter	£39.95
Hisoft Basic 2	Call
Hisoft C Interpreter	£41.95
Hisoft Forth	£28.95
HighSpeed Pascal	£74.95
Lattice C v5	£111.95
Nevada Cobol	£34.95
Prospero C	£72.95
Prospero Fortran	£72.95
Prospero Pascal	£72.95

Utilities

Hard Drive Trubo Kit	£25.95
Harlekin 2	£61.95
Knife ST	£24.95
K-Graph 3	£37.95
K-Resource2	£29.95
Mailshot Plus	£34.95
Neodesk 3	£29.95
Twist	£17.95
Trubo ST	£24.95
WERCS	£24.95

Communications

FastComm 2	£39.95
K-Comm 2	£37.95
Mini Office Comms	£18.95

3D/Animation/CAD/Graphics

Canvas	£19.95
Cyber Control	£29.95
Cyber Paint	£36.95
Cyber Sculpt	£36.95
Cyber Studio	£36.95
Cyber Texture	£36.95
Deluxe Paint	£49.95
Degas Elite	£19.95
Easy Draw 2	£36.95
Easy Draw 2 Supercharged	£59.95
Hyperpaint 2	£29.95
MasterCAD	£221.95
Spectrum 512	£22.95

Databases

Adimens Plus	£96.95
Db Base	£34.95
Data Manager Prof	£29.95
K-Data	£37.95
Soldata	£36.95
Superbase Personal	£39.95
Superbase Personal 2	£64.95
Superbase Professional	£164.95

Spreadsheets

3D-Calc	£22.95
DG-Calc	£27.95
K-Spread	£21.95
K-Spread 2	£44.95
K-Spread 3	£67.95
K-Spread 4	£91.95
K-Spread 4T	£112.95

Accounts

Cashboot Combo	£54.95
Cashbook Controller	£41.95
Home Accounts	£21.95
Home Accounts 2	£37.95
Personal Fin Man Plus	£29.95
System 3	£41.95

Audio/Music

Band in a Box	£62.95
C-Lab Creator	£284.95
C-Lab Notator	£474.95
Cubase	£489.95
Cubeat	£274.95
Dr T's Copyit App	£94.95
Dr T's Copyit DTP	£234.95
Dr T's Omega Cub	£94.95
Fb-1x X-OR	£29.95
K-Minstrel 2	£24.95
Quartet	£34.95

Educational

Better maths 12-16 yrs	£19.95
Better Spelling Over 8	£19.95
Fun School 2 Under 6	£14.95
Fun School 2 6-8	£14.95
Fun School 2 Over 8	£14.95
Fun School 3 Under 5	£19.95
Fun School 3 5-7	£19.95
Fun School 3Over 7	£19.95
Magic maths 4-8 yrs	£19.95
Maths Mania 8-12 yrs	£19.95
M Beacon Teaching Typing	£32.95
Micro French GCSE	£20.95
Micro Maths GCSE	£20.95
Primary Maths 3-12 yrs	£20.95
Spell Book 4-6	£14.95
Spell Book Data	£11.95
Spell Book Over 7	£14.95
Spell Book Over 7 Data	£11.95
Spell Book Data Creator	£7.95
The Three Bears	£19.95
Things to do with Numbers	£14.95
Things to do with Words	£14.95

Hardware/Peripherals

Citizen 120D+	£134.99
Citizen 124D	£184.99
Citizen Swift 9	£189.99
Citizen Swift 24	£239.99
Swift 9/24 Colour Kit	£34.99
Star LC-20	£154.99
Star LC24-10	£199.99
Star LC-200	£214.99
Star LC24-200	£239.99
Star LC24-200 Colour	£299.99
Supra 40Mb Hard Drive	£294.99
Supra 105Mb Hard Drive	£564.99
Cumana 1Mb 3.5" Drive	£69.99
0.5Mb Xtra-RAM Std ST-FM	£52.99
2Mb Xtra-RAM Std ST-FM	£87.99
Printer-Q Buffers	from £52.99
AT Once Plus	£174.99
AT Speed C16 c/w DR DOS v5	£219.99
PC Speed	£89.99
Hitachi Camera & Lens	£224.99
Vid-ST + Vid-Chrome	£194.99
Vidi RGB Splitter	£69.99
Golden Image Scanner	£169.99
Daatascan Professional	£169.99
Supra 2400 Modem	£114.99
Supra 2400 Plus Modem	£144.99
Mastersound 2	£29.99
Playback	£22.99
Replay v8	£89.99
Replay Professional	£94.99
Golden Image Mouse	£19.99
Naksha Mouse	£24.99
Squik Mouse	£14.99
Tilt & Swivel Monitor Base	£9.99
Universal Printer Stand	£6.99
Centronics Printer Cable	£4.99
ST-FM to Scart Cable	£11.99
ST-E to Scart Cable	£14.99
3.5" Disc Cap Disk Box	£6.99
10 x Sony Bulk 3.5"	£5.99
50 x Sony Bulk 3.5"	£24.99
100 x Sony Bulk 3.5"	£44.99

Please call us for a price on any hardware, software or peripherals you may require but can't see listed.

Please make cheques/postal orders payable to SOFTMACHINE. All items subject to availability. All prices and manufacturers specifications subject to change without notice. All prices include VAT and UK delivery. E&OE All trademarks acknowledged.

SOFTMACHINE

Dept ST 12, 20 Bridge House, Bridge Street, Sunderland, SR1 1TE.
Sales Tel: (091) 510 2666 Enquiries Tel: (091) 510 2777 Fax: (091) 514 1960

Goods are not offered on a trial basis. Goods are offered for sale subject to our conditions of sale.

Callers welcome. Our hours of business are 9.30 till 5.30 Monday to Saturday.

ATARI ST USER BUYERS' GUIDE

The only detailed and up to date Atari ST product listing

ST User regularly publishes comprehensive multi-product Supertests telling you all about each product in its respective class. However, because we can't cover the whole ST scene in this much detail in one or even several issues, we are presenting a Buyers' Guide. We will publish a guide once every three months, the first (this one) covering hardware, the second software, and the third Midi. The cycle will then be repeated.

Expect the Buyers' Guide to develop and expand to include more detailed mini-charts for a whole range of popular business and home user products; word and document processors; databases; spreadsheets; paint packages; communications software; C compilers; desktop publishing packages; scanners; video digitisers; sound samplers; printers; monitors; hard disk SCSI adapters; Midi sequencers; floppy drives and so on. These charts will outline a number of key features to look out for plus supplier details, price and a concise summary.

In addition to these specific product groupings, there will be comprehensive listings of non-grouped products covering all subjects, including art and graphics; programming; financial software; utilities; education and learning and – just to make sure we don't miss anything – miscellaneous hardware and software.

Please note that this guide is based upon information supplied to us by product distributors and developers.

There may be some products listed in other publications which are not mentioned here – if a product does not have full UK availability or a supplier will not cooperate with *ST User*, then we cannot be reasonably expected to list these products in our guide. All specifications and prices (including VAT) are correct at the time of going to press.

Note to software houses, distributors and developers:

Please contact *ST User* in writing, by post or fax if any of the information contained within this guide needs amending or updating. If there are any products available in the UK that are not listed here, please get in touch so that we can add them to our records.

HARDWARE

External hard disk drives

Product	Price of cheapest drive	Budget capacity	SCSI host board used	Front-mounted power switch	Battery-supported clock	Cooling fan built in	DMA through port	SCSI out port	Backup software supplied	External DMA addr. switch	Specter 128 compatible	Noise rating	
Power Drive 900 Power Computing	£339	40Mb	GESoft	●		●	●		●		●	3	One of the smallest drives available, this compact device has a front-mounted power switch and an optional power supply. Can take its power from the ST.
Third Coast FA.ST Third Coast Tech.	£319.99	32Mb	ICD		●	●	●	●			●	4	Built around the ICD host adapter and software, these drives are constructed in the UK to mediocre standards. Performs well and offers full Atari compatibility.
MegaDrive Gasteiner Technologies	£POA	50MB	GESoft				●		●	●	●	4	Robust case construction, but finish is poor. Rear-mounted DMA switch and plenty of space for adding a second mechanism. Lack of a fan makes for quiet running.
Megafile 30 Atari	£499	30Mb	Atari			●	●				●	2	Designed to stack with the Mega system unit but works just as well with any model of ST. Low on features but well built, ST-coordinated and reliable.
Datapulse Ladbroke Computing	£409.99	52Mb	GESoft or ICD	●	●		●		●	●	●	5	Available with either ICD or GE-Soft host board, 11ms average access time with intergral 64K look ahead disk cache. Very quiet.
ICD FA.ST Silica Systems	£573.85	30Mb	ICD		●	●	●	●	●	●	●	4	This is the official ICD hard drive which is manufactured in the USA. It is nicely designed, very well put together and has a list of key features you'd be hard pushed to improve upon.
Reference Evesham Micros	£299	40Mb	ICD				●	●			●	n/a	Colour matched to ST. Autoparking NEC mechanism 28ms access time.
Vortex Datajet Silica Systems	£599	30Mb	Vortex		●	●	●		●	●	●	n/a	Range from 30 to 180Mb. Removable 44Mb Sysquest drive built in on request. Built in virus protection. Microprocessor controlled fan for almost silent operation.

Emulators

Product	Price	Supplier	Version	RAM	Mode	
ATonce	£199	Silica Systems	-	512K	o/m	'286-based PC AT emulator designed by Vortex. Boasts a Norton speed rating of 6.7, can use up to 4Mb of ST memory, supports all ST I/O ports, hard drives and the Atari laser printer. Plug-in adaptors for Mega and STE.
AT Speed	£139.99	Compo UK	-	512K	o/m	Sack's '286 version of the V30 PC XT emulator. Full I/O support, CGA / Hercules / Olivetti / Tandy screen modes. STE owners will need to purchase a speed connector (£25) from Compo UK to connect the ATSpeed to the STE.
PC Ditto	£79	Power Computing	v3.96	512K	o/m	The original software-based PC emulator from Avant-Garde systems. Cheap, remarkably compatible, but many graphics-related applications run too slowly. However, many DOS programs run at an acceptable speed.
ATonce Plus	£199	Silica Systems		512K	o/m	16Mhz version of the ATonce emulator.
PC Speed	£99	Compo UK	v1.4	512K	o/m	Very similar to PC Ditto II - a hardware add-on that fits inside your ST to provide fast PC compatibility. Runs all the major PC software and has good screen mode support. Plug-in STE and Mega versions also available.
Spectre GCR	£384.99	HiSoft, Ladbroke	v3.00	1Mb	m	Serious Macintosh emulation with this remarkable hardware/software combination. 128K Mac o/s ROMs included. Runs the latest versions of System and Finder and can even read and write Mac disks directly.
Supercharger	£258.50	Condor Computer	v30	512K	o/m	This PC emulator plugs into the ST's DMA port and contains its own RAM. Very compatible and as fast as any other emulator. Possible to toggle between ST and PC modes by pressing a key combination. DOS included.

Atari Hardware

Product	Price	
520STFM Discovery Pack	£329	512K ST with a selection of software: 1st BASIC, NEOchrome, STOS and a few top-selling games.
520STE Power Pack	£399	512K STE with joystick and a selection of games.
1040STE Extra Pack	£499	1Mb STE with productivity software: WP, spreadsheet, database, graphics, 1st BASIC, ST Tour (introduction)...
1040STE MIDIman Pack	£499	1Mb STE with MIDIman (generic editor/librarian) from Hollis Research.
1040STE Super Pack	£499	1Mb STE with a collection of top games plus a joystick.
1040STE Professional Pack	£499	1Mb STE with K-Spread 3, First Word Plus, Superbase Personal, ST BASIC.
Mega ST1+SM124	£816.62	Mega ST with 1Mb RAM, DS disk drive. Pack includes hi-res mono monitor.
Mega ST2+SM124	£1169.12	2Mb system with hi-res mono monitor.
Mega ST4+SM124	£1379.99	4Mb system with hi-res mono monitor.
SF314	£149.99	External double-sized disk drive with external power supply.
Stacy 2/20	£1,499	Portable ST with 2Mb RAM, backlit LCD screen and 20Mb hard drive, trackball for mouse control.
Stacy 2/40	£1,879	Portable ST with 2Mb RAM, backlit LCD screen and 40Mb hard drive.
Stacy 4/40	£2,114	Portable ST with 4Mb RAM, backlit LCD screen and 40Mb hard drive.
Atari mouse	£24.99	Replacement ST mouse. Third-party alternatives are much better and come bundled with extras.
SC1435	£259	Colour monitor for low and medium-res modes. No general purpose inputs - can only be used with an ST.
SM124	£149.99	High resolution 12" paper-white monochrome monitor.
SLM804 Laser	£1174.99	300dpi, 8 pages per minute laser. Needs a 2Mb+ ST (pinches 1Mb of system RAM for its own use).
SLM Toner kit	£39.99	Toner cartridge for SLM804 laser.
SLM drum kit	£169.99	Replacement drum for laser engine. Includes new corona wires.
Megafile 30	£369	Slab-style 30Mb hard drive with DMA through-port.
Megafile 60	£689.99	Slab-style 60Mb hard drive with DMA through-port.
Megafile 44	£939	44Mb removable media hard drive system, styled like other Megafiles.
Math co-processor	£129.99	68881 FPU for Mega STs. Very few software packages support it. DynaCADD uses FPU.

SCSI host adapter kits

Product	Price	Supplier	
BBDP	£49	BBDP Electronics	Budget SCSI host kit with software. Designed and produced in the UK.
GE-Soft	£59.95	Gasteiner Technologies	Compact SCSI board with versatile driver/utilities.
ICD Advantage Plus	£99.99	Silica Systems	High-spec host board with clock and full-feature software.
ICD Advantage Micro	£74.99	Silica Systems	Miniature host card plugs on to SCSI drive. Ideal for Megas.

Floppy drives – external

Product	Price	Supplier	
Power Drive 3.5"	£55	Power Computing	This external double-sided floppy disk drive is available with or without a power supply. Take power from the ST's joystick port to save a bit of money. Well built using a good quality drive mechanism.
CSA354 ST	£99	Cumana	1Mb external drive with built-in PSU.
Daatadisk drive	£54.95	Pandaal Marketing	Slim 1Mb drive with built-in PSU.
Power Drive	£69	Power Computing	New Power drive with built in blitz copier and Anti Virus and it also boots from drive B.
Evesham Drive	£54.95	Evesham Micros	Drive has slimline design, exceptionally quiet – suits any Atari ST.

Scanners

Product	Price	Supplier	RAM	Mode	
Colibri	£454.25	Signa Publishing	1Mb	m	400dpi 105mm hand-held with fast software. Good image processing functions.
DAATAscan Pro.	£149.99	City Beat	512K	c/m	400dpi hand-held with slick new software.
DAATAscan Pro. Mitsubishi A4	£599.95	City Beat		c/m	400dpi A4 hand-held. Clever sheet feed option available.
IMG Scan	£39.99	Ladbroke Computing	512K	c/m	Fibre optics clip on to printer's print head. Cheap, but so are the results.
Migraph Hand Scanner	£399.99	Software Express	1Mb	c/m	v1.5 400-dpi hand-held with Touch-Up paint/edit software.

Networking and interfacing

Product	Price	Supplier	RAM	Mode	
BioNET 100	£phone	Signa Pub. Systems	512K	c/m	A fast and very sophisticated networking system based around the ST's DMA port. Full connectivity with Macintosh and PC systems. TCP/IP support also implemented.

Video digitisers

Product	Price	Supplier	Version	RAM	Mode
Complete Colour solution	£179	Rombo	512K	c/m	The complete colour solution for the ST. Contains Vidi ST, Vidichrome, RGB, Spectrum 512 and G-Base.
Vidi-ST	£99.95	Rombo	512K	c/m	Fast grabbing 12 frames per sec. Excellent software. Good value.

Mice and trackballs

Product	Price	Supplier	Res	Lead	
Gasteiner Track-ball	£29.95	Gasteiner	260dpi	1880mm	Trackball with "hold and click" mechanism. Now has auto-fire function.
Trackball	£29.95	Evesham Micros	200dpi	1800mm	One handed control. No driver software required. Operates from mouse or joystick port.
Contriver Euromouse	£14.99	Contiver Europe	260dpi	n/a	Atari/Amiga switchable mouse supplied with mouse pocket.
Contrak Ball	£35.00	Contriver Europe	295dpi	1050mm	Neat trackball with lockable buttons.
Gasteiner mouse	£17.95	Gasteiner	290dpi	1880mm	Based on the Naksha mechanism.
Genius mouse	£24.99	Datel Electronics	200dpi	1750mm	Ideal resolution, good buttons. Moves on its own, though.
DastaMouse	£24.95	City Beat	360dpi	1800mm	ST/Amiga switchable very fast with with self cleaning anti-static mechanism.
Naksha mouse	£29.95	Naksha	280dpi	2800mm	High resolution mouse, comes in slick packaging. The original.

Miscellaneous hardware

Product	Price	Supplier	
Monster stereo cartridge	£19.95	City Beat	Power up that ST sound with the Monster stereo cartridge.
Forget-Me-Clock II	£24.99	Frontier Software	If you haven't got a Mega ST (with a battery-backed clock) then this little add-on will remember the time and date for you when you switch off your ST. The best clock card around. Also has a cartridge through port.
Keyboard Interface	£54.99	Third Coast Technologies	This useful item enables you to use a PC keyboard with your Atari ST
HyperCache	£209	Third Coast Technologies	Replacement 16MHz 68000 CPU improves performance of any ST by up to 40-50 per cent depending upon the type of software used. Incorporates an 8K instruction/data cache. Installation involves removing the ST's CPU.
K-Spect	£229	Kuma	Hardware and software to enable the ST to be used as a spectrum analyser. Onscreen controls. Audio frequency two channel, saves data to disk and gives hard copy printout.
Mat Screen A3 monitor	£2012.50	Signa Publishing	High resolution A3 monochrome monitor for use with Mega STs only. Comes with a video card which plugs into the Mega's expansion slot. Several modes including expanded full-screen 640x400 representation - ideal for teaching.
Microtext Teletext adapter	£129.50	Microtext	Add a teletext receiver to your ST and browse around the Ceefax and Oracle services, downloading pages into your ST - you can even fully automate the process. Print out the pages or convert them into text files.
Philips CM8833 Mk.II colour monitor	£239	Philips	Stereo version of this popular and versatile computer monitor which is ideal for use with and ST/STE. Brightness and contrast controls, composite and RGB input, image proportion adjustment.
Sound Blaster	£52.99	Siren Software	Beef up the sound output of your ST by rerouting it through a specially designed amplifier. Speakers and headphones are provided, so you can sound-blast day or night.
Tower Power	from £129.50	The Atari Workshop	A Tower-style case to which you can transplant any ST. Plenty of room for extra disk drives and hard drives, memory upgrades, emulators, etc. Gives remote keyboard convenience and spaghetti-free computing to non-Mega STs.
Xtra-RAM	from £29.99	Frontier Software	Add extra RAM to any ST (non surface mount MMU) with this plug-in memory upgrade. Can take up to 2Mb of RAM giving 2.5Mb. Fits internally so you do have to take your machine apart. Good documentation eases installation.
Video Box	£389.50	Interactive Media Resources	Genlock for any non-STE machine. Several chroma-key modes. Requires shifter-chip modification to achieve video synchronisation. This device is controlled via a lead plugged into the ST's printer port.
Evesham SIMM kit	from 89.95	Evesham Micros	SIMM motherboard which can take upto 4 Mb of RAM. Once installed, the board can be expanded by simply plugging in more or bigger capacity SIMM cards.

Ladbroke Computing International

Please Read: Terms of Sale.

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

All prices are correct at copy date 29/10/'91 (while stocks last), and are subject to change without prior notice. Please phone for up to date prices. All prices include VAT & delivery in mainland UK), there are no hidden extras (WYSIWYG). Next day courier delivery is available for an extra £7 (Mainland UK). All prices available on Mail Order. Shop prices may differ.

Monitors

Atari SC1435 £249.99
Atari's new medium resolution Stereo, Colour monitor, includes green screen feature, cable, and swivel stand.

Atari SM124 £134.99
High resolution 640 x 400 Monochrome monitor.

Philips 8833MkII £239.99
Medium resolution, Stereo, Colour Monitor, includes cable and 12 months on site warranty (Mainland UK)

Philips Cube TV £269.99
Includes: FST, remote control, Scart input (giving near monitor quality display), 60 tuner presets, sleep timer and fastext. Comes with cable and 12 months on site warranty.

Mice

Squik. High quality replacement mouse. **£15**
290 Dpi.

STE Packs

STE Discovery Xtra Plus Pack
Includes: 9 lives, Escape from the planet of the robot monsters, Final fight, Sim City, ST Tutorial, Neochrome art package & 1st Basic, mouse..... **£299**

1Mb STE Discovery Xtra Plus Pack **£319**
As above with 1Mb (1024K) memory.....

2Mb STE Discovery Xtra Plus Pack **£359**
As above with 2Mb (2048K) memory.....

4Mb STE Discovery Xtra Plus Pack **£439**
As above with 4Mb (4096K) memory.....

1040STE Curriculum Pack
Includes 3 packs of Educational software catering for 5yrs to GCSE. 1 Business pack consisting of wordprocessor, spreadsheet and database, and 1 creativity pack consisting of Hyperpaint and Music maker software..... **£369**

2Mb STE Curriculum Pack **£399**
As above with 2Mb (2048K) memory.....

4Mb STE Curriculum Pack **£479**
As above with 4Mb (4096K) memory.....

Emulators

PC Speed,(XT) £ 99.99
Please state which version you require, STFM or STE.
AT Speed £ 150
Includes DR DOS
AT SPeed C16 £ 249.99
Includes DR DOS 5, Socket for 80C287 Co-Processor, Norton factor of 8.2
Adaptor board to fit AT speed to STE £ 24.99
Adaptor board to fit AT Speed to Mega £ 24.99

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ST GAMER

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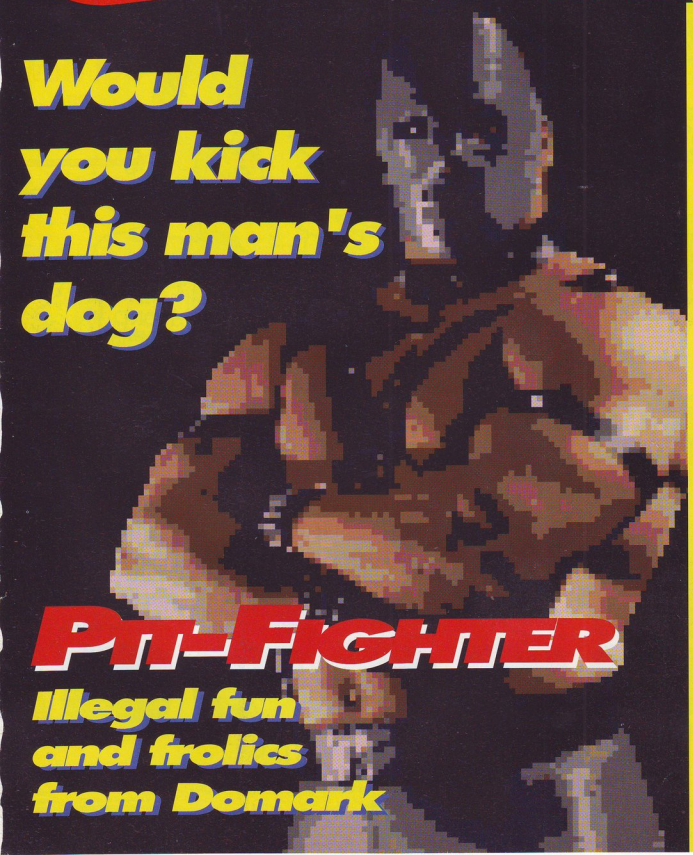

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CODEMASTERS

AMIGA screen shots shown. 8-bit versions feature "DIZZY" instead of "KWIK SNAX"

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GAMER inner VISION

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A gang of senile scientists spend their evenings playing with dangerous explosives

MOONFALL 8
Can Elite be beaten? Not if this is anything to go by

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Deep sea deeds of daring

PIT-FIGHTER 12
Gratuitous violence and illegal fist fights – what better game to play over the season of goodwill?

VROOM 14
Pedal to the metal for one of the fastest race games around

ROLLING RONNIE 18
We investigate a new sport in which ex-US presidents get pushed down hills. Or do we?

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ONword

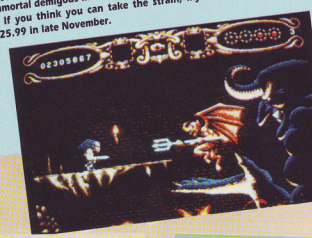
What's hot and what's not. Gamer spills the beans on the latest from the Atari games scene

MYTH – System 3

Hot on the heels of Last Ninja III comes Myth, a tale of valiance and courage in the face of big, well animated sprites that would scare the pants off lesser mortals. Updated from the highly acclaimed 8-bit game of the same name it requires the player to guide our hero through four gigantic levels, the first three of which are beat-'em-ups, the last being a shoot-'em-up.

The graphical styles take in the three great nations which use mythology as a large part of their history – Greece, Norway and Egypt. At the end of each level you must take on the might of semi-immortal demigods in their lairs.

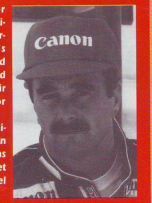
If you think you can take the strain, Myth will be available for £25.99 in late November.



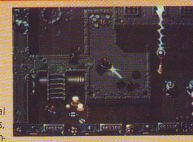
NIGEL MANSELL GRAND PRIX – Gremlin Graphics

Although it would take miracle for Nigel to win this year's World Championship, Sheffield-based Gremlin – perhaps with an eye on Frank Bruno's immense popularity after Tyson dished him a good kicking – have signed young Nige to put his name to their forthcoming Grand Prix title due for release some time in 1992.

Gremlin have built up a major pedigree as far as race games go, so even without the Nigel Mansell licence it was sure to be a hit, but this one looks set to be a winner no matter what Nigel does in the last two races!



THE CHAOS ENGINE – Renegade



Following on from the critical acclaim of Gods and Magic Pockets, Renegade's (alias the Bitmap Brothers') previous two releases, The Chaos Engine is billed as the game that will continue to use "advanced AI principles" in the control of the NPCs and the aliens (there are always three good guys, but now they can be played by the computer or by humans).

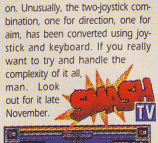
The aim is to provide an action game that utilises the principles of rôle playing, so that players may experience character development and select computer characters to take on certain roles and duties as they explore the Victorian fantasy world.

Readers of William Gibson's **The Difference Engine** will probably know more about the plot than I do but look out for more previews before its release in spring next year.

SMASH TV – Ocean

The hit two-joystick Williams coin-op that bears more than passing resemblance to Robotron – or anything else ending in Tron for that matter – will crash on to the ST within weeks of this article being read.

Based around a futuristic game shop the player has to blast everything in sight whilst trying to pick up as many bonus items as possible – VCRs, sleek 1990 roadsters and so on. Unusually, the two-joystick combination, one for direction, one for aim, has been converted using joystick and keyboard. If you really want to try and handle the complexity of it all, man. Look out for it late November.



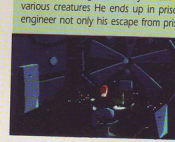
ANOTHER WORLD – US Gold

Since the release of Future Wars two years ago, game designer Eric Chahi has been hard at work on Delphine's next project. This game will feature polygon-based graphics, very complex ones mind you, as opposed to the traditional bitmapped stuff that Delphine has favoured in previous releases.

The game follows the adventures of young nuclear scientist Lester Knight Chaykin as he tries to find his way back from the eponymous other world that he has been catapulted into following a freak accident in his research laboratory.

The game begins on rocky terrain where Lester meets up with various creatures He ends up in prison and from there he must engineer not only his escape from prison but his escape from the world.

This interactive adventure will be released in December, price to be announced.



DOUBLE DRAGON II – Storm

Double Dragon III finds the brothers, Billy and Lee, embarking on a new quest, a quest to find the Rosetta Stones. These stones will form a ransom for the once-more captured Marion (the perennial damsel in distress of the first game). Their journey will find them embarking on trips through the US, Japan, Italy, China and finally Egypt.

Each of the five levels will consist of 14 street fighting stages where Billy and Jimmy will try and vanquish the alien force behind the world's problems and defeat the mighty enemy that awaits you at the end of the game.

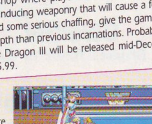
New moves, such as the Handstand Ankleflip or the One Armed Headbutt (I think someone's taking the mickey here), and new features, such as the weapons shop where players can buy all sorts of headache-inducing weaponry that will cause a few bruises and some serious chaffing, give the game a greater depth than previous incarnations. Probably.

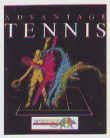
Double Dragon III will be released mid-December at £25.99.

WWF – Ocean

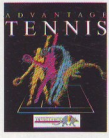
Straight from the satellite success of Hulk Hogan, The Bushwackers, The Ultimate Warrior and Sergeant Slaughter, Ocean are preparing to release the 16-bit conversion of the all-action sweat and canvas frenzy that is currently gracing BSkyB.

It is apparently so accurate that if you look carefully you can see the players conferring as to what move they are scripted to make next. Possibly. Around some time in early December.





A D V A N T A G E TENNIS



Monday, 3rd of November 1991 THE NEWSPAPER OF CHAMPION GAMES. ★ 1st year N# 000001

SIMPLY UNBEATABLE!

Another crushing victory for ADVANTAGE TENNIS over its rivals. Its indisputable technical superiority was proved last season on all surfaces. Like us, Tennis World is wondering if this year, there will be a player who is well trained enough to succeed in taking ADVANTAGE TENNIS' title and becoming Number 1.

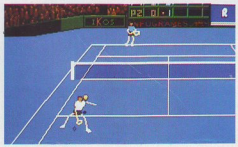
A CHAMPION'S PORTRAIT

- 1 or 2 simultaneous players.
- Numerous spectacular shots: Backhand smash, Dive...
- Slow motion replay of the last rally.
- 3 game types: training, season or exhibition.
- ATP point and ranking management by program.
- Different view angles.

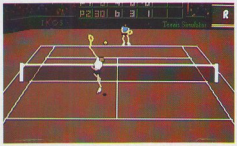
WIN YOUR BADGE "N# 1 IN THE WORLD"

Fine! You have not given up. Your technical and mental qualities have made you Number 1 in the world ranking. Every winner deserves a medal. So if you're among the first 200 to send us a screen shot representing the first page of your press book proving that you have defeated ADVANTAGE TENNIS, you will get the badge ADVANTAGE TENNIS PLAYER NUMBER 1.

Marvellous high smash on the grass of Wimbledon.



Terrific between-the-legs-stroke on the synthetic surface of Tokyo.



Splendid backhand smash at the net on clay at Roland Garros.

HEAD
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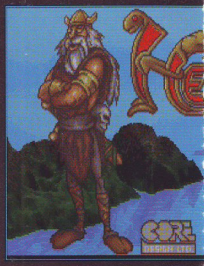
Cor(e) blimey guv'nor, Strike me dahn if it ain't a preview of Core Design's Norse epic Heimdall, and further in, an exclusive sneak preview of Wolfchild, their great-looking post-Christmas beat-'em-up.



Game designer Jer O'Carroll set out with one specific aim in mind – make an RPG that looked far more exciting and entertaining than the usual run of the mill. Several months later Jed Keveney (programmer) and himself have come up with quite a game. I went to Derby to have a look.

The story goes thus: The gods created the Vikings, messed around with them for a few centuries, went out drinking with them, went on trips to watch the local footie team, and took part in mad drug-crazed orgies – the usual sort of laddish stuff. However after a few hundred years of this non-stop debauchery, the gods got a bit bored, the wimps, and severed all links with the humans. But one god, Frey (patron of corned beef and tinned beef pies) had the wisdom to leave a tenuous link. He left a prophecy that sometime in the future a great warrior would be born to a girl in the village when then the time came.

Many centuries later, the feud between the good gods and the evil gods came to a head. Loki, the leader of the evil ones, pulled a fast one and stole the three sacred weapons of the good gods, hiding them across the three planes of existence – Midgard, Utgard and Asgard. Two of these planes were inaccessible to the gods as they would have to become mortal to get to them, and they would never be able to return to the immortal debauchers they once were. The time had come to fulfil the prophecy.

Entering a village usually involves paying off some jobsworth lackey of a bouncer

That night Thor raised a storm that ravaged Norway, and in a Viking village at the northern tip of that striking land a young virgin gave birth. Until that moment

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GA

A gentleman's club of late 19th century Boston is the setting for this derivative but highly enjoyable puzzle game, that claims to be the first to have a sense of humour. It is the kind of gentleman's club that's decorated in a very austere style, apart from the numerous good time gals who wander around in basques and suspenders like the ones in Twin Peak's One Eyed Jack's (sounds great to me-Gratuitous Sexism Ed).

The Bomb Club's favourite pastime, apart from paying large amounts of cash to these basquered women, is lighting the fuse to one of those round bombs that Peter Sellers so loved, and guiding it around a course laid out on a table so that it reaches the safety of a bucket of water before it explodes.

The tabletop is constructed from various pieces, each one "square" big. These pieces can be manipulated so that a path across the table is constructed for the bomb. Typically not all the available spaces on the table will be used and nor will all the pieces be flexible.

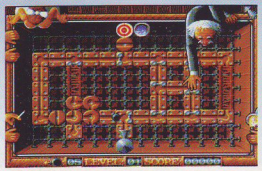
The general pieces you will come across are as follows – the static ones which cannot be adjusted in any way shape or form, the junctions which make use of a movable gate which allows you to guide the bomb to where you want it to go by placing the barrier on one of the four edges of the "square", the rotatable L-bend, the collapsible bridge which can only be used once, the trampoline which will launch the bomb a set number of squares as dictated by the number upon it, or the "fixed" gate.

The fixed gate is a right royal bugger. You have no direct control over which of the four positions it is set in – the only way it can be changed is by guiding the bomb through it. This hits the switch which flicks the gate on to the next position clockwise from it.

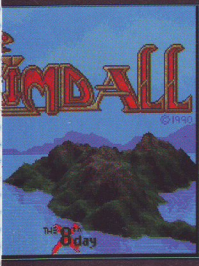
The combination of the pieces and hazards, and the correct manipulation thereof, makes for as real challenge as you try and stay ahead of the constantly moving bomb. It all ends up

Oh, what a bomber!

PALACE ▪ £25.99 ▪ ½ meg ▪ Mouse ▪ Out November



The "interfering old git" level is not as easy as it looks



she had not even realised she was preggers (sex education was a case of "on the job" training in those days). That child was Heimdall.

Heimdall is the central character of this game, which attempts to move the boundaries of RPG into a far more accessible arena by making it look and play in a much more interesting way.

The game is split into two parts. The first will show Heimdall growing up, completing three lighthearted tasks. The more successful he is at these tasks the more men he is able to to take with him on his quest. He has access to thirty men in total but depending on the score from the three tasks he may be refused access to the men with more advanced skills.

What will these three tasks be? The first involves a girl tied by her eight pony-tails into the stocks outside some tavern. In an extremely drunken manner you must fling ten axes at her in the hope that you will be able to sever all eight pony-tails and free her from the stocks. Naturally the major danger is severing her from one side of her head with the axe, and if this happens it could cause big problems.

The next part will involve chasing a pig around an arena until a deft movement of the joystick causes you to dive on her and get her to sit on your lap – say no more.

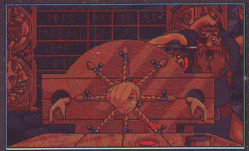
The final part has you seated in one of those giant Norse longboats fighting another longboat to The Gurgle. This is apparently the sound these boats make when they sink, hence the name The Gurgle.

All these three sections will be done with some brilliant Dragon's Lair style animations, but there is actually some gameplay there as well. The quality of these sections will be quite amazing, cartoon quality animations that burst with humour.

The rest of the game will take the form of a 3D isometric RPG, but with mega-brilliant backgrounds, and the sprites animated in the same cartoon style as the three sub-games but a bit smaller. This part of the game will be played over three levels – Midgard, Utgard and Asgard – with the aim in each of the levels to sail around the islands, solve puzzles, beat up various creatures and find the sacred weapon that will be cunningly hidden.

Heimdall is the leader of the party of six selected from the thirty original men, but only three at any one time will be allowed off the ship that journeys between the islands. The three in play won't be seen onscreen at once, just the current leader of the party, in a symbolic kind of way.

One of the major improvements on the genre ➤



Strung up by the other girls in class for having too many pony-tails, you must release her from the stocks by slicing them off with an axe. Oh the irony

You missed the pony-tails but managed to slice her head open. Never mind, nobody liked her anyway

One of the first rooms you will come across, usually full of food but someone's beaten you to it...

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GA

Miss Golden Gate: 42-5-42, pouts provocatively

being a bit like Pipe Mania. The frantic nature of the gameplay is there, but not to the same hair-greying extent, and the addiction is there, but it won't cause the same sleepless nights.

The more advanced levels can cause some pretty serious nightmares, but the game often provides opportunities to hang around, by parking a bomb between two closed gates, and thus it gives you the time to think carefully about the problem as opposed to forcing you to make an off the cuff decision – one of the factors that made Pipe Mania such a nightmare.

To add to the troubles, each bomb represents a life and to complete a level all you have to do is get all your remaining bombs through the course. This means that you will be able to whistle through about five levels in quick succession if you are down to one life, because getting one bomb through is no problem on most levels. The better system would have given you a fixed number of bombs to get through the level. Then, if you failed you lost a life and had to try again.

The small number of levels, 30, means that the price is a little high for a game that can be completed in a cack-handed way, one bomb through 25 levels, very easily.

On the good side though, the levels that there are are really good fun, and sometimes take a few attempts to work out. While you do try and work them out it is great fun, and sometimes very frustrating as the spectators at the side reach across and interfere with your hard work, a clever feature that hasn't been seen before.

In all though, it is a little too simple – great fun for a while, but not good enough to warrant a place in software history.

Jools

Dead easy this one. But look out for the collapsing bridges

One of the simpler levels but a bit of a toughie all the same

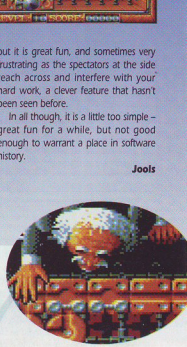
VISION
GGG
Great intermediate screens, good-looking in-game stuff.

AUDIO
GGG
Limited to the odd click and bang.

PLAYABILITY
GGG
High challenge factor but ultimately repetitive.

ADDICTION
GGG
Easily completed, with nothing to aim for.

75%



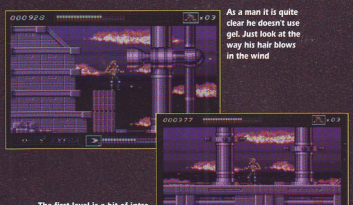
the Source

Continued

➤ **are the fight sequences. Instead of pressing the Fire button a lot in front of a picture of the chap you are trying to hack to bits, you will be fighting an animated bad guy, and the timing of your blow during the animation will be crucial to the success of the hit. During a fight one or all of the party will be involved but initially it will just be the selected leader.**

The screen layout will be similar to Dungeon Master during the fights with the animation going on in a quarter screen window. As well the enemy being animated, each attack you make will have its own animation, and a different one for each different weapon. The info displayed will include blood meters to indicate the health of both you and your opponent, and an icon panel showing which weapons and spells are available to you for use during the fight.

However most of the game uses the isometric viewpoint sharing more with Cadaver and Dragon's Lair than with Dungeon Master and Eye of the Beholder. And this is where the amazing graphics come in and some inspired puzzling and exploration. The still backgrounds are outrageously good, but the sad thing is that the sound is going to suffer because there just isn't the room in the average memory, once all the graphics are in there, for a wide range of sound effects.



As a man it is quite clear he doesn't use gel. Just look at the way his hair blows in the wind

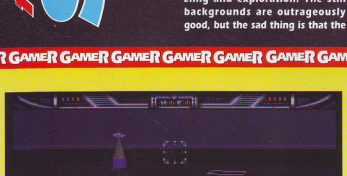
The first level is a bit of intro as you work your way along the deck of your floating battleship-type contraption

This aside, it is going to be something of a stonker when it hits town in December.

WOLFCHILD

Being the cunning devil of a newshound that I am, I managed to blag an exclusive preview of Core's post-Christmas beat-'em-up Wolfchild while I saw Heimdall. And it looks pretty tasty as well. What the game designer and programmer, Simon Phipps and John Kirkland respectively, have tried to do is combine the playability that has always been there in good beat-'em-ups with a graphical quality and attention to detail previously unheard of outside of the very best console games.

The game revolves around a young man's quest to rescue his scientist father from the clutches of the evil organisation Chimera. The young man's father, Kal Morrow, was the leading innovator in the world of genetic hybridisation, the science of melding species to create superhumans with



The first base you will come across contains a pub and a trading computer

Mid way through the 21st century man has finally mastered the technology required for travel to and colonisation of distant planets. The first starship, Daedalus I, set off in the year 2052 heading for Wolf 359, a small red star some 8.1 light-years away from Earth.

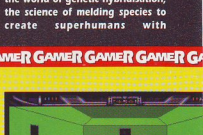
As the scientists arrived some generations later they discovered that the dual star solar system was entirely devoid of planets. There was no more in that solar system than a large number of asteroid belts.

On closer inspection it appeared that among the asteroids there flew thousands of tiny craft – automatically controlled mining vessels. It seems the previous colonists has destroyed all the planets so that they could mine more efficiently.

Daedalus I headed for the only lump of rock bigger than an asteroid but smaller than a planet, a moon that no longer had a planet to orbit. This moon, christened Frontier Alfa, was inhabited by a race of independent, capitalist and unscrupulous robots and their creators the Remusians. The Remusians were small bug-eyed humanoids who took a much less active role in the colony than the Roboforms.

The Earth starship was soon captured by the Remusians, who enslaved the human habitants. Some of them escaped capture however, and established a small colony of their own. They set you up as a trader, with the ultimate aim of making enough profit to be able to buy the whole colony and become supreme leader, thereby being able to free the enslaved humans.

This 3D vector graphics based games combines violence and trading on a planet's surface, in the classic formula that was pioneered by Elite in deep space. In Moonfall though, the gameplay is more regimented than the random nature of other games. Ten missions lie in wait for you, ten objectives that must be completed very successfully so that the maximum gain is made from each, whether it be a reward for capturing an outlaw, or profit for some shrewd trading.



The trading room has been admired far and wide for its simplicity

Outlaws are something of problem, as they are all to keen on trying to hijack your cargo and possibly your ship. The reason the moon attracts so many outlaws is that the Roboforms don't care what they buy and sell, immoral, amoral or just plain dirty – they really don't care. If it presents a chance to make a profit they will go for

I hope I break my leg...

MOONFALL

21st CENTURY ENTERTAINMENT ▪ £25.99 ▪ ½ meg ▪
Mouse/keyboard ▪ Out now

advanced intelligence, immunity to pain and capable of feats of immense physical strength.

The only other person who fully understands Kal's work is his son Saul, the young man with a mission. He resurrects his father's projects and becomes a Lycanthrope, a man with the power to become a powerful werewolf at will. He also builds a massive craft with which to infiltrate the heavily guarded base of Chimera. The objective is simple – beat everybody up, destroy the base and rescue Kal Morrow. Nay problem.

The game will be divided into five levels. The first is a smaller introductory level that takes place on board this aircraft as it is bombarded by various mutants that Chimera have created using Kal's expertise, under duress naturally.

This level will gives the player their first opportunity to gasp in wonderment at the silly amount of animation frames and the clever way that the main sprite's hair always blows the right way no matter which way he is facing, clever eh?

The silly number of animation frames are caused by the fact that the gameplay demands the main character runs horizontally and up or down two different gradients, naturally his speed is affected by the gradient.

This first level begins with the player controlling Saul's human incarnation, but once Saul builds up his energy by using the pick-ups to over half(ish) he will become the werewolf. This has two advantages. Firstly the werewolf is stronger and secondly he has several weapons at his disposal as opposed to just the fists.

The weapons he can use will vary depending on what he has picked up, but they are all shapes that are constructed as if by magic from lightning. As they twirl towards the enemy little charged particles fly off, meaning that some of the animations of the weapons sprites take over ten frames. It doesn't sound like a lot but when you consider that most weapon animations usually take no more than two or three it is pretty damn impressive.

The game itself will consist of five levels, the first already described, the remaining four will be approximately 80 screens in size and having the odd secret room hidden here and there.

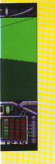
I've been given a little peek of the second and third level as well as the first and they are different in style to the usual beat-'em-up fayre. The second level takes place in what can only be described as a fantasy style forest, with the vegetation being mutated into hideous creatures sent to sap the life from you. Thankfully none of them resemble the Triffids. The third level promises to be exceptionally gross. It will involve the main character fighting his way through a cavern with some interesting walls. These walls will be made entirely of animated creepy crawlies that promise to rock even the least squeamish of you to the very core.

I know what you are all thinking, it is all but another beat-em-up. Yes it is, but it promises to include the best graphics ever seen in the genre, more colours on screen at any one time, more frames of animation, and some pretty stonking action-packed gameplay to boot. Not only that the STE version will include a background colour blend that will put some Amiga games to shame. Look out for it in early 1992.

Once the energy level has reached over halfway(ish), meladdo here turns into a werewolf

Because he has to walk on the different inclinations the total number of frames in the main character soars into the hundreds

GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER GAMER G



The good looking chap will be happy to take your orders

A map, however naff, is always useful

The landscape is littered with such fascinating objects

it. The majority of the missions consist of some reasonably derring-do type stuff – rescuing hostages, meeting avengers from a crime organisation, that sort of stuff. But the trading remains the bread and butter of the gameplay.

Gameplay is the main problem with this game. There is far too much long distance flying involved as you travel from city to city, base to base, with nothing of interest in between save for loads of stone pinnacles. Trading is slow and laborious and if you do occasionally happen across another vessel and try to engage in battle it turns into a stand-off. Just facing each other and shooting is hardly the most enjoyable shoot out ever known.

The simplicity of the vector graphics is forgivable if they have been deliberately sacrificed for speed, but sadly this is not the case. Speed seems to have been sacrificed for something else, but I'll eat my horse if anyone ever finds out exactly what it is. The landscapes are drap and boring and the interiors of the bases are drab beyond belief. You enter the "pub" to glean some info but it looks just like every other room – only when you log-on to the computer do you get asked for a drink in a separate interfacing screen. Surely a sprite based sequence would have been better than an empty room with a computer at the far end?

VISION
GGG
Overly simplistic 3D graphics.

AUDIO
GGG
Some nice spot effects.

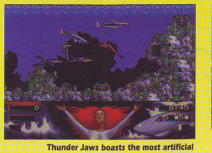
PLAYABILITY
GG
Long slack periods punctuated by longer, slacker periods.

ADDICTION
G
Paying £36 would make it addictive for a while.

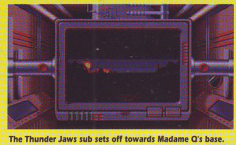
51%

Moonfall is essentially a wasted idea. The theory behind it is good but it is so poorly implemented that it just does not bear thinking about, but if you are in the mood for something restful this may be the thing to consider. Did I say restful? I think I meant sleep inducing.

The enemy gang up and chase our hero into the indoors section



Thunder Jaws boasts the most artificial sharks since the Batman TV series...



The Thunder Jaws sub sets off towards Madame Q's base.

Captain Birds Eye gets nasty

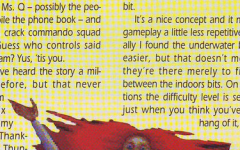
THUNDER JAWS

DOMARK ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now

What a rum old place the sea is. It's big, it's wet and it's full of slimy creatures that bite and sting you. And it's cold. And it's infested with cyborg sharks, lizard women and murderous frogmen. Is it? Well, it is if you happen to be swimming near Madame Q's underwater hide-out. And what's Thunder Jaws about? Swimming into Madame Q's underwater hide-out, that's what. Yikes.

So who is Madame Q? Well, not only is she a heartless and pesky super villainess, but she's also the first person in the "Q" section of the phone book. Someone, somewhere has got mighty annoyed with Ms. Q – possibly the people who compile the phone book – and they've sent a crack commando squad to get her. Guess who controls said commando team? Yus, 'tis you.

OK, so we've heard the story a million times before, but that never stopped them making six Police Academy films did it? Thankfully though, Thunder Jaws is nowhere near as biz as Police Academy. Thank Hovis for that, eh, pop pickers?



What we have here, for those who haven't guessed, is a scrolling shoot-'em-up. What a fabulous surprise! We haven't had one of these in the office since, ooh, yesterday. But, lo and behold, it's a bit of a "spanker". Let's put on our dayglo beach shorts and wade in deeper...

The game is split into two main sections. An underwater swimmy bit, and a nice dry indoors shooty bit. As you make your way towards Madame Q's base, it alternates between the two. So at the end of each underwater bit you'll reach an indoors section to shoot your way into, and at the end of each indoors section you'll find, wait for it, a big end of level nasty guarding the hatchway to the next underwater bit.

It's a nice concept and it makes the gameplay a little less repetitive. Personally I found the underwater bits a tad easier, but that doesn't mean that they're there merely to fill space between the indoors bits. On both sections the difficulty level is set so that just when you think you've got the hang of it, something bigger and meaner comes along and stomps on your head. It makes for some pretty addictive gameplay, I can tell you.

There's the essential two-player mode, which makes things easier, and of course you get the collectable weapons which are pretty good, actually. All the usual features from a shooty game but with enough nibbly bits to make it fun. Graphics wise, things are fairly plain. The divers look like divers, the sharks look like sharks, and everything else looks pretty much like everything else. Colour is used wisely, with the murky greys and greens of the sea giving way to more a more varied palette for the indoors sections.

Unfortunately, some of the sprites look a bit, well, crap. The sharks are a good example, as are the graphics for the rough 'n' rugged commandos on the indoors section. Still, beauty's only skin deep, as they say.

Sound is, as usual, a let down for all you ST owners out there. The thumping Jaws tune from the Amiga has been omitted for some reason, and all you have left are the chugging sound effects when firing and some sampled "urgh" noises when you take a hit.

This leaves the game with a really empty feeling, and although it doesn't detract from the gameplay, it doesn't really do anything for the ST's image. The ST is the computer used by people like Soul II Soul for music, so why can't companies take a little time to put a half decent tune in their games? It's a bloody liberty, that's what it is.

So there you have it. Thunder Jaws, a pretty good shoot-'em-up with no sound, OK graphics, a little bit of variety. And lots of fish.

Daniel

Big Weapons

What big weapons these Thunder Jaws fellas have! Here's what they are and what they do...

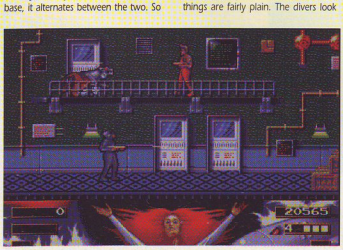
The Uzi 9mm doesn't just inspire countless Arnie impersonations, it also gives you a rapid stream of bullets.

The rocket launcher allows you to fire massively destructive torpedoes. Yum yum.

The flame thrower is the best weapon. It releases a huge jet of flame which toasts the enemy. Wahey!

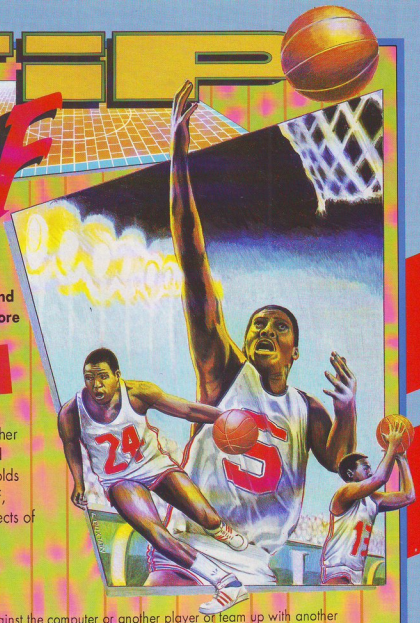
No shoot-'em-up would be complete without three-way bullets so, er, here they are.

The heat seekers will hunt down the enemy even if they're above you. Isn't that gorgeous?



Once indoors, Robodogs are one of the more dangerous opponents you face

TIP OFF



The sheer pace of the game, end to end action and tactical game play is the core of TIP OFF, a basketball simulation -

A SIMULATION WHICH IS GREAT FUN TO PLAY

Players' skills, attributes and fitness together with the astute substitution of players and change of tactics banks by the coach, holds the key to success in basket ball. TIP OFF, therefore includes some managerial aspects of the game. The main features are:-

* Multi directional scrolling screen
* Five skill levels. Skill level of both teams can be set independently.
* 1 to 4 players option. Option to play against the computer or another player or team up with another player against the computer or another player or two players.
* Facility to practice skills and tactics.
* Facility to create a team at all skill levels and design tactics.
* Instinctive Joystick controls to dribble, pass, shoot or do a dummy. There are two running speeds, two types of dribbling and passing and five types of shots at the basket (Jump shot, Hook shot, Skyhook, Running Jump shot and Slam Dunk).
* Each player on the court is an individual with a unique mixture of attributes (Age, Height, Flair, Pace, Stamina and Composure) and skills (Passing, Dribbling, Stealing, Shooting and Jumping).
* Two types of Leagues. Action Replay at 3 speeds.
* Extra moves are available using two independent button joysticks using the EXORLENCE System.

AMIGA ATARI ST -
IBM PC & COMPATIBLES
PRICE - £25.99

Amiga Screenshot's Shown

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EASY TO PLAY - HARD TO MASTER

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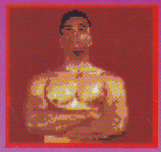
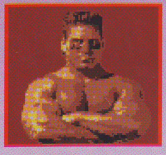
PIT



The World's favourite illegal sport'. So claims the blurb for Domark's Christmas biggie, but who's to say otherwise? It's not the sort of info that you're likely to find on Grandstand, is it? You won't see Dickie Davies slugging it out in the backroom of a seedy bar (unless you're a close personal friend). In fact if you wanted to find out any more on the subject you'd probably have to hang around murky docks at night and fend off the less than honourable intentions of various tattooed "gentlemen".

Hallelujah and three cheers, then for good ol' Domark. Thanks to them you can now experience the zany and wacky world of bare knuckle scrapping from the comfort of your own ST. What fiendishly nice people they are.

Pitfighter is one of the fruits of Domark's conversion deal with coin-op funsters Tengen. The deal has already yielded such plump and boisterous fruits as Planet Of The Robot Monsters, and such horrendous turkeys as Hydra, so it's a 50/50 chance that Pitfighter could be Christmas turkey rather than a Christmas cracker. Let's toss a coin and see if we can predict what Pitfighter will be like.



Aha! It's heads. Therefore I can confidently predict that Pitfighter will be a giant steaming pile of jobbies.

And of course, I'm completely and utterly wrong. Pitfighter is actually one of those almost extinct creations known only as "a quite good Domark game". It's not perfect, but it's a remarkably good conversion of a very impressive coin-op.

Of course, everyone saw the digitised animations in the arcades, marvelled at how uncannily like Jean Claude Van Damme they looked, pondered over how Tengen had avoided a massive copyright lawsuit from Mr Van Damme, and then scoffed heartily. "Nay, it cannot be done. Away with you, scurvy knave," they said (strange lot these arcade type people).

But, flabber my ghast, if those saucy wee programmer fellas at Teque haven't recreated all those digitised pics on the ST. Even the little intro bits to each character where they smash blocks of ice and flex their pecs a lot. Ber-flippin'-limey.

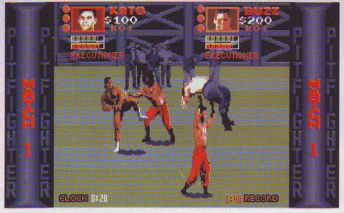
And what of the plot? Who's been kidnapped? Which evil gang needs a good "seeing to"? Hold your horses, you impetuous young scoundrel. There is no plot, no kidnapping and no gang. The idea of Pitfighter is simply to make pots of money by fighting people tooth and claw with no rules and plenty of bruises and internal bleeding. Yep, it's pretty damn violent in the world of the Pitfighter.

At the start of the game you must select one of three "beefcakes" through who you will exact horrendous physical damage on your opponents. You could choose Ty, a strangely familiar kick boxer. Damme, I just can't remember where I've seen him before (ho ho ho). Or you could be Buzz, an all-in wrestler with a sad name and even sadder hairstyle. Or finally you could be Kato, a black belt karate bloke who used to beat up Peter Sellers. Choices, choices eh?

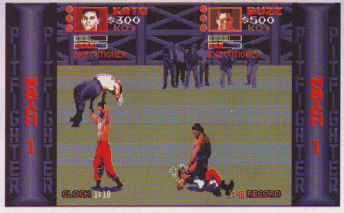
To help you decide, each one has their own range of special moves which vary depending on what situation they find themselves in. For instance, if Buzz has just clobbered someone to the ground, selecting his special move makes him do a spine shattering body slam, whereas in close quarters the same selection would result in a head butt. Get the idea? This means that the number of moves available is increased without having great long lists of which direction and fire combinations give which moves. Cleverness ahoy.

Once you've made your selection, you take your first step into the "pit" to "fight", hence the name "Pitfighter" you see (patronising?, surely not). In the pit, there are no rules. You've simply got to make sure that at the end of the fight, you're not the one face down in the sawdust. To do this you can not only slap your opponent about with fists and feet, but you can also pick up and use the weapons and objects "accidentally" strewn about the floor. These vary from knives and sticks to the more dangerous crates, barrels and, of course, motorbikes.

Depending on what it is you



Seconds away, and already several noses have been broken



Buzz tortures his victim by crushing his face between his sweaty thighs

Violence in a welsh coalmine? Yes it's...

FIGHTER

DOMARK ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now

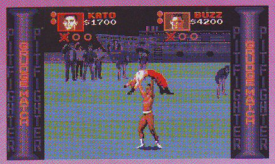
VISION
GGGG
Great digitised graphics throughout, but stilted animation.

AUDIO
GGG
A nondescript tune. Better than nothing.

PLAYABILITY
GGGG
Tricky to get used to but violent fun all the way.

ADDICTION
GGGG
The most enjoyable way of getting your legs broken that I can think of.

89%



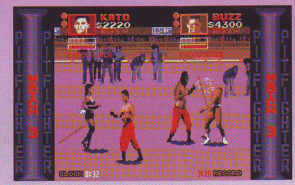
This is a grudge match between the two players. The first one to be knocked down three times loses

At the end of each fight you get paid depending on how brutal you were. What a nice sport it is

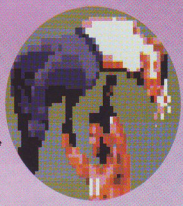
pick up, you can either swipe at people with it, or hurl it at people's bonces. And if you get tired of picking up motorbikes to fling about, you can also pick up your opponents and fling them about as well. Marquis of Queensbury? Never heard of him.

Naturally, there's a two player option, and it's here that the fit really hits the shan, if you catch my drift. Rather than just setting the two players against each other, you both fight seperate opponents in the same arena. If you're into brotherly love and all that clap-trap then you can help each other out, but remember that it is a competition and at the end the most brutal fighter gets more cash. This tends to mean that you'll switch from fighting your opponent, to punching your mate, to fighting their opponent.

Eventually the whole thing tends to deteriorate into a massive punch-up with knives and bar stools flying all over the shop. In a scrap such as this, the worst thing that can happen is for you to get knocked down, as the other fighters have a tendency to put the boot in and kick you when you're down. The graphics look great when they're not moving, or if you stand about ten feet away, but when you see them in motion they're pretty jerky and they also get all blocky when they hobble closer to the front of the screen. There's also a funny sort of perspective that sometimes makes the sprites smaller and sometimes zooms in on them as they limp around the screen, which can be quite disorientating. The opening animations of the three characters going through their paces are good though, as are the digitised portraits of each opponent.



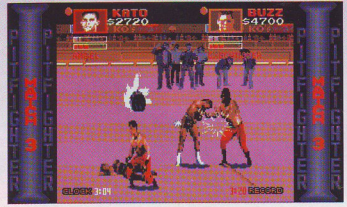
Buzz has armed himself with one of those bendy straws from McDonalds. No more Mr. Nice Guy!



There's an OK tune but it's classic arcade muzak. You hear it, and then instantly forget it. It might be the same tune as the arcade machine, but I can't remember what the arcade tune sounds like either. As far as I can tell, the FX are minimal as the boppy little tunes play throughout the game.

Amazingly though, after a few hours play you don't notice the graphical glitches and start to really get into the business of all-out brawling. So there you have it. A refreshingly simple beat-'em-up that gets better the more you play it. Pitfighter is just like a jacuzzi – fun on your own, but even better with someone else.

D.T.



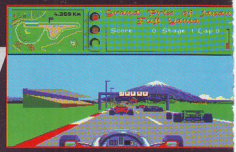
As things get even more frantic, Kato takes it on the head with a barrel

A typical Pitfighter punch-up. A peaceful night at the Bagpipes and Thistle turns into a riot

GAMER GOLD

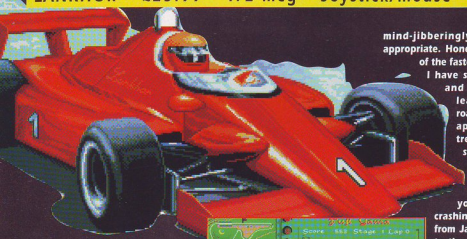
Wheelie good or a load of flat tyres?

VROOM



And they're under starter's orders... and they're off

LANKHOR ▪ £25.99 ▪ 1/2 meg ▪ Joystick/mouse ▪ Out now



Get your motor running, head out on the highway, looking for adventure... Sorry, sorry my fault, I am still at the age of sweet sixteen and with my seventeenth birthday rapidly approaching I'm getting into a pre-driving mood, listening to embarrassing old songs about cars and playing all the driving games in the office. One of those games just happens to be Vroom by Lankhor (who?) and is distributed by UBI Soft. It just so happens that it's rather good.

The game is a vector type affair and looks similar to Indy 500 on the Amiga (aarrgh blasphemer!). Vroom has four different modes – Arcade, Training, Racing and Demonstration. On the option screen you can choose which mode you want to play, select your circuit, choose the number of laps, choose the type of gearbox and then select the control method you want to use. The

Who put that there?

option screen is actually quite limited and the computer won't let you select some of the options. For instance, in Arcade mode you can use either joystick or mouse, but if you choose racing mode you can only use the mouse (strange I know, but that's life!).

The first thing that hits you in the face like a wet haddock is that as you put your foot down on the accelerator the word fast springs to mind. Maybe that's a bit of an understatement, maybe mind-jibberingly fast is more appropriate. Honestly this is one of the fastest vector games I have seen on the ST, and the effect of leaping over a road sign and catapulting into a tree can be quite spectacular!

There are six grand prix circuits to test your driving and crashing skills ranging from Japan to the U.S. to the good old Silverstone circuit in Britain. Apparently the circuits are as close to the real thing as possible but with added extras like bushes and tunnels.

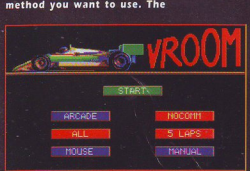
The arcade option is a simple affair with five laps to complete and a set number of cars to pass. The racing version, on the other hand, is where you have to get a good qualification time and then race against the elite pros of the racing world. The names are made up, of course, with such names as Nigel Mansell and Alain Prost being changed to Nigel Mansail and Alain Prosit!

In either racing or arcade mode you can enter the pits – pressing T changes your tyres, while G fills your car up to the maximum with petrol. On the sound front, the game has an excellent intro tune which wasn't done on the ST sound chip (thank God!) and the engine sounds are brilliant.

Overall this is one of the best racing games that you can buy on the ST but it does have some minor glitches, like not being able to use the joystick on racing mode – using the mouse does tend to ruin a very good game. Apart from that, with Lotus 2 on the market and the up-and-coming Formula One Grand Prix by MicroProse the driving games scene looks very promising indeed.

Got to go now and learn my Highway Code, but maybe I'll just have another go at the excellent Vroom.

Jonathan



This is the option screen (surprise, surprise!)

And the pressure's on Senna (ha ha!)

VISION
GGGG
Good graphics that add realism to the game.

AUDIO
GGGG
Intro tune that would rock your ears off.

PLAYABILITY
GGGGG
A game that oozes realism.

ADDICTION
GGGG
One of those games that scream "play me again, Sam!"

90%

Knightmare

"You are setting forth into another place, another time, another world," said Treguard, The Dungeon Master. "And what makes you think that you four mere mortals will succeed in the Quest, when so many others have failed?"

I understood, at that moment, that our mission was going to take all our endurance, all our collective skill, and, most of all a depth of courage, that I wasn't sure we possessed.

Ever since ITV's award-winning series hit our screens, the world has been waiting for a computer game worthy of the name. The wait is over.

Tony Crowther's amazing re-creation has everything.

Using the same game system that made 'Captive' adventure game of the year for 1990, 'Knightmare' makes dungeons and dragons games seem like newts splashing around in a muddy puddle.

'Knightmare' is a sophisticated role-playing adventure where you are challenged to solve complex puzzles, logic problems and riddles that reveal a rich, ever-more rewarding storyline.

Your journey takes you deep into the dungeons of Dunshelm, to a cataclysmic meeting with Lord Fear and the unthinkably horrible FrightKnight.

Whether or not the meeting is terminal is up to you. You will need wisdom, tenacity, alacrity and, above all, courage.

But you have all those things, don't you...?

CAPTIVE GAME SYSTEM

BROADSWORD

MINDSCAPE

Available for Amiga & Atari ST

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Written by Tony Crowther

ANGLIA Television Limited

For your local dealer, contact: **Mindscape International Ltd**, The Coach House, Hooklands Estate, Scaynes Hill, West Sussex RH17 7NG Tel: 0444 831 761

talking shop

GALLUP CHART

Compiled exclusively for GAMER

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Welcome to the new and improved, washes whiter, less waste Talking Shop. From now on we will be including last month's positions and whether the games are climbers, fallers, non-movers or new entries.

Before we go on I would like to clarify why other charts are different to ours. The reason is that Gallup compile this chart exclusively when I ring up and ask for it. That way it is as up to date as possible, but, naturally, different to other charts. Anyway, on to the analysis.

This month we have 13 new entries, five of which are full price which is encouraging. There are only four climbers and 23 fallers. The new entries include the excellent Jimmy White's Snooker which crashed straight in at the number one spot. Considering the amount of favourable press it has been getting this shouldn't be of any surprise to anyone.

Don't be fooled by the low entry positions of Core's Thunderhawk or Ocean's Terminator 2 - they were both released towards the end of this particular month's chart audit period and should climb rapidly next month. Only four climbers suggest that things aren't changing that much, just that the odd new entry here and there is forcing some others out.

The good side is that a lot of the new entries are full price, showing that even the supposedly declining ST games market can respond to the strong titles that always appear in the run-up to Christmas.

Jools

THIS MONTH		LAST MONTH			
1	↑↑	NE	Jimmy White's Snooker	Virgin	£29.99
2	↓	1	New Zealand Story	Hit Squad	£7.99
3	↓	2	TV Sports Football	Mirror Image	£9.99
4	↑↑	NE	Shadow of the Beast	Sizzlers	£7.99
5	↑	9	Flight of the Intruder	Mirrorsoft	£34.99
6	↓	3	Supercars	GBH	£7.99
7	↓	5	Ninja Rabbits	Micro Value	£7.15
8	↑↑	NE	Dragon Ninja	Hit Squad	£7.99
9	↓	7	Cabal	Hit Squad	£7.99
10	↓	8	Pro Boxing	Code Masters	£7.99
11	↑↑	NE	Batman – The Movie	Hit Squad	£7.99
12	↑	15	Xenon 2	Mirror Image	£9.99
13	↓	10	Manchester United Europe	Krisalis	£25.99
14	↓	4	Fantasy World Dizzy	Code Masters	£6.99
15	↑↑	NE	CJ's Elephant Antics	Code Masters	£6.99
16	↓	6	Lombard RAC Rally	Hit Squad	£7.99
17	↓	14	Lemmings	Psygnosis	£25.55
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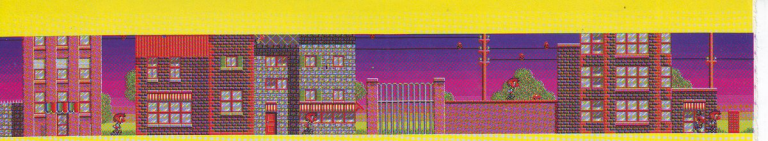

Lock up your bus pass! It's...

ROLLING

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Imagine, if you will, a mutant creature. A horrendous genetic hybrid. A blemish on the face of Mother Nature. A terrible cross between Ronald McDonald and Richard Stilgoe. Pretty scary isn't it? Well, boys and girls, pull your duvets tighter around you because that just about sums up what Rolling Ronny's all about.

Ronny is a clown you see. He's got a cheery red fright wig and a "humorous" nose, plus all the other violently amusing features that Ronald McDonald, that friendly face of international consumer conglomerates, possesses. Ronny's also taken to wearing roller-skates all the time, like that sad old git Richard Stilgoe in his "highly acclaimed" musical, Starlight Express. Crikey. Hardly the most inspiring blend of characters is it?

Such a blend could, theoretically, result in two types of game. It could turn out to be a platform game based around a roller-skating errand boy, or it could be a simulator of a synthetic tasting hamburger with a stupid beard that writes awfull musicals. Luckily no one at Virgin could think of a game about a hamburger, so we've been given Rolling Ronny instead. Phew.

First you have to do the Police's work for them, now you're a blimmin' postman! Grumble, whinge...

Ronny, our hero, lives in Fieldington, an unnecessarily zany and wacky fictional cartoon-type town. Everything in Fieldington is cheerful and twee. It's the sort of place where people burst into song in the middle of the street, and all the buildings bounce from side to side in time to the music. Not the sort of place to wake up with a hangover.

Nor is it the sort of place to steal the Crown Jewels from, but that's what some highly stupid Fieldington thieves have done. Even more stupidly, rather than flog the jewels on the black market and move to Rio, the thieves have left the jewels in flashing boxes all over town. Criminal masterminds, eh?

Rather than getting the plods to earn their keep and gather all the jewels back together, they decide to do a spot of delegation and lumber our Ron with the job. I don't know, you pay your taxes, you're a responsible citizen and you end up doing the police force's dirty work for them. Fascist state or what?

Anyway, what it all boils down to is nine levels of scrolling platform action with Ronny risking life and wig to collect these flamin' jewellery boxes. It won't be easy though. Fieldington is a strange, and not entirely safe, place. All manner of spooksome objects float towards you, intent on wearing down some of your health. Cartoon cars, looking like the Anthill Mob's Chugabug from *Wacky Races* – and what a spanking cartoon that was – chunder towards you ready to knock you for six.

For protection Ronny can leap on to higher platforms, or defend himself by throwing salami at his aggressors. Why salami? No idea, and I've got a feeling that it might be best if we don't probe any further.

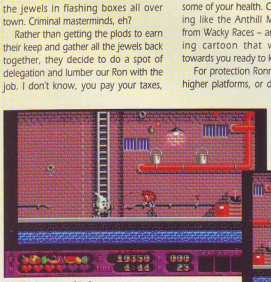
Also along the way Ronny can collect some bonus items to aid him in his quest. Some affect Ronny and give him super powers when selected, others will affect his adversaries to give Ronny some sort of sneaky advantage. Ronny can carry four icons at a time, and they're activated by hitting the relevant function key, in case you were wondering.

As well as looking out for icons and jewellery, you must collect coins which can be used to pay for icons in the shop and to pay for your bus fare to the next level. Coins can be found lying along the way, picked up by shooting the bad guys, or earned by running errands for the good citizens of Fieldington.

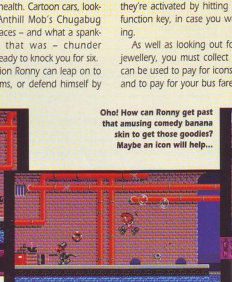
You see, every now and then, you'll come across some dopey looking citizen milling around in a rather useless fashion. Walk up to them and they'll offer you an errand. The errands usually involve taking an object to another person or location on that level, although sometimes you may have to retrace your steps to find it.

How much you earn for an errand will depend on how much the person is willing to give, but you can bargain with them at the risk of losing the job. This adds a much needed human element to the tired platform genre, and may just be the thing that saves Rolling Ronny from total obscurity.

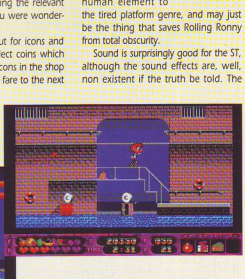
Sound is surprisingly good for the ST, although the sound effects are, well, non existent if the truth be told. The



Oi, didn't you used to be on the British Gas adverts?



Oho! How can Ronny get past that amusing comedy banana skin to get those goodies? Maybe an icon will help...



If you have a chat with that "peeler" over there, he'll give you an errand. And a clip round the ear, probably

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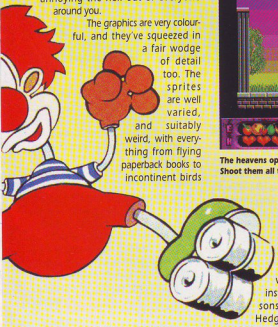
RONNY

VISION	Loads of variety, plenty of colour and some neat little touches here and there.
AUDIO	An above average tune that tends to get annoying but no FX to speak of.
PLAYABILITY	The interaction with other characters makes the game more appealing than other platformers.
ADDICTION	It's not all that hard, but you'll keep coming back for more.

79%

tune's great though. It's a boppy sort of circus tune that keeps you humming throughout the game, and also has that wonderful quality of annoying the hell out of everyone around you.

The graphics are very colourful, and they've squeezed in a fair wodge of detail too. The sprites are well varied, and suitably weird, with everything from flying paperback books to incontinent birds

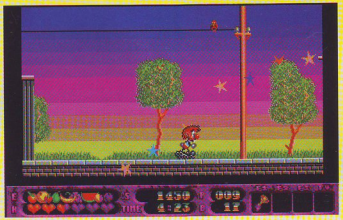


out to mark your card. The cars in particular are fun to watch, as are the bouncing unicycles in the sewers. Yep, Rolling Ronny is pretty damn surreal when you think about it. It's also what the Ancient Greeks might have called "a flippin' good game".

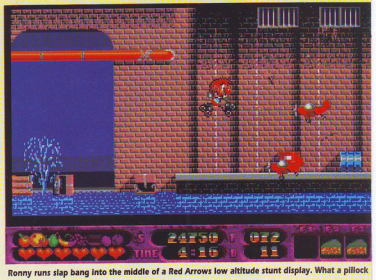
If I've got one criticism of Rolling Ronny, it's just that it is a bit too similar to all the other scrolly platform games that have mysteriously started to appear since the console market took off. It's very, very similar for instance to Ocean's Simpsons game, or Sonic the Hedgehog on the Sega MegaDrive. The little errand running bits go some way to make it special, but the essential gamestyle has been done a thousand times.

That aside, Rolling Ronny is a pretty groovy little game. It's easy to get used to and it's challenging, but not impossible. Not quite the coolest dude in town, but certainly cool enough to chill out and do his thang with the "Cool Posse". Whatever that means.

D.T.



The heavens open, and Ronny's seeing stars. Shoot them all to get loads of dosh



Ronny runs slap bang into the middle of a Red Arrows low altitude stunt display. What a pillock

Dr. Ronny's patented pick-me-ups

Spotty Teenager: Tell me Dr. Ronny, how do you keep your skin so...young looking?
Dr. Ronny: With my hypo-allergenic icons, that's how.
Spotty Teenager: Gee thanks. I'll never use ordinary soap again...
Dr. Ronny: Good, now bog off Spotty, I've got some icon explaining to do...

This rather springy little item will allow you to leap higher than a hungry piranha in Jeremy Beadle's toilet bowl.

The "Powersneeze" icon acts as a smart bomb to destroy all the baddies onscreen. Spookily, there's no actual sneezing involved.

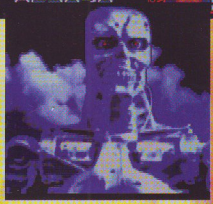
And of course, selecting a bicycle horn makes you invincible for a limited amount of time. Obvious really.

One whiff of this dodgy coagulated and aromatic French cheese is enough to freeze everything for 10 seconds.

If you can't reach some of the higher up goodies then using the Magnetoftuct will faithfully bring it to you. Just like Bonnie, the Blue Peter dog.

Slap, slap. "Ooh, you bitch. I'll scratch your eyes out." Arnie gets really mad

Oh, the excitement! The tension! The sense of despair after spending your life savings on this pile of smeg!



Yes, for all the ladeez, a totally nude picture of Arnie in Terminator 2

Ocean have done it again... unfortunately

TERMINATOR 2

OCEAN ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now

Even as I write, this game is racing its way to the top of all the computer charts. Ocean obviously knew what they were doing when they bought this licence, and it now looks set to beat the Turtles game as the biggest seller of all time, which is a pity because it's possibly the biggest waste of money this side of the Channel Tunnel.

Taking eight key action scenes from a hit film and turning them into bog standard sections of yet another amorphous Ocean movie tie-in seems to be becoming something of a trademark for those Mancunian "funsters" doesn't it?

Yes, we've got the scrolling beat/shoot-em-up stages. Yes we've got the driving sections. Yes we've got the puzzle bonus stages. And yes, we got bored to death with it after about 10 minutes of playing.

As with all Ocean products the presentation is first class, with plenty of digitised bits from the film and the familar apocalyptic theme tune, but this barely conceals the fact that the game feels like it was cobbled together in 10 minutes to coincide with the movie. Take little bits of RoboCop 2, Total Recall and the even more abysmal DarkMan and change the sprites, and you've got Terminator 2.

Three of the eight sections are one on one confrontations between Arnie and the shape shifting T-1000, which are simply a case of standing next to each other and hitting Fire constantly. To call these stages a beat-em-up is a gross overstatement. A bore-em-up, perhaps?

Two stages are vertically scrolling car chases. One with Arnie and John Connor escaping on a motorbike from the T-1000 and a rampaging truck. The second sees our time-travelling chum steering a SWAT van while Sarah Connor takes pot shots at the T-1000, who's in a helicopter this time. Both are way too slow to be anywhere as exciting as the film chases, but believe it or not, they're the best bits of the game.

There's also a scrolling shoot-em-up bit where Arnie has to kill all the SWAT team to escape from Cyberdyne HQ. Despite the fact that this bit only took about 30 seconds in the film, and Arnie never actually kills anyone, Ocean have seen fit to turn it into a plodding treacley snorefest. You can't even control Arnie's movements for God's sake! All you do is decide whether to shoot up, straight ahead or down. Groin numbing action? I think not.

Add to this two puzzle bits where you have to rebuild bits of Arnie to get some energy back, and you've got yet another formula Ocean tie-in. I mean, come on guys, where's the inspiration? Why not try something different, or wouldn't that sell enough copies? Yet another great movie turned into a repetitive and dull spin-off. RoboCop 3 had better be something very, very special...

Daniel

Yes, this game really S.E.U.C.K.s. Ho ho ho

VISION
GGGG
As with all Ocean games, the graphics are first class.

AUDIO
GGG
A fair attempt at the movie theme tune. The usual FX.

PLAYABILITY
G
Why not try throwing £25.99 down the bog? It's more fun.

ADDICTION
Nope.

35%

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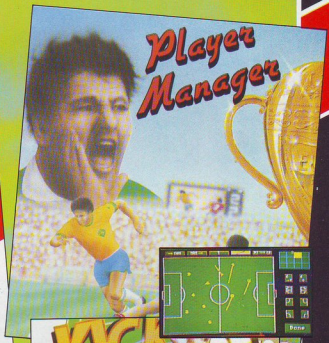

KICK OFF 2

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AMIGA USER INT	- The best computer game ever.
ST FORMAT	- What a game! Gem to Play. Magic.
ST ACTION	- The best game ever to grace the ST. Highest accolade I can give.
The Ace	- Brilliant. Buy-Buy-Buy.
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The One	- Exceptional. Most involved, rewarding and playable.
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ST Format	- Brilliant.

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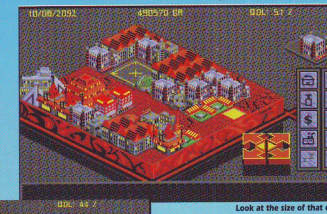
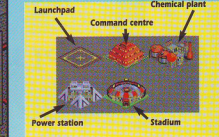
Inventing gizmos is part of the fun



Look at the size of that colony



Thomas More would have been proud

UTOPIA

GREMLIN • £29.99 • ½ meg • Mouse • Out now

Quality of life is one of those nebulous ideas that is very difficult to quantify, let alone try and maintain at a high level for any period of time. You try being a Prime Minister and see how you get on.

Attaining a high quality of life is the main aim behind Gremlin's first foray into the world of God games. The approach they have adopted pitches the game somewhere in the land between Populous and Sim-City, fighting an opponent while you attempt to develop a viable city with all its attendant problems of taxation, population control, crime and who cleans up when the neighbour's dog leaves a parcel in your garden.

You begin your life as commander of your first planet with a command centre, a few solar panels, a load of cash, a group of advisers and very little else. The Quality of Life begins at a meagre 40 per cent – it is up to you to try and develop the city to a large bustling hubbub of parties, orgies and organise an efficient workforce in between (sounds remarkably like being the editor of Gamer).

All sorts of things effect the QOL, anything from the view from the living quarters to taxation to how much food is available. Only hints are given in the manual so only through playing and experimentation will you find out all the answers.

The first action you will probably wish to perform is a wee bit of construction. You have a choice of 24 different buildings, too many to list individually, which fall into loose categories. Resource generating buildings, such as mines and chemical plants must be built near appropriate resources to be effective.

Although power stations and similar electrical installations can be placed anywhere you like, planning is probably wise to maximise the efficiency of distribution of electricity to other buildings.

The next general category includes manufacturing installations. These make use of the resources to produce crucial items like tanks or food, vital to the survival of the colony and if neglected, guaranteed to send the QOL figure plummeting. The final category includes those installations that actually improve the QOL as opposed to maintaining it.

Your advisors...

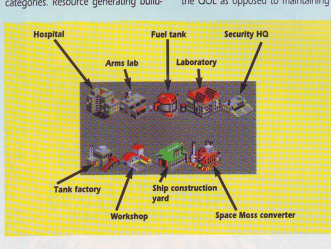
...and some of the things they can tell you

Food stores, stadiums, life support systems, hospitals and fixed defence units like laser turrets are included here and must be placed and used judiciously to maximise their effect.

For example a large event at the stadium will improve morale, an important factor in the QOL equation, but because everyone is off watching the games then the work rate will drop.

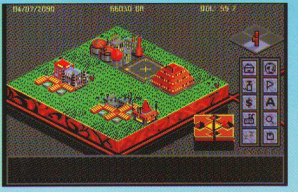
A hospital is not essential but it will allow you to directly control the birth rate, and it will allow the population to recover more quickly from the effects of a virus, for example. For the installations to be of any use they must be manned by colonists up to the maximum, usually around 10 per installation.

You are perfectly at liberty to use less than this number should you feel that maximum production is not essential at any particular time but it is also crucial that production levels are monitored so that you can up levels at any time should they be required. Not only do



"In the deep midwinter..."

The map screen can show diagrammatical data on every aspect of the planet



Solar panels provide the majority of your power in the early days

the installations need manning but construction will also occupy the colonists. It is entirely likely that a large number of fully manned installations could mean that construction will not be possible because all of the available men are busy elsewhere.

Juggling manpower is one problem but so is juggling your budget. Taxation levels must be set but an eye must be kept on the long term effects on the QOL – no one likes heavy taxation no matter what the reason. Also, grants for civilian and military development must be closely monitored – a high grant to the military will provide fast development of new weapons but it may not make the population too happy if they haven't yet got a sports stadium. Of course too low a grant will mean that the military is under-developed, making the colony vulnerable to a more advanced attack.

Control of your military is just as vital a part of the game as constructing a well-ordered and shiny happy city. Organising the static defence systems, such as laser turrets and missile launchers, is only one part, the other is the construction, control and deployment of the mobile forces.

Initially the decision will lie in how much manpower you are willing to commit to the factories producing the equipment, and which type of vehicle you want to produce. The more advanced, the longer it takes and the more resources it will use.

Once you have the stockpile of equipment built up decisions have to be made as to where they will be placed and how they will be manoeuvred. At your disposal you have eight markers which can be strategically placed anywhere on the map and used to guide the tanks and aircraft around the play area by sending one or a group to any one of the markers.

They can also be guided to attack an enemy city, although the location of this will not become known to you unless you sponsor spying activity, another demand on your stretched budget.

There is no way though of individually controlling the tanks or aircraft – the only control you have is of general movement patterns as all the attack responses are automated. Defence may seem an unnecessary burden on a budget which could be better devoted to improving the QOL, but it will never be very high if the colony is overrun by aliens.

To help you make these weighty decisions are a panel of Advisers. The Advisers give information about each of the different aspects of the colony – population, budget, number of manufacturing installations, morale and so on, and will occasionally give recommendations. Simple things like "We need more food ya bugga" will not appear but more succinct hints will be apparent.

It all sounds very complex and it is, but this is the next generation of God-games and will appeal to those who have successfully met the challenge of Sim-City and Populous and are looking for something more challenging to take them on to the next level of gameplay.

It skilfully combines both the constraints of building a city that can be happily lived in with the problems of trying to defeat a malevolent opponent, and all the time you have to try and keep every one happy by not overspending and leaving everyone to starve. There is no fixed objective to aim for, no time span across which your efforts are measured, the only target is a Quality Of Life which reaches above and beyond 90 per cent.

But its complexity does not make it difficult to use, because simple point and click systems and an isometric large scale map make the game's system become almost second nature after a period of familiarisation.

Don't make the mistake of comparing this game to Image Work's Mega Lo Mania, one of last issue's Gamer Golds, for they are very different to one another. MLM is far less complex and geared to fun and humour, while providing a large amount of challenge and a fabulous game.

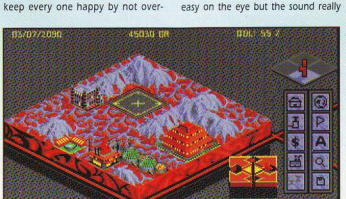
Utopia goes for the more involved and time consuming approach which has no definite answers. It doesn't have that many definite questions to be honest. And it will provide hundreds of hours of brain-blowing for those willing to invest the time needed to be successful. They are both excellent games doing to different things.

The crisp and colourful graphics are easy on the eye but the sound really does leave a lot to be desired. The repetitive and annoying tune does little to enhance the game but the effects come in just above average.

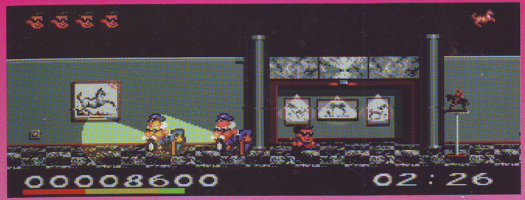
Otherwise Gremlin have produced a very slick package which takes the notion of controlling and developing a city or planet one stage further than anything before. Be warned however, it may be easy to use but it is anything but easy to beat if you can't invest the time needed. Think carefully before purchasing – that isn't a criticism, merely something to be aware of.

Whether you have the time or not this is a game worthy of Thomas More's legacy.

Jools



The launchpad in the centre is crucial to the military defence of your colony



Even the security guards look as though they should be in a museum

VISION
GGGG
At times it look just like a wide screen 70mm cartoon.

AUDIO
GGG
Wacky effects but an average tune.

PLAYABILITY
GGGG
Baseballs akimbo with action for all the family.

ADDICTION
GGGG
Blimey, this is a bit much for the weak-hearted games editor.

87%

Theft for theft's sake

HUDSON HAWK

OCEAN ▪ £24.99 ▪ ½ meg ▪ Joystick ▪ Out now

By all accounts Bruce Willis's whole career has been based around the premise of saving up enough money to be able to make the above film. When he started off in his acting career he handled his own promotion. Calling it Hudson Hawk Promotions, he had a dream of producing a film based around this Hudson chappie that he dreamed up when he was at school. I haven't seen it but, by all accounts, he shouldn't have bothered.

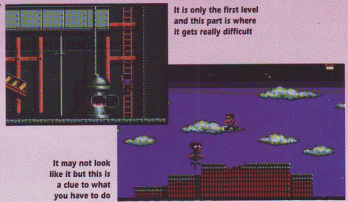
Well maybe he should have. Because if ol' Brucie babes hadn't produced and starred in said piece of cinematography, software industry history may not have been made. What am I talking about? I'm talking about an Ocean film licence that is actually damn good, playable and worth the 25 quid.

The game takes the form of a platform style adventure, the kind of thing that features simple puzzles for opening doors and requires pixel perfect leaps and bounds to ensure that an untimely death is not met. You control Hudson, whose only real weapons are his big boxing glove and some baseballs if you hold the Fire button down long enough. These baseball are crucial for throwing some of the switches to open doors and the like.

Divided into three levels, reflecting the three major scenes of crime of the film – the Auction House, the Vatican and the Leonardo da Vinci Museum – the game has a total of 18 big stages. Each of these must be learned off by heart before they stand any chance of being completed frequently enough for the player to stand any chance of finishing the whole game.

A lot of box shifting has to go on very quickly if you hope to beat the clock

The Auction House sees Hudson begin the game on the roof, trying to find his way in, then inside as he dodges the security cameras, dogs, and tourist kids who will try to slow him down by dazzling him with a camera flash-gun. The style of this first level, while increasing in difficulty with the later stages, encourages the player to keep moving and try and make decisions on the run, rather than slow down and get bogged down in trying to work out what to do. He who hesitates is lost. He who dares wins. He who buys me a pint is a good lad.



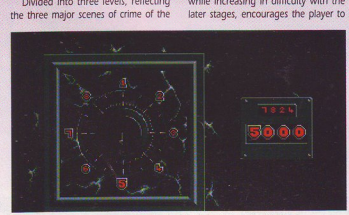
It is only the first level and this part is where it gets really difficult

It may not look like it but this is a clue to what you have to do

The Vatican has a lot in common with other levels as far as the idea behind the gameplay goes but is completely different in execution, the behaviour of the enemies, the styles of its puzzles and its graphical style. This level begins on the roof as you get harassed by monks, flying nuns, and some chap on a pogo stick who is giving you a very big clue about what to do next. Leonardo's Museum, though, becomes almost like Lemmings at some stages, in that you have to plan ahead, with switches having to be activated at one end of the room while a door opens at the other for later use. It all starts getting very complex but you have to keep moving, because – being a thief – time is of the essence.

Controls are the usual jump and run style thing, but there is a certain amount of inertia built in which means that Hudson takes a while to get going, and he has to skid to a stop or to turn around. This adds another little dimension to the gameplay as you have to be ever so careful of where ol' Hudson is going.

It all ends up as a very good looking platform game with heaps of action, acres of game area, a pile of puzzles and mountains of gameplay. Rick Dangerous had better watch out. **Jools**



Cracking the safe gives a break from the frantic baseball throwing of before

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The dilithium crystals cannae take it Cap'n!

HARD

ELECTRONIC ARTS • £25.99 • ½ meg • Mouse/keyboard • Out now

Oh blimey. Oh blimey blimey. We're definitely erring into some dodgy role playing game territory here. Now, there's usually two sorts of people who play RPGs. There's your "normal" types, who get some beers in, invite their mates round to listen to loud grungy rock music and have a laugh while they play Warhammer 4000. And why not?

But then there are, as my sister would call them, the 'sad' types. You know the ones I mean. Everyone knows at least one 'sad' person. Good ol' Bob Sad. They can recite the works of Tolkien in at least 50 languages and regional dialects. They get all snotty when anyone pronounces "Krythywynd, Seventh Lord Of The Plains of Dolgarothm" wrong. They wear anoraks. And, not surprisingly, they have very few friends.

But before we all go out and have a really good laugh at the 'sad' people's expense, let's see what this Hard Nova's all about, and more to the point, why the hell it's called Hard Nova.

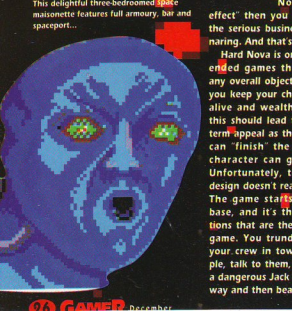
Hard Nova places you in the middle of a sci-fi adventure taking on the role of one of two characters, either the rough and tough rock 'n' roll vixen, Nova (who presumably is "Hard", hence the title), or Stark (who I presume is "Naked"), a rugged scoundrel not dissimilar to Han Solo.

This choice doesn't have any effect on the game at all, but at least it makes a move away from the butch male space hero stereotypes that normally populate these scenarios. And I suppose it gives the closet transvestites a chance to live out all their fruity "Lost In Space" jumpsuit fantasies in the privacy of their own homes.

The story goes thus: You're a mean an' hunkin' mercenary, but you've had a spot of bad luck. For one thing, your spaceship just exploded. As did most of your crew. Miraculously, you survived (by jumping into an escape pod at the first sign of trouble). The only trouble is, now everyone thinks you're a scumsucker who let his crew die and everything's pretty smeggy all round, really. Bummer.

It's here that you come in. You must rebuild your reputation as the best mercenary in the Four Systems, and the best way to start is to get a crew together. Of course, you've still got your trusty navigator, Akri Jant, who jumped in the escape pod with you, but the rest you'll have to recruit yourself from the various seedy bars across the galaxy. Once you've got the Hard Nova posse 'in effect' then you can get on with the serious business of, er, mercenarying. And that's about it.

This delightful three-bedroomed space maisonette features full armoury, bar and spaceport...



Hard Nova is one of those open-ended games that doesn't have any overall objectives, merely that you keep your character and crew alive and wealthy. Theoretically this should lead to immense long term appeal as there's no way you can "finish" the game and your character can grow and grow. Unfortunately, the sloppy game design doesn't really bear this out. The game starts inside a space base, and it's these indoors sections that are the best part of the game. You trundle around, with your crew in tow, and meet people, talk to them, smile at them in a dangerous Jack Nicholson sort of way and then beat the poop out of them. You can buy weapons, have a drink, or even hone your combat skills in a maze full of drone robots.

Here we are in the hovership thundering round the planet at about, ooh, two frames a minute

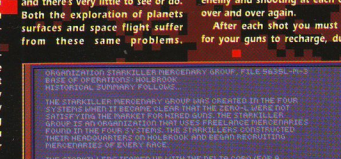
Conversations are actually quite good fun, as the dialogue is witty and realistic – if a little 'colourful' in places. Unfortunately, you must eventually leave the relative comfort – and playability – of the space base, and venture outside. And once outside, the gameplay sags.

I mean, you'd think that in a game where space exploration is the key to success that plenty of thought would go into how well the space sections played. Not so I'm afraid. The keyboard and mouse response is slow and sticky, and there's very little to see or do. Both the exploration of planets surfaces and space flight suffer from these same problems.

Although the game area seems vast, spread as it is over four star systems, in reality it's fairly small. Each of the four systems contains only one or two planets, with each planet having maybe a couple of buildings to visit and a space station. There's more action at the cheese counter in Tescos, if the truth be told.

I think the main problem with Hard Nova is the horribly sticky controls. You just can't move or manoeuvre quickly enough when you want to, and when you want to stop you find that your repeated keypresses carry you miles past your target. This makes combat an absolute joke, as it's just a case of plodding up to the enemy and shooting at each other over and over again.

After each shot you must wait for your guns to recharge, during



Using your 'Viewer' you can summon up info on many subjects. Not as good as the Hitchhiker's Guide though

NOVA

High above the planet's surface, getting ready to plummet to the ground in a dropship

which time your wounds start to heal again. This results in some extremely drawn out fights, but with no excitement at all you'll probably get an overwhelming urge to just walk away and forget about it. Surely even rolling a dice to fight is more interesting than that?

The graphics range from some OK pictures of other beings when you talk to them, to the bog standard blobs that represent them when they're walking round the map. In space and on the planet's surface the sprites for the ships are very basic, with no animation at all and some very jerky scrolling.

Sound is dismal as well, with a weak tune and some eight bit sound effects to 'spice up' the already extremely unspicy combat sections. This could be forgiven if there was a rich and rewarding game underneath, but there isn't. I get the feeling that there are some really clever ideas in this game, but the implementation lets them down.

I don't know. Maybe if you're a really big fan of RPGs then you might be able to glean something from this, but for anyone else there are plenty of better RPGs on the market. One for the 'sad' people, I think.

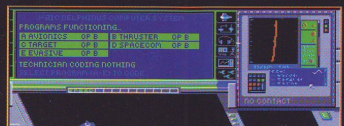
Daniel

The Hard, the Naked and the Useless

This is "Hard" Nova. She's so blimmin' hard that she makes the Terminator look like a grumpy Tonka toy. In fact, just to pass the time she walks into bars full of "spill my pint" hooligans and shouts "Come on then you nancies, your mother eats Rigellian Pot Noodle". Yikes.

This is Stark "Naked". He's one of those lovable space scoundrels that appear in every single Star Wars rip off ever made. Irresistible in a roguish kind of way, he's nauseatingly smug and probably deserves a good kicking. That'll teach him to roam the cosmos au naturel.

This is A'kri Janr. He's your navigator, and the only surviving member of your last crew. The Ken Barlow of space, he never really does or says anything, even when he's being blown to bits by manic robots. There's a word that describes him perfectly. It begins with "C" and rhymes with "slap". Can you guess what it is?



Spooky things appear in space. Like this giant blackbird's egg, for instance

What a lot of things there are to do in space. See if you can spot the lie in the previous statement

VISION — GGG
Average graphics, but with precious little variety.

AUDIO — GG
A pretty duff tune, and some really dull FX.

PLAYABILITY — GGG
The very poor keyboard response makes even the most simple actions a chore.

ADDICTION — G
I'm sorry to say that Hard Nova is even less addictive than Chesney Hawkes. That's saying something.

67%

Or everything you wanted to know about ice hockey but didn't care enough to ask

FACE OFF

KRISALIS ▪ £25.99 ▪ ½ meg ▪ Mouse/keyboard ▪ Out November

VISION
Boring, flat and uninspired.

AUDIO
Crowd sounds like a flatulent rattlesnake.

PLAYABILITY
Slow on pitch but usable management section.

ADDICTION
I'd rather shave my chest.

29%

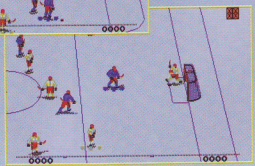
Let me say first of all that I love ice hockey. I think that the combination of speed, danger and random violence makes for one of the most watchable spectator sports of all time. And you don't get pitch invasions either.

Its real plus point is the fact that the word "sportsmanship" means absolutely nothing to the average ice hockey player, and even if he does give a brief glint of recognition it is usually in the context of "something I must not do".

To them slicing away the ankles of an opponent with the stick, crashing him into the perspex barrier or generally beating the frog-spawn out of him are perfect examples of exemplary behaviour on the ice. Alright, it may involve a little spell in the sin bin but three minutes off the ice seems a reasonable price to pay for a broken-legged opponent.

Krisalis, however, have managed to capture none of the atmosphere, the action or the tension of the real game. You are given the opportunity to take part in a one-off match versus the computer or another player, take part in a 20 nation World Cup, or ignore controlling the players and opt instead for managing a team and its training as it works its way through the World Cup.

Approaching the goal for a slap shot that might knock the goalminder off his feet...



approaching the goal...

Prior to actually getting in and playing the game the screens where all your choices are made, and where all the training and management takes place, are expertly presented. The slick graphics and clear icons, done by the same artist responsible for the same part of the successful, and far superior, Man. Utd. Europe, are let down once the player gets onto the pitch.

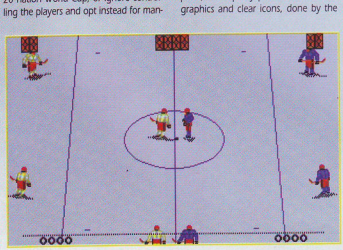
A bland-looking pure white pitch with no surroundings for crowd or anything like that would be an acceptable sacrifice were the gameplay superfast, but even with limited graphics the players move like snails, the screen scrolls in an unacceptably jerky manner, and the gameplay suffers greatly.

The trick now is to decide whether or not you can pay £25, sacrifice the "action" (ahem) and wander into the D&H Games territory of managing and training your team in a bar chart and mouse click kind of way.

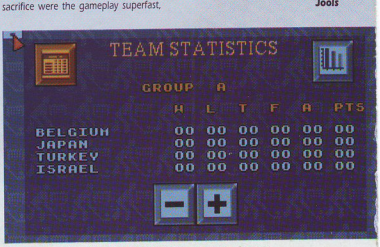
This section gives you the chance to specialise in the training of teams in certain areas – road training, pumping iron and how much to spend on that all important morale-boosting team night out.

My conclusion, frankly, is that you shouldn't bother. The gameplay is slow, the managerial section is reasonable but it has been done better elsewhere and if ever a game deserved the term "Unbuyable" then this is definitely it.

Jools



And back to the face-off. The goal was so embarrassing I just couldn't show it



The management statistics are usually more interesting than the game

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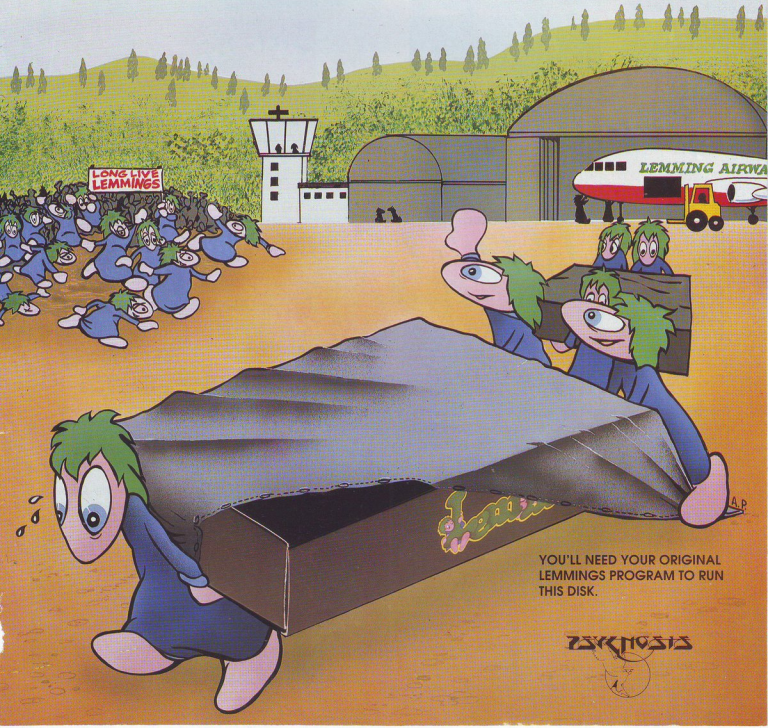

YOU'LL NEED YOUR ORIGINAL LEMMINGS PROGRAM TO RUN THIS DISK.

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VIZ

Ooo-er missus, fyak fyak. Here's a big (ooo-er), pulsating (guffle), sweating (gnarf gnarf), throbbing (cooerr mother) cheat for that fantastic game from Virgin (yak yak). On the character selection screen type in WHAT A LARGE SET OF B*****KS (you know the word, Roger Mellie says it, if you don't know ask your parents), press Return, then hold down the number of the level you want to go to – one to five. The game will then produce a funny noise (no not that sort of noise) and the cheat will be activated.

PREDATOR 2

Silent, invisible, invincible and he's in town with a few days to cheat! Yes, now you can tool yourself up to the teeth with this handy Predator 2 cheat by pausing the game and then typing in YOU'RE ONE UGLY MOTHER (I don't know why but, my Games Editor's face tends to pop up when I'm typing in this cheat). You will receive infinite lives, bullets and energy. Thanks to A Mr P.Gascoigne from Italy for that one.

ARMALYTE

Another helpful cheat for all you tipsters out there. While playing Armalyte, that brilliant C64 shoot-em-up conversion by Thalamus, pause the game, type in DELTA 3, unpause the game and you will find that your spaceship has become invincible.

TURRICAN 2

Here's a cheat for that rave-tastic game Turrican 2. If you go to the music menu by pressing the spacebar and make selection one, then press 4 and 2 quickly followed by Esc until the game starts, you will be rewarded with infinite lives and special weapons.

LOGICAL

OK, next game to the rostrum please. This lovely game wearing a delightful pink number looks set to be the winner of Puzzle Beauty Queen 1991. Enough of this nonsense and on to the serious business of cheating. We are giving you a few level codes for this great puzzle game. Not all of the level codes, just a few to whet your appetite.

2: THE OTHER SIDE, 5: NICE COLOURS, 7: REAL FUN, 11: DONT PANIC, 17: TWO ISLANDS, 19: TIMES CHANGE, 29: FAR THUNDER, 41: A RAINBOW, 47: PICNIC TIME, 59: CORRADO BEACH, 61: WILD AT HEART, 67: HIGH SPEED, 71: WALK IN CREAM, 79: BOA BOA BOA, 89: WILD CHINA, 97: THE PEACEPIPE.

ELF

Right, just 'elf yourself to this lovely cheat found by our own lovely elf, Jools. If you type in CHOROPOO at any point in the game you will given 99 pets, so you can obtain any equipment from one of the many shops. Oh and your energy will also rise to the maximum level.

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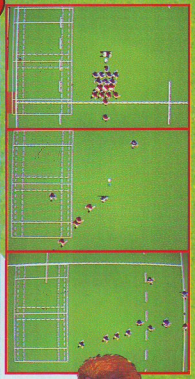

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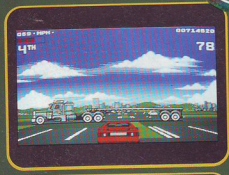

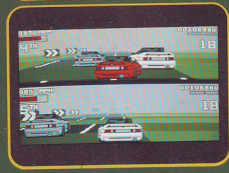

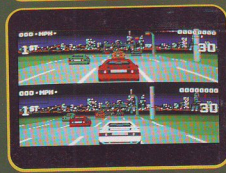

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School can be fun!

Funschool 4 Under Fives has a great deal to live up to. Marc Young exclusively previews the latest release from Europress Software

The thing you notice immediately on running the Fun School 4 program is its professionalism. No compromise has been made to the fact that this is aimed at youngsters. All the programs are colourful and tuneful and hold the attention of even the most hyperactive child.

The manual is in the form of a short story, which should be read to the child as he or she uses the program for the first times. The story involves a day in the life of Ted, starting off at school and ending with a bedtime story.

Addition

The first game is Addition. This, so the manual/story tells us, involves Teddy going to nursery school, where he and his friends are going to do some sums. The game takes the form of a teacher bear drawing pictures on the blackboard, and asking you how many there are. Six bears are in the class, and can only go out to play when the question is answered correctly. At level two there are two groups of pictures, which need to be counted and then added. At the highest level only numbers are shown.

After getting their sums right, the teacher lets the bears paint a poster in the playground. The painting package uses the computer keyboard and mouse to enable the child to draw not only simple shapes, but also a number of pre-defined picture elements. For example one option is a day at the seaside, and has sandcastles, starfish and beach-balls.

Each of these shapes corresponds to a key on the keyboard, so painting can be done by pressing a key, then clicking on the poster with the mouse. There were squeals of delight when the children found out how to draw a screenful of multi-coloured sheep!

Fun Train

After painting the poster, Teddy's mum takes him to the park, where they find the Fun Train. At level one,

A day in the country with Teddy – and some punk sheep!

a poster shows a picture, and the train tows another picture into view. The child tries to match the pictures. If they don't match, the train goes around and picks up the next picture. At the next level some of the pictures have been removed, to be replaced by words, and at the highest level pictures must be matched with words.

After a busy day at the park, Teddy and his mum find that the painters have arrived to decorate their house. At level one, Teddy is asked what colour to paint each part of the house and is given a free hand in his selection (perish the thought!) As the paint is selected from a can, the level of paint decreases, and finally runs out, so the house can't be painted all one colour. At level two, the house is painted, and the decorators will ask you what colour each of the parts is. At the highest level, the painters ask you to find a particular colour, then to find a particular part of the house, at which point that part is painted.

The main menu of Fun School 4, from where our hero Teddy starts his adventures

After a long day, Teddy now goes to a friend's birthday party, where the DJ (Teddy DJ) lets Ted choose the songs to play. A list of familiar nursery rhymes is shown, and you can select any one.

At level one, the tune plays, while the words are shown with a ball bouncing over the words to help you sing along, while on the final level, the song plays as normal, but stops at a certain word, and will only continue if the first letter of that word is typed on the keyboard.

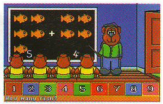
Teddy's Books

After a tiring day, Teddy is tucked up in bed with five of his friends. Daddy is reading a book from a number of books on the shelf. To help the bears get to sleep, you must guess which book he is reading.

At its simplest level, the books are shown on the shelf in order, with one missing. At level two the order is mixed up, though only one is missing. Level three finds several books missing, but each incorrect guess gets a hint, such as "Try a smaller number". Level four repeats level three, with even more books missing from the shelf.

Summary

Both the presentation and the content of Fun School 4 cannot be faulted. The manual in the form of a story is superb, and gets children very involved in the program, helping to prevent them from skipping between games if they find one too difficult. A great deal of thought has obviously gone into the program, and it almost shrieks "quality". Even the method of changing levels for each game is fun, with Teddy walking behind numbered boxes to the next level, and slinking back to level one if it all becomes too difficult.



Teddy and his pals in class, doing some simple arithmetic. Here they are practising on level 2

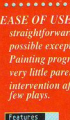
Teacher/parent notes are included with the manual, and give details of all the words used in the programs as well as full details of each of the levels. The story part of the manual is superb, not only introducing a "reason" for the game, but also encouraging children, and reassuring them.

All the games reward correct answers with a smile from the teacher, or a toot from the train, while incorrect guesses merely extract a glum look, or a "That's wrong" message, which neither discourages the child, nor encourages him or her to make incorrect guesses.

Bottom line

FEATURES: Six games in one, with three levels on each. Super graphics and sound, and sound educational content.

EASE OF USE: Very straightforward, with the possible exception of the Painting program, requiring very little parent intervention after the first few plays.



Product: *Fun School 4*
Supplier: *Europress Software, Europa House, Adlington Park, Macclesfield, SK10 4NP*
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Configuration: *All STs*

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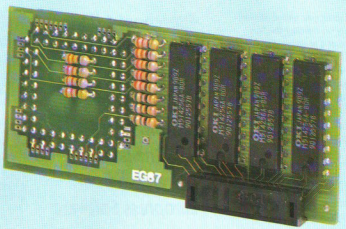

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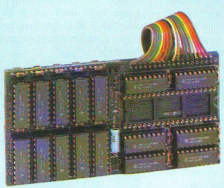

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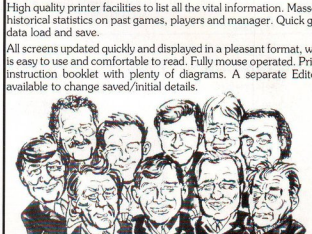

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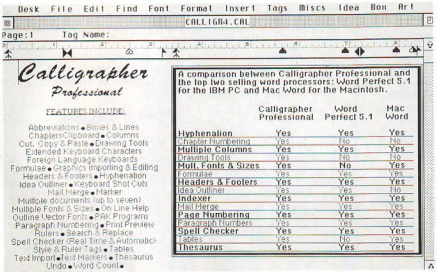

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HARNESSING THE ATARI POWER

Beginners L

Andrew Baker explains the ST's menu system in this month's instalment of our Desktop guide

Waiter, there's a bug in my soup!

Déjà vu is a funny ol' thing. Right now, like you, I'm reading this. Except of course I'm writing it while thinking about reading it later on. Very weird, but what on earth has it got to do with learning to use an ST, you ask yourself?

Well, apart from making me feel better knowing I've just spooked the less well adjusted of you, not a great deal. Unless of course you're the designer of the ST.

You see the ST was built to be as easy to use as possible, and to be easy to use it must make life simple for you. The designers accomplished this by predicting what you would do, and giving you a list of commands that matches this limited list of options. The less options, the simpler it is to use.

This brings us to the subject of this month's episode of the Beginner's Guide – drop down menus on the desktop.

With other computer systems you must tell the computer exactly what you wish to do. Unlike the wonderfully comic scene in Star Trek 4, where Scotty picks up the mouse and speaks to it, real life is very much more difficult. In traditional computers you type in the instructions, and everything typed must be precise or the computer will not understand you.

On the ST however, the designers figured out everything you're likely to do, simplified the choices and came up with a short-list of possible actions. For those wondering how Atari could ever be accused of knowing what their customers wanted, I'll point out that Atari didn't write this software!

Now for the important bit. Instead of your having to type in commands, they're listed on screen. All you're left to do is select the one you want – what could be easier? And before the smart alecs out there point it out, talking to the ST would be simpler but technology hasn't quite reached that stage yet, so there!

Anyway, on with the text. In the first article we briefly examined the drop down menu operation and how to access them. Presuming your ST is on and you're looking at the Desktop, select the first menu.

For those who were late in joining us (detention after school), this is done by moving the mouse pointer to the text at the top of the screen. This text is called the Menu Bar. Once there a "menu" will "drop" down. These menus are not restaurant menus (if they were it'd be a bloody strange restaurant), but lists of possible commands you can issue. Those in a lighter, grey colour are options, which for one reason or another, are not currently available – "The beef is off, sir."

The possible menus are shown in Figure I. Please note that this picture is made up, you won't be able to see all the menus at once, so don't write to *ST User* complaining. The Desk should have just one thing below it, this being the words "Desktop Info...". To select it, move the mouse pointer over these words and press the left mouse button just once.

The Desktop Info... option displays the program's name and any other details which the author feels appropriate. Pressing the left mouse button should bring this up in a box somewhere near the centre of the screen. In this case, the box – more correctly termed a dialogue box – tells you that you are running "Gem" and it's by Atari.

Gem (Graphics Environment Manager) is the name of the software that gives the ST its menus, mouse operation and icons. Unlike all other software you'll use, this is built in to the ST and always present.

Uniform

By building Gem into the ST, Atari have ensured that most authors who write software will use Gem's features. As a result, the vast majority of ST programs – another name for software – all look and work in roughly the same way and have a consistent feel. This reduces the learning curve for each program and increases your efficiency (in case you were worried).

This of course is taking us away from learning how to use the ST. So with remarkably neat link, I'll jump back to explaining the menus.

An example of programmers using the Gem facilities is the menu option we've just used. In nearly all programs the first menu option will display the name and so on. In an identical manner the next menu, File, will also be present in all programs, with each program having similar options under it.

Now before you do the obvious and click on the "button" at the bottom of the dialogue box marked "OK", have a look at the Menu Bar. ➤

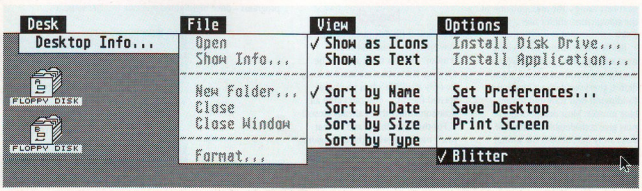

Fig I: Picture of all ST menus at once

Beginners L

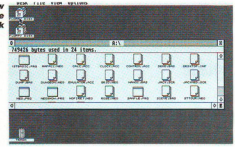

Fig II: Window of language disk

Notice that while the dialogue box is still onscreen the word Desk is still highlighted. This is the same for all menus, and tells you that the operation you're carrying out is not finished.

When you click on OK the dialogue box will disappear, and the menu title will revert to normal.

I said earlier that the next menu is File. It's probably best to explain quickly what a file is. Micros – ie the ST – process information. This information can be data, programs, anything. Naturally this information has to be stored somewhere.

Storage

If you worked in a non-computerised environment the information you handled would probably be kept in a filing cabinet – do I see a light bulb appear? In the computer, this information is stored on "floppy disks". The name given to the data once "written" onto the floppy disk is "file". On the disk are lots of files and just like a filing cabinet you can open it, and insert and remove files for reference.

The options under the file menu – on the Desktop and other programs – are for the maintenance and manipulation of files. The most common options include opening existing files, creating new files, putting files back (Saving) and printing files.

The Desktop doesn't have its own files, so the File menu relates to the next best thing – the manipulation of the storage medium for files – floppy disks.

Before going further we're going to need a floppy disk. With the ST you should have received several. If you didn't, give your dealer a long hard Paddington Bear stare and scream blue murder. Most decent dealers now give considerable numbers of disks away free, besides the several disks that Atari provide.

Anyway, find the disk labelled "ST Language" and insert it into the drive. In a second – we don't hang around – we'll click on Open but before we do notice that Show Info..., New Folder..., Close, Close Window and Format are grey – ie not currently available.

Now move the mouse pointer over the little picture (icon) marked "Floppy Disk" – the one with the "A" in the corner – and select it. When it goes black, move the mouse pointer back to the File menu and select Open. This will bring up a largish rectangle on the screen – see Figure II. This is called a "window". This month we're looking at menus – the operation and use of windows will be covered next. However, for the time being what you see in the window is a representation of the contents of the disk.

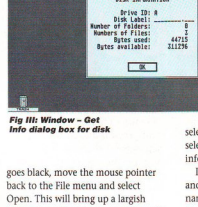

Fig III: Window – Get Info dialog box for disk

Logical

Now look at the File menu again. The New Folder..., Close and Close Window are now black and can be selected. This is because these items are only available when you have opened the disk – you can't after all close something that's already closed!

For the Show Info... and Format you'll need to reselect the icon again. Do not however select Format – doing so may lose all the information on the disk. To close the disk select either Close or Close Window. Try this a couple of times, opening and then closing the disk.

You're probably wondering what, as you can use both close options, the difference is. The answer is involved but important. When you select Open it looks at the icon you've highlighted and opens it – symbolically opening the filing cabinet. Close slams the filing cabinet draw shut again.

The floppy disk represents a filing cabinet (the little picture you clicked on is meant to look like a filing cabinet). Just like filing cabinets, disks can have subsections or folders inside them. These can be opened, creating more windows on the Desktop. The Close Window option will close both the main window and any sub-windows that belong to it, while Close will close only one window. This probably seems a bit confusing, but it will become clear when I've explained windows in more details next month.

The Get Info option will bring up a dialogue box that gives you details of the status of the current disk, file or folder. Now is probably a good time to point out that in addition to selecting the disk icon you can also select files for opening and getting info.

If you highlight the Drive A icon, and select Get Info it will tell you the name of the disk, the number of folders and files on the disk, and finally the amount of space used and available on the disk – Figure III.

With a window open, click on an icon inside it – the small little squares with either a dotted line across the top or a small diagonal line in the top right-hand corner. These are files and programs – once highlighted you can ask for information on them rather than the disk. For these Get Info will report the name, size, when it was last changed and whether it can be changed (read/write) or just looked at and not changed (read only).

The more astute of you will have noticed that the dialogue box for files and programs has two buttons at the bottom. One labelled OK, and one labelled Cancel. This is because Get Info... for these icons can be used to not only get information, but also change it. This dialogue box is shown in Figure IV.

Filenames

To allow easy identification of individual files, each file has its own name – this name is termed the "filename". From time to time, you may want to change a filename. In the Get Info... dialogue box you can see the current filename.

By press Esc or Backspace on the keyboard you can erase all or part of the existing name and enter a new one. The new name is entered from the keyboard. You can enter up to eight letters.

Doing so and then selecting O will change the name. Selecting Cancel will abort the change, and prevent it being made.

This leaves just one option in this menu left – Format. Unfortunately, we're rapidly running out of space, and so to to avoid falling off the bottom of the page, I'll break here.

And so it's goodbye until next month, when we'll take a look at the other menus, and have a peek through a window. Not an ordinary window, but one that moves, changes size and has a mouse running around it!

Through the window we will see mysterious beer-mats that hold a lot more than a pint of your favourite and also fly a lot better. I'll also reveal what I'm taking and where you can get some...

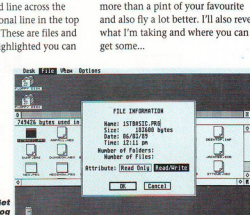

Fig IV: Get info dialog box on files

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839 AIM 3.21, An image processing package, plenty of docs. *2D,*
810 AIM v3.21 disk 2. This has colour images & macros.*2D,*
812 AIM v3.21 disk 3. Three macro demos, PCB analysis, shading correction & Abingdon Cross Benchmark.* D,*
840 PUBLIC PAINTER an excellent art package. German but not hard to master. *M,*
830 SNOOPY, 25 cartoons with displayer *C*
831 GRAPHS disk. Full of utilities for printing graphs. TOP CHART.
336 ST FONT EDITORS. GEM fonts are used. Includes a font loader that works as a Desk.ACC. Also a mouse designer.
109 PALAST, Excellent art program with full docs on disk. Excellent features. *C*
356 VAN GOUGH(Dutch)& STUDIO2(1meg ram), 2 colour packages.
401 LOW COST CAD.2D. PD demo version.
412 ST CAD v2.1, a medium or High res CAD package. Full docs. CALCPLOT, scientific calculator and function plotter.
393 THE ARTIST, a great drawing package with all the normal functions. *M,*
484 NEOCHROME MASTER, This is a recent upgrade of Neochrome, Inc. Extra cut & paste, etc. LOW RES only.
469 HLCAD, a good shareware CAD package. Lots of features.(2DAid-ons available.*H2*
471 FONTS, Calamus PD fonts from USA. Advert, Balyeth, Berrum, Carolina, Casual, Celtic, Chancery Bold, Chancery + other. *2*

MUSIC

675 CHOPPER, music creation, uses ST's soundchip or midi interface, with drum kit etc. There is also a player program.
703 Digitalism demo from Microdeal
570 CZ SOUNDS, xfer data from CZ101 to ST midi. MASTER, demo sampled music sound.
371 Digitised music Secret Separation *D/H*
350 Digital sound demo, Degas & Neo graphics. Quartet demo, 4 channel sequencer! *X*
373 Digitised Wind Mix & Dr by SAGA. *D/M*
670 SINGING CAUFORNIAN RAISONS 4 piece group of singing raisons
720 +MIDI_MIXER, create music on screen, Also Sound Chip Controller.
721A ST-4 SOUNDTRACKER PLAYER & MODULES. ZOWEE, TIMEDEMO, AUSIFOOT, GRILLFIRE2, more.* 2 Disks !!*
536 CASIO CZ SOUNDS & EDITOR, 2 Casio CZ series synthesizer editors/librarian programs.
871 CHANNEL GATE, an early version of Midi Monitor. HIGH-TECH TRYMIX v1.2 +
535 ACCOMPANIST 2.3, midi sequencer program. 16 voice 96bpm resolution. Loads of features.* C +*
760 KCEE MIDICEL, digitised sound demo with a slide show of Kylie.* D*
763 XBOS Music Construction Kit, a powerful seq editor.
764 PSG PLAYER is a 4 track, 16 instrument, digitally synthesised sequencer.
392 SOUNDTRACKER PLAYER & MODULES. D-DREAD1, D-DREAD2, PAT-MIX, RVB_DEMO, SPREAD.
797 MICHAEL JACKSON - BAD, digitised sampled sound & great graphics
646 GIRL'FRIEND, a simple but enjoyable demo designer. LOW RES.
717 MPF, music design package from Yugoslavia. Comprehensive package in English *D/X*

PROGRAMMING/LANGUAGE DISKS

574 6800 ASSEMBLER. Assembler. This disk is full of the assembler and it's associated files.
102 STOS SOUND FX CREATOR, Create sound effects for STOS games in the format of STOS banks.
325 XLISP v1.7, Experimental object orientated language. Includes lots of docs. *2D,*
646 A Pascal disk with a large selection of programs and their source codes
828 STOS RUN, is a utility that enables you to run STOS programs without the STOS.
312, 313 & 314, C LANGUAGE DISKS 1, 2 & 3 of Elementary C, a set of 3 disks of program to illustrate to the beginner the use of C. Each prog includes C source code.
241 A 68000 Assembler, selection of progs in FORTH-83, ST Logo, ST Basic & OSS Pascal.
305 CPM EMULATOR, CPM-8 version 2.0, runs at 2 megaherz.
96 CPM UTILITIES, to utilise disk 305.
308 GEM CLASSES, 1 to 17 taken from Antic magazine. Good tutorial.
324 C COMPILER, boot up utility, ramdisk, and command line interpreter.
117 PROGRAMMING EDITORS, 3 editors, CONTEXT v2, PRO-ED and 3-EDIT. Docs.
370 On this disk there are a large number of Pascal documents, programs & source codes.
102 Nigel Smith's ST 68000 Ref. guide v2.0 gives a popup guide to Assembly language.
887 SOZOBON C, Probably the best PD C compiler.
161 The STOS products demo. Covers the language, compiler, Maestro & Sprites 600.
762 SPRITE EDITOR. Create & save your own sprites. Excellent Sprite design program that has several fast & flexible routines.

640 C TUTORIAL, superb disk manual that provides an excellent intro to C programming.
474 GNU GDB, source level debugger. SZ ADB, M/C debugger for SOZOBONC.*2*
475 MODSC Cable interconnection utility.
476 MODPAS, Pascal Compiler, docs. *D*

COMMUNICATIONS DISKS

364 PACK-ET-TERM v3.3A, a great radio package. YAPP xpkf screen RTTY terminal.
366 XMODEM, MODEM 7, a multiple file transfer utility, transfer a whole disk in one go. Plenty of docs.
366 UNITERM v1.3A, docs inc. Superm comms package. Tektogen transformer prog
732 VANTERM 3.71 & 5.8 is just about the best PD Communications package around
663 LOTT COMMS DISK. Ideal for the beginner, some comm progs and very large helpfile.

APPLICATIONS, SPREADSHEETS, DATABASES ETC

826 DATABASE I, GEM driven database. Easy to use & learn. Online help screens.
827 ST SHEET. This is a very good quality spreadsheet. Can be used as a Desk Accessory. *C,*
830 HOME ACCOUNTS v1.0 Handles 43 different statements in memory. 100 entries per statement *C*
NOT STE.
837 B/STAT + 2.01D This is a sophisticated graphing & statistical analysis program *D,*
838 OPUS v2.2. This program is a GEM based spreadsheet & charting program *D/X*
743 WG DATA, database, custom screen layout for data input. Comprehensive docs.
802 DOUBLE-ENTRY, Accounting prog. A fully working accounts package that covers all aspects except VAT.
805 PERSONAL DATA is a database for storing your names & addresses & creating labels or personalise mail shots.
341 INVENTORY PRO v2.0 is a fully featured stock control system. Very powerful.
432 TCOS database that allows data to be structured in a tree arrangement.
433 ZAPCARD, easy to use card type database. Allows upto 1024 cards. BANKER Similar to Lotus 123. Comprehensive docs.

WORDPROCESSORS & DESKTOP PUBLISHING

727ATEX, a DISK PACK, Includes TEX the document processor & typesetting system. Comes with it's own programming language, handles graphics & equations with ease. Comes with 114 fonts in 28 styles. Full documentation. *2 DISKS !!* *DM*
310 On this disk there are three versions of Includes template & quick reference files.
835 1ST WORD, Wordprocessor. Fully GEM based professional wordprocessor.
[SSH&HD] DATA TEXT v1.2- Fully working DTP demo program. Fully Gem orientated using the WYSIWYG presentation. 21 page manual on disk. The only difference between this and the fully working version is that you will only print 1/4 of a page at a time.
337 ST WRITER ELITE/e The latest release of ST WRITER. It's a superb PD Wordprocessor with text files, docs, etc.
87 ST FOLDING EDITOR v03A Shareware 'folding' text editor with windows sections, sub-sections & paragraphs to be made invisible so the structure of the document can be clear.

GAMES

343 SHERLOCK, A cheedo game Sherlock. Et Bozo City, Sci-Fi text adventure. Around The World In 80 Days, collect 17 souvenirs in order to succeed. *M,*
344 ARKANOID CONSTRUCTION KIT*D/M*
345 AVATOLLA, Your border is under attack from terrorists.
346 ICONZZ, Very playable game with excellent graphics & animation. There are 40 levels for you to complete.
347 FILM MACHINE simulator.
352 Extract is an Adventure game writing write your own games. Comes with 5 games.
356 CHESSNUT, a 2D chess game. SPOOKS is a great PACMAN clone. BELLUM INTERNECINUM. Galesian clone.
531 COMPUTER PINBALL, as it sounds. DEVASTATOR, a 3D game, in DARTS game.
576 TALESPIN. The wolf and the 7 kids. This was intended as a first adventure for children aged 5-9.
518 Cribbage, Backgammon, Yahtzee
519 WIZZARD'S LAIR complete text & graphic adventure.
520 UNDER BIRMINGHAM. A massive graphic adventure.
781 MAKE A BREAK. A great Trivia game leaning heavily towards Snooker & Pool.
610 FLYOVER, a bombing raid game, reasonably difficulty.
615 BOXING CHAMP. fight the worlds top 10 champs.
409 ESCAPE FORM THE TOMB OF RA, collect jewels to prolong your life, find the secret passages, and if you can, get out alive.
410 MUTANT, A reactor in a nuclear powered mine goes out of control. You must get to the cool rooms and destroy it.
613 MARS MAZE, good platform game. Work your way up through the levels, get the fuel before your time runs out.
419 CHESS, a very good implementation.
421 COMPANY, business simulation.
422 MOTORBIKE, drive your bike around and BLACKJACK.
423 TARK, great text adventure. You are Tark, priestess of the First Church, in her battle against the Demon of the Dark Desire. D & D Type.
424 MARS MAZE, good platform game. Work your way up through the levels, get the fuel before your time runs out.

200 **GULF TORNADO**, awesome scrolling shoot 'em up. Blast those Tanks, Missile Launchers & Migs. Not Public Domain. **EXCLUSIVE TO US.**
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467 BATTLE FOR THE THRONE, a role playing adv.
418 THE NAME GAME, based upon the Sun puzzle.
CLIP ART
521 Various human figures, different cartoons, Titles +
522 Sports figures of high quality, July 4th logos.
523 Children's whimsical & elaborate birth & Christmas card images.
524 Food images, Atari ST & Fuji logo etc. Disks, Computers, Robots & other Sci-Fi.
525 Faces & Eyes, concentrating upon expressions, Horses, Building plan symbols & some different Christmas images.
526 American trademarks from the 1920's & 1930's. Some very atmospheric images.
527 Various borders, tints etc. High arty & cartoons - Picasso to small fluffy animals.
732 IMGSHOW, IMGVIEW show progs. fruit, over 20 arrows & Access symbol.
733 Occasional Clips, Various Characters etc.
735 Herbs & Kitchen parts.
738 Humorous clips + individual letters A-Z.
736 More Arrows, Artdeco, Breakfast, cups/glasses & more kitchen parts.
737 Babies, Boys & girls.
739 More Girls, Scrolls & Occasional clips.

GAMES
764 YAHTZY, An extremely popular game.
799 BOMB OUT BROTHERS. Compilation disk No.1. MAD MOLE, great version of the Boulderdash, LASER RACE, defeat enemy laser ears in the arena. ALIEN BLOCKADE, based upon the arcade game QIX.
548 ENGLAND TEAM MANAGER. Football team management. MILIGAME is a card game.
563 DARKNESS IS FOREVER, adventure full graphics in Mono or text only in Colour.
565 SKIDPAN, A motor racing game.
529 STOCKMARKET, Wheeling & dealing. GALACTIC WARRIORS, a good shoot 'em-up.
532 ADVENTURE SOLUTIONS 1 - Solutions to over 25 advs. Crowley Manor, Amazon, Zork 3A, 2B & 1,Enchant, + others.
354 Diamond Miner is a multi-screen game with a built in games editor. Snails & a card game called Stat * M *
855 EXPLODE is a fairly original game where you have to outwit the computer. BALLZONE is an Arcanoid clone controlled by the mouse. JITTERBUG, You rescue aliens from a 'dying' spaceship.
528 FLOYD THE DROID, an ultra fast shoot 'em-up. Sampled sound is a real blast.
530 AIR WARRIOR, a Flight Simulator, with a choice of warplanes, accurate details. fly 'solo'. Full documentation.
705 HARRIS WENT SKIING, You have to get Harris across a busy road to buy Skis.
710 VIRUS Save the CPU from a virus out to destroy it.
402 JITTERBUG,The ship contains rare alien lifeforms which you have to catch.
406 TRACKER, destroy the enemy tracker base.
407 OVERLANDER - shoot 'em up where you fly in and destroy the enemy base.
408 CHANCE, Defeat the Anthons. You have to fly through their defence system and destroy the mothership.
414 STEEL, a good scrolling shoot 'em up where you can blast everything in sight.
326 Arcade games including Warzone, Daleks, Haunted House & Mousemens.
737 The games on this disk are Battleships, Checkers, Maze, ACC, MegaraidsMono3 Pool.
747 ADDICTION, a great version of the card game patience, great graphics (not STE).
328 Checkers, The Original Adventure, Pool & a fun Chess game. * M *
345 PUZZLE PUZZLE, jigsaw puzzle games from Germany.*M*
863 SLEUTH, A CLUEDO style whodunnit. LOCATION CRISIS,PANDEX, You're Demby & you must dispose of radiation canisters.
891 SUPERBREAKOUT, There are over 40 brick types all with special features.*M*
354 NAPOLEON, computer europe. * M *
761 EMPIRE BUILDER property development simulation. LOST TREASURE, you have to recover the lost treasure.
762 RUSH, rush around moving bricks in order to create a way out for the ball. Game where you head butt attacking rats.
766 DIE ALIEN BLOB, a great shoot 'em up.
742 TREASURE SEARCH, find the hidden treasure.*O*
582 STUMPED play international cricket, Control of team selection.*D*
586 BALLIE, arcade game & carnival game. *M*
309 ADVENTURE WRITING SYSTEM
353 1ST SERVE TENNIS, tennis simulation
766 TUNNEL VISION, A great maze game
352 BERMUDA RACE 2, The challenge is to sail to Bermuda.
562 INVASION, adv set on a huge spaceship. Over 100 locations to be explored & puzzles to solve. CRICKET, text simulation.
580 LEAGUE SOCCER, Play the full league programme week by week. Full control over player selection.
331 HACK 1, Dungeons & Dragons text adventure with graphic maps.
581 TOP OF THE POP, Climb up the Top 50
310 MINEFIELD & MISSILE two arcade games *M*
507 SKULDUGGERY, Mono/Colour, Guide a cave mite around caverns collecting diamonds. 100 levels. BLASTER defender clone.
347 SPACEWAR is a good arcade game. FIRESTORM, uses the mouse. AZARIAN shoot 'em up, beat the invading Thrax.
390 SOLITAIRE with 3D graphics. MACPAN is a Pacman clone. Galaxy & Spyrogrieizer are strategy games.*M*
508 ATOMS is a mentally challenging game for 2-4 players. KILLERCHESS. AMMOTRACK's a race & blast'em game.
348 PACMAN, TRIVIA QUIZ, YAHTZEE
521 SCANNER, a checkers game, SPACEWAR, 2 space ships battle it out.
515 SHIPWRECK, educational maths with graphics.
514 A DUDLEY DILEMMA, ADV game. You guide a student at Harvard University.
762 NAVAL BATTLE, Battleships
707 CENTAUR,a Horizontal scrolling shoot 'em up.
706 CHESS, MACPOLY, BACKGAMMON
432 GRAND PRIX, good fast racing game
416 WHEEL OF FORTUNE, quiz based upon the TV programme.
417 HEDGEHOG, Frogger clone
411 KEY TO ATLANTIS, Go around collecting various treasures to prolong your life.
ST PD NEW ADDITIONS
785 MOVIE CONSTRUCTOR: animate objects & text to create stunning effects. Examples inc. FACE ANIMATOR: design a face then let your ST animate it. *M*
786 SIMPLE DRAW V3.4: A great art package that works in medium & high Res. Degas compatible samples included. (Extra footy)
787 HYPERTEXT: Shareware prog suitable for the production of very professional documents. Similar to a DTP but more flexible, pics & text easily mixed on screen.*M,D*
443 ATARI TOS 1.4 FIXES/ISSUES with Rainbow TOS/ POLKIT,PIG & TOS/4IFLPIG for fixing Ct 's bugs. CACHETTF for speeding up disk access. Full docs.
444 ICONTROL: ATARI's latest 'IT control panel accessory for all STs. CPXs included; Color Setup, Configure CPX's, General Setup, Modem Setup, Printer Setup, Sound Setup(STE only), Window Co ItsinTT only) and Accelerator. Plenty of docs on disk.
441 ULTIMATE VIRUS KILLER V5.0: Detects 60 viruses. This cut down version kills only 1 virus per session and some features are not fully functioning. CALSHOW: is a superb calendar prog with great features and has loads of American historical data already programmed. Comprehensive docs.
446 SNOW FLAKE FRACTAL GENERATOR: Generates curves based on the Von Koch snowflake principal, with docs. DIARY: A great diary and address book utility, a must for keeping track of events and people, with docs.
447 FLEXIDUMP PLUS: Working demo version. Ok with most print ers. Screen dumps pictures. Some features disabled but still useable.
448 CYPHER: Encodes pics so that they cannot be loaded into normal art packages(& copied or modified) LITTLE GREEN SELECTOR: great file sel. replacement with many features lacking in the Atari version. Full docs. WPDOS/6: A .ACC that gives extra facil ities to IST Word and 1ST Word Plus.
449 LLAMATRON: A great Shareware game by Geoff Minter. Beware of the mutant Llamas in this shoot'em up. 1/2 & 1meg versions included. *D*
430 REVENGE V2.01: Super intelligent document displayer, which makes file reading a dream. Full docs.
431 VIDEO POKER: A faithful rendition of a Las Vegas poker playing machine. Docs included, Shareware.
HAPPY WORM: Guide the worm around the maze .
432 DERRICK THE DROID: A great mix of platform, Shoot'em up & puzzle game. Select from 6 levels to play. Collect the red & blue tokens.P7,P7
433 CHORDEX: Simple but effective musicians tool, learn major & minor chord shapes, it can connect to a Midi keyboard & play chords automatically.
434 MEMPILE 2.0: Memory and disk editor with powerful features, runs as a .ACC and you can actually examine the program you are running in memory. DLIE: Check disks, retrieve deleted files & edit data directly on a floppy or hard disk. REORG: Companion prog for DLIE. Examine data on a disc related to one file and rewrite it for better disc management, docs.
435 NAMEINFO: An excellent database that runs in Med & High res. Large amount of docs, and includes an 01 to 07.(08) telephone number converter.
436 VANTERM CONG: Preset configuration file for Vanterm v3.8 with most of the best bulletin boards & E mail services included. CODE FINDER: Decodes telephone coded by entering the dialing code and it will give you the town. STABINET is a fully featured Bulletin Board System with comprehensive docs.
437 HD SCAN 1.6: Comprehensive shareware hard drive manager with full docs. ST UTE: Nifty little program that gives you the TOS, GEM & AES version numbers of your computer. DCMAX TRACK: A great little utility to test how much data your disk drive can safely cope with over & above the normal 9 sectors 80 tracks. DCDISK INFO: Shows how much space is left on a disk by a graphical op representation.
438 TETRISClassic 2D tumbling blocks game that's highly addic tive(MONO). PUZZLEMANIA: Multi level mayhem, highly addictive arcade game where you have to plan your way around the maze, turn on the generator and trip the bombs.(COL).
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MOTORBIKE (422) bike sim.
TARK (423) D & D adventure.
BATTLE FOR THE THRONE (467) adv.
THE NAME GAME (418) as in The Sun
VAHTZY (764)
ENGLAND TEAM
MANAGER (548) football

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EXPLODE (855) arcade
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LLAMATRON (449) shoot'em up
SKULDUGGERY (507) collect gems 100 levs
INVASION (562) adv on a spaceship
EMPIRE BUILDER (761) property developer
DIE ALIEN BLOB (766) great shoot'em up
ATOMS, KILLERCHESS, AMMOTRACK (508)
SCANNER (511) checkers type.
WHEEL OF FORTUNE (416) based on TV prog

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READER SURVEY

It's time to tell us what you think of *ST User*. We are asking YOU the reader to tell us what you think we should be doing with your magazine. Your views, criticisms comments and praise will help us shape the magazine to meet YOUR needs. And in return for your cooperation you have the chance to win one of six £50 tokens to spend on whatever software you want at Silica Systems, one the UK's largest ST dealers. Hardware, software, serious or games – the choice is yours. Just complete the reader survey (photocopies accepted) and return to the address below by 14 December. Your name will be entered into the prize draw and you could be one of our three lucky winners.

The Marketing Manager, Atari ST User,
Annual Reader Survey, Europa House,
Adlington Park, Macclesfield SK10 4NP

SECTION ONE: About the magazine

1.1 Where do you obtain your copy of *Atari ST User*?

Newsagent ☐ 1 — Home delivery from a newsagent ☐ 2
Supermarket ☐ 3 — Subscription ☐ 4

1.2 Do you ever experience any difficulties in obtaining your copy of *Atari ST User*?

YES ☐ 5 — NO ☐ 6

1.3 Which, if any, of the last six issues of *Atari ST User* have you bought or read ?

	(1) Read	(2) Bought
November '91 – Art/Paint palette	☐	☐ 7
October '91 – DTP	☐	☐ 8
September '91 – Studio Sounds	☐	☐ 9
August '91 – Masterclass	☐	☐ 10
July '91 – Bart Simpson	☐	☐ 11
June '91 – Helicopter	☐	☐ 12

1.4 On average, how many times do you pick up your copy of *Atari ST User* in any one month ? Please ring below.

1 2 3 4 5 6 7 8 9 10 or more. 13

1.5 About how long do you spend reading an issue of *Atari ST User*?

Up to ½ hour ☐ 14 — 1½ hours up to 2 hours ☐ 15
½ hour up to 1 hour ☐ 16 — 2 hours up to 3 hours ☐ 17
1 hour up to 1½ hours ☐ 18 — 3 hours or more ☐ 19

1.6 How much of *Atari ST User* do you regularly read ?

Everything ☐ 20 — Roughly half ☐ 21
Half or more ☐ 22 — Very little ☐ 23

1.7 How many people, apart from you, read or look at your copy of *Atari ST User*?

None ☐ 24 — One ☐ 25 — Two ☐ 26
Three ☐ 27 — Four ☐ 28 — Four or more ☐ 29

1.8 What do you like most about *Atari ST User*?

.....
.....
.....

1.9 What do you dislike about *Atari ST User*?

.....
.....
.....

1.10 Which has been your favourite issue to date ?

.....
Why ?.....
.....
.....
.....

1.11 Which, if any, of the following newspapers do you read regularly ? (This means at least two editions a week)

The Times ☐ 30 — The Sun ☐ 31
The Daily Telegraph ☐ 32 — The Daily Mirror ☐ 33
The Guardian ☐ 34 — The Daily Star ☐ 35
The Independant ☐ 36 — Today ☐ 37
The Financial Times ☐ 38 — The Daily Mail ☐ 39
Other (please specify) ☐ 40 — The Daily Express ☐ 41
..... None ☐ 42

1.12 Which, if any, of the following magazines do you read regularly ? (This means at least three out of four issues)

ST Action ☐ 43 — ST Format ☐ 44
The One ST ☐ 45 — Zero ☐ 46
Computer & Video Games ☐ 47 — Ace ☐ 48
Computer Shopper ☐ 49 — New Computer Express ☐ 50
Games X ☐ 51 — Other (please specify) ☐ 52

1.13 To what extent do the following elements influence your choice of magazine ?

	A great deal (1)	Slightly (2)	Not at all (3)
53 Front cover	☐	☐	☐
54 Coverlines	☐	☐	☐
55 Cover illustration	☐	☐	☐
56 Single coverdisk	☐	☐	☐
57 Double coverdisk	☐	☐	☐
58 Free supplement	☐	☐	☐
59 Other cover gift	☐	☐	☐
60 Gamer HakPak	☐	☐	☐

1.14 Do you consider *Atari ST User* to be good value for money ?

Yes 61 ☐ — No 62 ☐ — Sometimes 63 ☐

1.15 Do you purchase *Atari ST User* for:

The coverdisk only ☐ 64
Mostly for the coverdisk, but also for the magazine ☐ 65
For both the coverdisk and the magazine equally ☐ 66
Mostly for the magazine, but also for the coverdisk ☐ 67
The magazine only ☐ 68

1.16 Do you believe that a magazine with two cover disks offers greater value for money than a similar magazine with one coverdisk?

Yes, even if a double disk magazine is up to £1 more expensive ☐ 69
Yes, even if a double disk magazine is up to 75p more expensive ☐ 70
Yes, even if a double disk magazine is up to 50p more expensive ☐ 71
Only if the price remains the same ☐ 72
No ☐ 73

1.17 Please rate the following editorial items from Aspects in order of interest, one to eight – one = least interest, eight = most interest.

Midi & Music ☐ 74 — Education ☐ 75 — Comms ☐ 76
Emulation ☐ 77 — Adventures ☐ 78 — DTP ☐ 79
Business ☐ 80
I am not interested in any of the above ☐ 81

1.18 Do you buy shareware or public domain software — Yes ☐ 82 — No ☐ 83

SECTION TWO: Your computer

2.1 Which of the following do you have regular access to ?

Machine	One-sided drive	Two-sided drive	Two disk drives	Hard disk	512K	Over 1Mb	2Mb+
STM	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
STFM	☐ 8	☐ 9	☐ 10	☐ 11	☐ 12	☐ 13	☐ 14
STE	☐ 15	☐ 16	☐ 17	☐ 18	☐ 19	☐ 20	☐ 21
Mega ST	☐ 22	☐ 23	☐ 24	☐ 25	☐ 26	☐ 27	☐ 28
Mega STE	☐ 29	☐ 30	☐ 31	☐ 32	☐ 33	☐ 34	☐ 35
TT	☐ 36	☐ 37	☐ 38	☐ 39	☐ 40	☐ 41	☐ 42

2.2 Which of the following types of games do you find interesting ?

Action ☐ 43 Puzzle ☐ 44 Adventure ☐ 45
Other ☐ 46 War/strategy ☐ 47 None ☐ 48
Role playing ☐ 49

2.3 How far is your choice of software and peripherals influenced by *Atari ST User*?

A great deal ☐ 50 A little ☐ 51 Not at all ☐ 52

2.4 How much do you spend on software per month ?

Under £10 ☐ 53 Between £10-£15 ☐ 54
Between £16-£30 ☐ 55 Between £31-£40 ☐ 56
Between £41-£50 ☐ 57 £51 or over ☐ 58

2.5 How regularly do you purchase new games ?

Less than one a month ☐ 59 One a month ☐ 60
Two-three a month ☐ 61 Three-five a month ☐ 62
More than five a month ☐ 63 Don't buy games ☐ 64

2.6 How much time do you spend on your computer per day ?

Less than one hour ☐ 65 Up to two hours ☐ 66
Up to three hours ☐ 67 Up to four hours ☐ 68
Up to five hours ☐ 69 Five hours or more ☐ 70

2.7 How long have you had your current computer ?

Less than one year ☐ 71 Up to two years ☐ 72
Up to three years ☐ 73 3 years or more ☐ 74

2.8 Is this your first computer ? 75 YES ☐ (1) NO ☐ (2)
If no, please state which one you owned before

.....

2.9 Do you intend to buy a new computer in the next 12 months ? 76
YES ☐ (1) NO ☐ (2)
If yes, please state which one

.....

SECTION THREE : About you

3.1 Are you 1 Male ☐ (1) Female ☐ (2)

3.2 Your age:

Under 11 ☐ 2 11 - 13 ☐ 3 14 - 15 ☐ 4
16 - 17 ☐ 5 18 - 19 ☐ 6 20 - 21 ☐ 7
22 - 23 ☐ 8 24 - 25 ☐ 9 26 - 34 ☐ 10
35 - 44 ☐ 11 45 - 54 ☐ 12 55 - 64 ☐ 13
65 plus ☐ 14

3.3 Are you

Employed full-time ☐ 15 Employed part-time ☐ 16
Self-employed ☐ 17 Student ☐ 18
Unemployed ☐ 19 Other, please specify ☐ 20

.....

3.4 Please state the nature of you business (if applicable)

.....

.....

3.5 What is your position or job title within this business? (if applicable)

.....

.....

3.6 What is your annual income before tax and other deductions ?

Below £5,000 ☐ 21 £5,000 - £9,999 ☐ 22
£10,000 - £14,999 ☐ 23 £15,000 - £19,999 ☐ 24
£20,000 - £29,000 ☐ 25 £30,000 - £39,000 ☐ 26
£40,000 - £49,000 ☐ 27 Over £50,000 ☐ 28

3.7 Which ITV station do receive in your area ? Please state the predominant station.

TVS ☐ 29 TSW ☐ 30 LWT/Thames ☐ 31
Anglia ☐ 32 Central ☐ 33 HTV ☐ 34
Granada ☐ 35 Yorkshire ☐ 36 Tyne Tees ☐ 37
Border ☐ 38 STV ☐ 39 Grampian ☐ 40
Ulster ☐ 41 Channel ☐ 42 RTE ☐ 43

3.8 Please state which exhibitions you have attended over the past year.

.....

.....

3.9 (Optional)

Your name.....

Address.....

.....

Post Code.....Telephone .....

SECTION FOUR : About Gamer

4.1 How much influence did the *ST Gamer* supplement have on your decision to purchase this copy of *Atari ST User*?

A great deal ☐ 1 A moderate amount ☐ 2
A small amount ☐ 3 None at all ☐ 4

4.2 Would you like us to devote more pages to *Gamer*? Yes ☐ 5 No ☐ 6

4.3 Do the games reviews in *Gamer* influence your decision when buying games software? Yes ☐ 7 No ☐ 8

4.4 How does the content of *ST Gamer* compare with the following magazines' games sections?

	Better (1)	Same (2)	Worse (3)	Don't get it (4)
9 ST Action	☐	☐	☐	☐
10 ST Format	☐	☐	☐	☐
11 The One for ST	☐	☐	☐	☐
12 ST Fun	☐	☐	☐	☐
13 Games-X	☐	☐	☐	☐
14 Zero	☐	☐	☐	☐

4.5 What improvements would you like to see in *Gamer*?

.....

.....

SECTION FIVE: Readers' panel

We are forming a Panel comprising 50 readers of *Atari ST User* who between them represent every kind of reader.

Members of the panel will receive the magazine FREE by post for at least three months.

Panel members will be asked to read *Atari ST User* thoroughly and use the CoverDisk.

We will rely on Panel members to provide us with their detailed views on each issue of *Atari ST User*. We will also ask for members' ideas on what they would like to see in future issues.

Are you interested in joining the Panel? Yes ☐ 15 No ☐ 16

(NOTE: You MUST provide the details requested at 3.9 if you wish to be a member of the Readers' Panel)

Thank you for taking the trouble to fill in this survey. In return, we hope to provide an even better service.

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My machine.....

Titles.....

Name .....

Address.....

Memory loss!

I wish to warn readers about the potential hazards of having a solderless plug-in memory upgrade fitted.

I purchased one of these upgrade kits via mail order and had it fitted by a fully qualified engineer. The upgrade proved to be faulty and as a result, blew the RAM chips on the motherboard. After talking to a dealer, I know that this has happened to other people.

Fortunately, I bought the upgrade from a reputable company and they sorted out my machine.

Raymond U, Wirral

And the moral of this story is "Don't do it yourself unless you know how to".

It was very prudent of you to have arranged for an engineer to fit the memory upgrade for you, otherwise you would have been really stuck. Remember, if you do work yourself there is nobody to fall back on when something goes wrong.

Disgruntled disk

I received my *ST User* by post last Friday and was pleased to see that there were two disks to use. I switched on my new Atari STE and loaded the first disk as usual, which was very mediocre, so I booted up the second disk and my fast diminishing pleasure soon turned to annoyance when the two STOS games, though loaded OK, would not play.

I passed them on to my daughter-in-law who owns a STFM and they played OK on her Atari. You mention in the magazine that they will play on all Atari STs. I presume you included the STE?

I have taken out a subscription for *ST User* over the past three years and I much preferred the early editions and except for Crisslefridge which was an excellent game, most of the programs on the free disks are not worth bothering with.

There is one more issue to come, I have had a reminder but I don't think I will be renewing it this time.

R Riches, Southampton

STE compatibility is a problem faced by a large number of software developers. I do apologise that our disk didn't work on your machine, but we felt that the programs would be of genuine use to the bulk of our readership and therefore included them.

Sorry to hear that we will be losing you. Obviously the massive changes we have made to *Atari ST User* will not be to everyone's taste.

I hope that you will pick us up in the newsagent from time to time. Who knows? you might find us irresistible again one day.

ATARI ST online!

We can be contacted on a whole host of bulletin boards and conferencing systems. If you have anything to say, why not get it off your chest online?

Speak to Eddie McKendrick on the following services:

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Hard up!

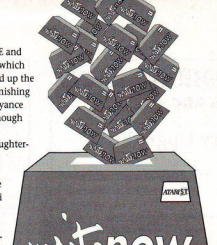
Hurray, what a stonking good edition of *ST User* number 68 was (is?). An excellent new look and an excellent set of CoverDisks, with some actually useful stuff on them. I mean as well as the Thunderhawk demo, you had the latest release of ST-Writer, which I am using to type this letter to you, (having lost the use of all my pens years ago), and a STE 1.6 medium res boot proggy-thingy which is loads better than the only other program I had to cure the medium res glitch.

But enough praise, I have just had an excellent idea! You know you are always trying to find ways of cramming more data onto disks? ("yes" I hear you say). Well why not put a hard disk on the cover???. You could start off with a small(ish) 20 meg version and work up to the 100 meg one as more contributions flowed in. Of course you wouldn't have to supply the plug as well, I mean we can't expect you to do everything can we?

Well that's it from me for now, matters are pressing (the pub's just opened), and I am not the fastest typist in the world, especially on the ST keyboard, so *au revoir*.

Neil Robinson, Staines.

Excellent idea! We will be including a 20 meg disk on the next issue. Ah... I've just thought of a potential problem... we can't find any Sellotape sticky enough to hold it on... blast it!



Seriously – It's a real computer... or that is what Atari would have us believe. Do you think the ST's future lies in serious software or are you a greenie-blaster at heart?

Write now! to:
Eddie McKendrick,
Atari ST User,
Europa House,
Adlington Park,
Macclesfield,
SK10 4NP.

Weird dreams

I fully agree with John Hunter in *ST User* 63 p90, about all the disk swapping in games.

Why am I writing now? Simple, I've just got Weird Dreams by Rainbird and found it to be the most unfriendly game in the world. Why? It's not STE friendly (which is why it was given to me). You have to suffer mass intro screens and have to swap disks all the time (I kid you not). It drives a person insane!

Why do companies do this to us? It's certainly not for piracy reasons because it comes with a 64-page story-book which you need. So why the torture on us and our disk drive?

Robert Birks, Australia.

My guess would be that some games have so much data that spreading it across more than one disk in unavoidable.

I do agree that some games take too much swapping. It would be nice if developers put a little more time into planning out how a single drive user will play a game. After all, it shouldn't really be necessary to swap disks at every level.

The Lynx link?

£10 PRIZE letter

The new style of *Atari ST User* is excellent! I have been reading the magazine ever since you were part of *Atari User!* However I would like to know where I can get those first issues of *ST User*. As I recall, they were blue in colour and I would like them in order to complete my collection of the magazine.

Also would it be possible to have the Lynx in your magazine? I and many of my friends have Lynxes, as well as STEs. If you can't then why not have just a small column or a page or two for the Lynx as it still is an Atari product and its user base is fast growing.

It would also be an excellent idea as most of the other console magazines do not cater very much for the Lynx. If the column does go ahead then I and very possibly others would be willing to send in some hints and tips.

Looking at the reviews in *Gamer* they now state whether or not a game is 1/2Mb or 1Mb. Would it also be possible to state if the game uses the STE's extra sound chip, graphics controller etc?

Thank's once again for the greatest magazine of all time!

Ling Li, Somerset.

Glad you like it! I take your point about Lynx coverage. The only problem is that we just don't have the space every month! If there proves to be a big enough demand we will just have to make space for it any way we can. So the message is simple – if you want to see the Lynx in *ST Gamer*, write now!

***Gamer* will mention if a game uses special STE facilities, but only if the software house remembers to tell us!**

The prehistoric back issues you speak of sound like the "other" *ST User* which eventually became *ST World*. Unfortunately those fine publications are well and truly out of circulation. It looks like you will have to resort to the small ads columns if you are to have any chance of completing your collection.

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GALLERY

It's like having the Louvre in your living room

A good selection this month, but you can't get enouh of a good thing so keep those disks a-coming. This month we highlight two brilliant ST art fanatics, both bringing us completely different styles.

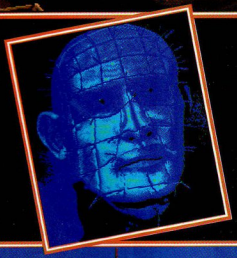
The two tank pictures, Cromwell and Crusader, were sent by Witoslaw Naruszewicz. I hope we spelt that right! Witoslaw bemoans the lack of originality in pictures these days, and says that a simple drawing by hand is much better than a scanned image. We couldn't agree more, but we can only print what we receive, so keep sending those original pics Witoslaw!

And sneaking in right on the deadline came Peter Halloran, with a disk stuffed to the gills with some absolutely brilliant pictures. There were loads and loads of pictures of everything from Garfield to Conan the Barbarian, but it was his pictures of horror classics that really stood out.

The terror of "Alien", "Freddy" and "Pinhead" from Clive Barker's rather awesome Hellraiser are some of the most effective entries we've ever seen. A great artist and a great judge of films. A well-earned winner in our books.

In our infinite capacity for generosity we'll be sending Peter a copy of that ever-wonderful Deluxe Paint to create even more incredible pieces.

Winner



Are you a regular Gallery reader? If so, don't just sit there, send us your pictures. It doesn't matter how old or new they are. It doesn't matter whether or not you think they're as good as the ones here. Just send them in, and you too could achieve fame in the world of ST art.

The ST Gallery, Atari ST User
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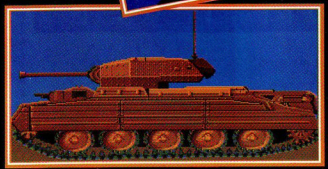

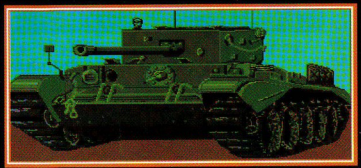

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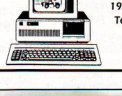

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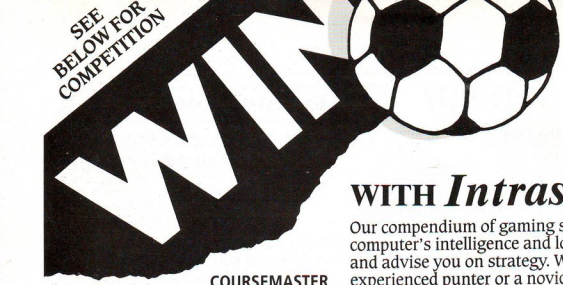

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If you scour the ST market you could probably find a utility to do pretty much anything, all from within your ST's Gem setup. PD libraries in particular specialise in disks full of handy programs that do everything from disk repairs to entire alternative DeskTop environments.

If you really want to get value for money then your best bet is to treat yourself to a professional utilities package. Names like Harlekin and Mortimer have changed many users' outlooks on the usefulness of the ST, and by an extraordinary coincidence, both these packages have recently been upgraded. Sounds like the perfect excuse to take a look at what's available in the way of utility bundles, doesn't it?

Where to get them

Harlekin and Harlekin 2 are £39.95 and £59.95 respectively, and available from HiSoft on 0525 718181, or write to:

HiSoft,
The Old School
Greenfield
Bedford
MK45 5DE

Michtron Utilities Plus costs only £29.95 and can be obtained from MicroDeal on 0726 68020, or write to:

MicroDeal
P.O. Box 68
St. Austell
Cornwall
PL25 4YB

Mortimer Plus (£49.95) and K-Roget (£51.70) are supplied by Kuma Computers Ltd, ring them on 0734 844335, or write to them at:

Kuma Computers Ltd
12 Horseshoe Park
Pangbourne Berks
RG8 7JW

Harlekin

Although Harlekin 2 came under scrutiny way back in the October issue, the original Harlekin is still well worth taking a look at. It has most of the features of its counterpart, but is obviously a little more basic. Despite this, it's still a great investment as it contains one of the best utilities available – the Harlekin Scrapbook.

The scrapbook is the heart and soul of Harlekin and pulls together all the other utilities in the package into one extremely handy time planner. It allows you to make notes and comments against any particular date or time, and thus plan your day, week, month or even year with incredible efficiency.

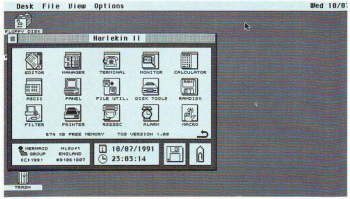
How you use the scrapbook is entirely up to you. If you use it in conjunction with the comprehensive text editor then you can store anything from recipes to 100 page reports in the scrapbook and call them up when and where you need them. It's an amazing utility and one which everyone can find a use for.

Also featured in the Harlekin package are the aforementioned text editor, which is a surprisingly good wordprocessor, a calculator with hex and binary conversions, and also plenty of file and disk utilities. There are also options to incorporate modems and printers into your Harlekin set up to make it even more all encompassing. It's impressive stuff.

If you want to go one better then, obviously, Harlekin 2 is a wise choice. As I said, a full review appeared in the October issue, but to save you digging out your back issues I'll just recap what the differences are.

It contains all the features of Harlekin, but they've been tweaked and fiddled with to make them even better. Harlekin 2 is much more economical on memory space for instance, and it also features a considerably overhauled Scrapbook. The modem interface has been rewritten to make it even more compatible and the option to define your own keyboard macros is welcome.

It's got a more polished feel than the original, and for the very serious user it's probably a wiser choice, but if you just want something to help organise your computer, as well as your life, then the original is by no means a has-been.



Harlekin 2's friendly front end puts plenty of utilities at your fingertips

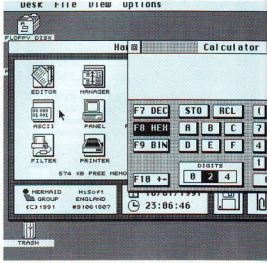
Utilities Plus

Utilities Plus is a mammoth collection of useful programs, gathered together by MichTron in Michigan, USA. It's made up of five, yes five, utility packages all bundled together on one disk.

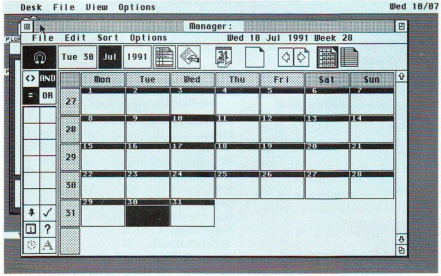
Included are MichTron Utilities, STuff, Superdirectory, M-Disk, and DOS Shell. The packages have been carefully chosen so that you don't end up with five programs, all doing pretty much the same thing.

One of my major criticisms of this

A professional utilities package can work wonders for you and your ST. Daniel Whitehea checks out the popular ones



Testing the calculator with some tricky arithmatic



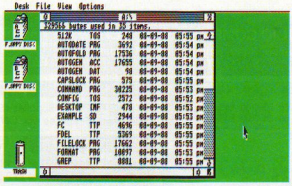
The powerful Harlekin time manager will get your life in order

package is that it looks and feels very unfriendly. Once loaded you are simply faced with a window full of program names, and you have to plough through the fairly huge manual to find out which does what. However, what Utilities Plus lacks in immediate appeal, it certainly makes up for in choice.

What's what

The MichTron utilities are dedicated to fine control of ST files by altering and generally having a good old poke around in the individual bytes of memory. Of course, the manual warns that such tinkering can seriously scupper your disks, but the programs are clever enough not to just allow you to massacre files without checking first.

It's not only for erasing files though, as you can also use it to bring your knackered disks back from the dead. It's not a tool for amateurs, but let's face it, we could all do with something like this at some time. The



The rather uninspiring welcome from Utilities Plus, but looks can be deceiving

STuff collection is made up of 21 programs to help make your DeskTop a nicer place to work. There's nothing here as dangerous as the MichTron progs, but they're still very useful. There's some to put in your AUTO folder to make your start up a bit more professional and smart, there's programs to install in DeskTop, such as AutoGEM which can automatically boot any Gem program when you turn on your ST. This is especially handy if you only use your computer for, say, wordprocessing.

Superdirectory is a powerful disk catalogue program, which allows you to keep track of everything you've got on both floppy and hard disks. It's quite a wise inclusion, given that most of the other utilities involve disk operations of some kind, and it could be easy to forget what's on what disk.

M-Disk's offerings are specifically designed to keep your computer loading and saving data, even when it's busy doing something else. What it basically does is set up a dummy RAM disk in memory to store data, which is more efficient than a real RAM disk, as no hardware is involved. This utility probably won't appeal to everyone, but if you're a dedicated ST programmer then something like this could really save you time and effort.

Finally, DOS Shell is designed to emulate an MS-DOS working environment on your ST. This means that you can now have all the advantages of what is considered the best business operating system on your ST.

MS-DOS is a lot faster than Gem, and is also ideal for handling both floppy and hard disks with greater speed and efficiency.

Well, they say that variety is the spice of life, and if that's true then MichTron Utilities Plus is extremely spicy indeed. Despite its rather offputting first impressions there's something in here for everyone. A cliche, yes, but still very relevant.

Morty's back

Also worthy of a mention is Mortimer Plus. It's not ready for review yet, so I can't actually tell you what it's like, but I can tell you what the new features are.

The Editor now has a menu bar, and the ability to compare the contents of one editor with another – remember that Mortimer has four editors.

It also carries on when other programs would curl up and die, as it can retrieve text even after your ST bombs out. It's also a lot more efficient at hard drive operations and includes such wonders as the ability to find files using wildcards and only parts of filenames.

All in all, it sounds like something to look forward to, and a worthy successor to Mortimer. Existing Mortimer users can really get value for money though, as they can upgrade for a mere £20.

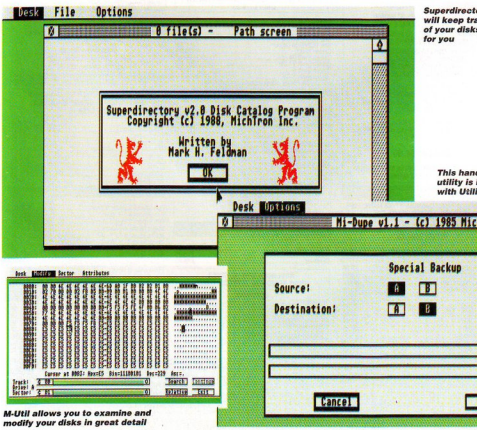
And finally...

As well as big name utility bumper packs, there's also some great individual utilities that can be integrated with your system. One that is especially worthy of note is Kuma's K-Roget. As you can probably guess, it's a thesaurus for your ST, and quite a handy little addition it is too. Not only can it search for alternative meanings but also any connection between the words.

Therefore, searching for "shallow" would give you the noun "shallowness" and all its alternatives, as well as the adjective "shallow".

From there you can move to similar and opposite expressions such as "depth" or "summit" to allow you to fully explore all the possibilities. K-Roget is fully compatible with K-Word, and is well worth looking at if you're a budding writer.

Gems



Superdirectory will keep track of your disks for you

This handy copy utility is included with Utilities Plus

M-Util allows you to examine and modify your disks in great detail

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INSIDE THE STE

Adam Greenwood explores the blitter chip, that long awaited piece of silicon which is now a standard piece of equipment on all STs

Although the blitter chip has been around for a while on the Mega ST, the STE is the first low-priced machine to have the blitter as standard. This month's article concentrates on how to use the blitter chip direct for bitmapped graphics, and there are two 68000 source code examples on the CoverDisk which demonstrate blitter chip sprite routines.

What is it?

The blitter chip is a DMA device which can transfer data directly from one part of memory to another faster than the ST's 68000 processor. The blitter is bit-oriented, allowing data to be shifted during transfer, and can also use any of 16 logical combinations of source and destination to produce the destination data.

In addition the blitter chip has 16 word length, half-tone RAM registers which can be combined in several ways with the source data to produce special effects such as repeated patterns.

Using the blitter

The easiest way to make use of the blitter chip is through the Gem raster operations and the A-line bitblt call, which are used in exactly the same way as on any other ST. To get these calls to use the blitter chip an extended bios call, Xbios 64, is used to enable the blitter chip for Gem and A-line use. This call has been around since TOS 1.09, and is already well documented. On the STE the blitter chip can also be enabled from the desktop, using the Blitter item under the options title.

However, the A-line sprite routines do not use the blitter chip, and to get fast bitmapped graphics the chip must be programmed directly. This is the most complicated feature of the STE, but the results are worthwhile, as the blitter chip can shift and draw a sprite faster than a 68000 routine using pre-shifted sprites, saving both time and memory.

Getting started

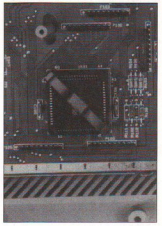
Before looking at how to program the blitter chip, it is useful to think about how data is arranged in memory. When data is being shifted as it is copied, the length of line copied must be longer than the actual width of the source data, to allow for shifting. If the source lines are held consecutively in memory the copy will run onto the next line of data.

Because of this it is better to use interleaved sprites, so that the line copied can be long enough. This can be achieved using any wide image, such as a DEGAS picture. If consecutive data is used, the blitter must be forced to read a word of source data twice – see FXSR below. Also, if there is more than one bit plane then the planes must be copied separately, otherwise one bit plane will be shifted into the next one, instead of into the next set of words.

Throughout the rest of this article, two examples will be used to illustrate how to set up and use the blitter chip, both based on a 32 by 32, eight colour sprite in low resolution. The first example is a background copy, 48 by 32 pixels, unshifted, which could be used to save or restore all four bit planes of background data. The second example is the 32 by 32 sprite itself, shifted by up to 15 pixels. These examples tie in with the source code programs on the CoverDisk.

Programming the blitter

The blitter chip is controlled by 34 memory mapped registers, most of



which need to be used even for a fairly simple copy. The first step is to initialise the blitter chip with the correct dimensions for source and destination data.

The overall dimensions are the x count, which tells the blitter chip how many words make up a destination line, and the y count, which indicates how many lines are to be copied. The x count value depends on how many planes are to be copied and how wide the source area is.

For our unshifted background all the planes can be copied in one go, so the x count value would be 12 words (four words per 16 pixels). The shifted sprite has to be copied one plane at a time, and an extra 16 pixels allowed, so the x count value would be three, ie two words for the 32 pixels plus one word for the extra 16.

The y count value is affected by the operation of the blitter, and so should be set just before each blitter chip operation. This value is just the number of lines which the blitter chip should copy.

The source x increment indicates how many bytes should be skipped to get from one source word to the next. For a full-plane copy in any resolution this will be two, ie add two bytes to the current address to get to the next word. For single plane copying this register is set to the distance to the next word in the bit plane, so to copy a single bit plane in low resolution this register is set to eight.

Source y increment tells the chip how many bytes to skip to get from the start of the last word on one line to the start of the first word on the next line. This can be thought of as the length of a full line (in bytes), minus the number of bytes covered by one line of the copy with the value of x increment substituted. Using the same examples as previously, for our background copy from a full width screen, the full line length is 160 bytes, each line covers 24 bytes, and the x increment is two.

This gives us 160 – (24 - 2) = 138 for the y increment. For the sprite, the line length is still 160, and the destination line still covers 24 bytes – three words are copied, but eight bytes are skipped in between – but the x increment is eight bytes. This gives 160 - (24 - 8) = 144 bytes to skip.

The destination x and y increments are calculated in exactly the same way but with the destination lines, one possible difference being the full line length. If the two lines are the same length, and the data is the same, then the source and destination values will be the same.

Once the dimensions are set the skew and mask values can be calculated. The skew value indicates how far to the right the source words will be shifted, up to 15 pixels. This value is set using the lowest four bits of the skew register. The mask values are used to ensure that only the correct destination bits are altered.

For instance, if the sprite is shifted by four bits, then the first four and last 12 bits of each destination line must be unchanged. These unused bits are allowed for by the extra length of the x count. There are three word length registers for these mask values – endmask 1 is used to mask the start of the line, endmask 2 applies to all middle words and endmask 3 is used for the last word. A zero bit in these registers indicates that that destination bit will be unaffected. Keeping to our sprite examples, the background is not shifted, ➤

INSIDE THE STE

```
Blitter chip registers
Address    Length     Description
$ff8a00  .w    Half tone RAM 0
$ff8a02  .w    Half tone RAM 1
$ff8a04  .w    Half tone RAM 2
$ff8a06  .w    Half tone RAM 3
$ff8a08  .w    Half tone RAM 4
$ff8a0a  .w    Half tone RAM 5
$ff8a0c  .w    Half tone RAM 6
$ff8a0e  .w    Half tone RAM 7
$ff8a10  .w    Half tone RAM 8
$ff8a12  .w    Half tone RAM 9
$ff8a14  .w    Half tone RAM 10
$ff8a16  .w    Half tone RAM 11
$ff8a18  .w    Half tone RAM 12
$ff8a1a  .w    Half tone RAM 13
$ff8a1c  .w    Half tone RAM 14
$ff8a1e  .w    Half tone RAM 15
$ff8a20  .w    Source x increment
$ff8a22  .w    Source y increment
$ff8a24  .w    Source address high word
$ff8a26  .w    Source address low word
$ff8a28  .w    Endmask 1
$ff8a2a  .w    Endmask 2
$ff8a2c  .w    Endmask 3
$ff8a2e  .w    Destination x increment
$ff8a30  .w    Destination y increment
$ff8a32  .w    Destination address high
word
$ff8a34  .w    Destination address low
word
$ff8a36  .w    x count
$ff8a38  .w    y count
$ff8a3a  .b    Half tone operation (HOP)
$ff8a3b  .b    Logical operation (OP)
$ff8a3c  .b    bits 0-3 = Line number
               bit 5  - Smudge
               bit 6  - HOG
               bit 7  - Busy
$ff8a3d  .b  bits 0-3 = skew
               bit 6  - NFSR
               bit 7  - FXSR?
```

➤ and so skew is set to zero and all the endmask registers are set to $ffff.

For the sprite data, the skew value is used, this value being calculated from the exact coordinates of the sprite. The value for Endmask 1 is found by logically shifting $ffff right by the skew amount, and the logical NOT of this value is used for endmask 3. Endmask 2 is set to $ffff. Incidentally, if there are only two words in a line only endmask 1 and 3 are used, with 2 being ignored.

Once the skew value and endmask registers are set, the operation used to combine source and destination can be selected. There are two things to be considered at this point. One is the half tone RAM, which the blitter chip uses for special effects. This will be discussed below – for the moment all that needs to be done is to set the HOP (Half tone operation) to two, so that only source data will be used, and half tone RAM will be ignored.

The second consideration is the logical operation which will be used to combine the source and destination data. For a sprite, we need two operations, AND and OR. The mask for the sprite, ie the data which indicates which bits are foreground and which should be left as background, needs to be ANDed with the destination to clear the bits which will be used as foreground

Note that this mask should not be confused with the endmasks, which simply protect the edges of the destination data. This requires that the mask plane of the sprite has a one where the data is background, and zero where it is foreground. For an eight colour, four plane sprite this can be done by using colour one as background, and any even colour as foreground, then using the first bit plane as the mask and the other three as data. The mask plane must be blitted over all four planes of the destination and the sprite data over the last three planes. The sprite data is ORed over the masked destination to set the foreground bits and leave background unchanged.

The logical operation for the blitter is selected from 16 combinations of operations using the OP register. The blitter can be started by placing the source and destination addresses in the source and destination address registers, each of which are split into a high word and a low word, but can be set with a single move.l instruction. The value for y count can be set at this point, and then the blitter operation started by setting bit seven of the line number register.

The blitter operates in two modes, hog mode where the blitter takes control of the bus until it has finished, or interleaved, where the blitter and 68000 have the bus for 64 cycles each. In hog mode it is not necessary to detect the end of the operation, since the program will not be executed further while the blitter is busy. In interleaved mode the end of the blitter operation can be detected by checking the busy bit, which returns to zero when the operation is finished. The blitter mode can be selected using bit six of the line number register, a one indicating hog mode and a zero interleaved.

Half tone RAM

The remaining registers associated with the blitter are used to control the half tone operations. The first 16 word length registers are the half tone RAM, and these can be set to any values to be combined with the source data. How these registers are combined depends on the HOP register, which allows four different combinations. The lowest four bits of the line number register indicates which of the half tone RAM register will be the first used, and the blitter will then use them in sequence.

However, if the smudge bit – bit five – of the line number register is set, then which register is used depends on the four lowest bits of the source data. Half tone RAM can be used for repeating patterns, or for special effects using the smudge bit.

Finally, bits six and seven of the skew register are the NFSR and FXSR bits. NFSR stands for no final source read, and is set if the blitter could not read the final source word. FXSR is force extra source read, and is used to make the blitter read the beginning of each line as an extra source word. This needs to be used if one source line of shifted data follows on directly from the next, and alters the values used for source x increment and source address.

Example programs

Both example programs deal with blitter chip sprites in low resolution, but can be edited, assembled and run from medium res. Both are animated within a single frame (50 or 60Hz). BLIT_A.S is a single sprite program, whilst BLIT_B.S shows how to get multiple sprites by double buffering the screen.

The sprite routines given use of all four bit planes for both sprite and background, but they can be improved like any other sprite routines by reducing the number of planes for either sprite or background. A quick look at most games will reveal that very few sprite routines use all the colours for foreground or background, and even fewer are at 50Hz, and this gives some indication of just how powerful the blitter chip is.

If the source code is run on a non-STE machine, for instance a Mega ST, then the screen address will have to be set with a different method – the example programs make use of the STE's video shifter chip. A suitable method is to use the system variable $45e to set the screen address, remembering that it must be on a 512 byte boundary.

Like the rest of the series, this article deals with using the blitter chip in one way, but provides enough information to support other uses. This should satisfy all those who have been asking for details of the blitter chip, particularly since the STE came out.

Next month's article will deal with two topics – the new controller ports and the cookie jar. Until then, good luck with the blitter chip!

```
Xbios call 64 - Blitmode                    trap #14 (tidy #4)

    flag.w  Status                  Returns d0.w:
        bit 0 - enable                  Bit 0 - set (Blit on)
        1-14 - reserved                   1 - set (If blitter present)
        15 - 0 = clear                  2-14 - reserved
             1 = get                    15 - clear
Blitmode 64
```

```
Logical operations (OP register)
Value       Result
0    all 0 bits
1    source AND destination
2    source AND NOT destination
3    source
4    NOT source AND destination
5    destination
6    source XOR destination
7    source OR destination
8    NOT source AND NOT destination
9    NOT source XOR destination
10   NOT destination
11   source OR NOT destination
12   NOT source
13   NOT source OR destination
14   NOT source OR NOT destination
15   all 1 bits
```

```
Half tone RAM operations (HOP register)
Value       Operation
0    all 1 bits
1    half tone RAM
2    source
3    source AND half tone RAM
```

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Questions, questions!

Having owned a Spectrum 48K for a number of years I decided to move up-market. On a recent trip to Glasgow I opted for the 1040STE Family Curriculum pack, an external floppy drive and a Philips CM8833-11 monitor, and that was the budget just about gone.

On the whole I am very happy with my system, but would like to add to it as I go along. I am wary of plunging into the hard drive or scanner market, as choosing poorly could be a very expensive mistake. For example, when I bought my monitor, both the box and the salesman said "high res" colour monitor, and that's what I thought I had until I tried a demo of a high res program, and of course it would not work.

Living on an island where there are no shops specialising in computer equipment, I have to rely on catalogues and magazines when deciding what to buy. All this leads me to a number of questions:

If I buy a scanner will I be able to import images from mono or colour photographs? Will I need extra software to drive it? will it work with any art or DTP programs? I do not understand the difference between the various forms of art file PI1, PI2, PI3 NEO IMG etc. When a scanner reads an image, what kind of file does it load it as? I am also confused when articles refer to STOS, GdoS, MS-DOS etc.

Finally (about time, too! - Ed) since there is more than one copy of *ST User* on the shelf when I buy mine, and they are all gone within a few days, I know that there must be more than me with an ST in or around Stornoway. I wonder if others would be interested in a local user group?

David Kinnaird, Isle of Lewis

Whew! and that was a somewhat edited version of David's letter! I'll quickly run through the answers, as much may be of interest to other new users.

Firstly, the confusion over the term "high resolution". You are not the first, nor will you be the last to be mistaken over this description. It is simply like car dealers describing cars as high speed, or TVs described as flatter tubes. Higher than what? Faster than what? And flatter than what? – all questions which can be difficult to answer. On the ST the high resolution mode is simply high in comparison to the other two modes. Unfortunately it requires a special monitor – either an Atari high resolution mono monitor or a multisync monitor – to work.

Scanners can scan images of any description, colour or black and white, but the image will only be black and white. In effect the scanner takes a black and white "photograph" into your ST. Different shades will be represented by either dithered pixels – groups of pixels in different repeating patterns depending on the brightness of the colour – or grey scales (between black and white in varying degrees) depending on the scanner you buy.

In general, grey scale scanners are more expensive, and require more expensive software, but produce better results. The reasons are obvious when you think about it. Scan an image at 300 dots per inch, and using dithered patterns of 4x4 pixels the effective resolution is 75 dpi. With a grey scale scanner and software, there is no loss of resolution.

Special software is required for all scanners, but is usually supplied with the scanner. Images grabbed with a scanner can be imported into most art packages, though sometimes they may have to be converted using some other software first. Most scanning software will run in high or medium resolution, but will only save monochrome images.

As the ST has three screen resolutions (low, medium and high) three different file formats are required to store pictures, one for each resolution. Hence Degas uses PI3 (high) PI2 (medium) and PI1 (low). To confuse matters Degas Elite also uses PC3,2 and 1 which are simply compressed versions of the same files. Neochrome, a low resolution only (not public domain any more!) art package, uses NEO format files.

Although all of the above hold, in effect, the same screen data, they are of slightly different format as they were developed by different companies. IMG files are more standard, being part of the Gem standard. These files contain not simply a screen of data, like the art packages, but any size, from a small block to several screens size.

The IMG format is that used by all ST DTP packages – though many allow other formats too. When a scanner scans a file, it uses its own internal format until you decide you want to save the image to disk. At this point you will normally be given the option to save in a variety of file types, depending on the particular software in use.

STOS is a Basic-like programming language aimed at writing games. MS-DOS is the IBM PC operating system (IBM's TOS if you like). Gdos is part of Gem which is not included in the ST, and is concerned with graphic output to screen and printer.

Double disk

I have two hard disks with my STE, one is a Power 900 series 40 Mb, and the other a Reference 40 from Evesham Micros. Can you tell me how I can use the two together, so that one doesn't have to sit idle, or do I have to keep re-plugging?

Michael Nyman, Erdington, Birmingham

As far as I remember, both drives have a DMA through port. In essence this means that you can attach the Reference drive to the ST, and attach the Power drive to the Reference by means of another DMA cable.

The problem arises that both drives are probably set to the same DMA address, so one of them will have to be changed so that the software can tell which piece of hardware it is talking to. Instructions for doing this should hopefully have been provided with the drives. Before trying this, I would suggest you take a backup of all the data on both drives as they will need to be re-partitioned after connecting together.

Once connected and re-partitioned, it will be transparent to you which partition is on which drive, so you can treat the whole setup as one huge disk. It is, however, worthwhile taking note of which partition is where, as many operations can be speeded up by putting certain files on different drives. As an example, compiling with the source files on one drive and the compiled object on another can see a significant speed increase, as the read/write heads do not have to constantly swap from one place to another.

Memory man

As a relative newcomer to the world of 16-bit computing I need some idiot-proof advice about a RAM upgrade for my 1040ST. I have started using Timeworks DTP and am beginning to find that 1Mb of memory is frankly inadequate. I am about to purchase a hard drive, but am unclear about upgrading the RAM to say 2Mb. If a double sided disk can hold about 720K of data, with 2Mb memory, does this mean I can load things like desk accessories and Neodesk as well as Timeworks?

Surely 2Mb memory does not mean I can load two 720K disks into the computers memory through drive A? Could I for example load clip-art from a separate disk as well as Timeworks? Having only 1Mb of memory requires good housekeeping habits – deleting and moving files and so on – and is obviously time consuming.

Roger Crowther, Orpington, Kent

There is often confusion about the amount of memory and the amount of data stored on disk. Just because a file takes up, say, 50K of disk space, does not mean it will only take up 50K of memory. To take Timeworks as an example, space is required for your text and graphics, the fonts etc. Also many files are compressed on disk, automatically expanding when loaded into memory. More memory does mean you can load more desk accessories, RAM ➤

disks and the like and yes, you can load clip-art into Timeworks from another disk.

Your final sentence puzzles me slightly. I cannot see why limited memory requires you to move and delete files, unless they are desk accessories which you sometimes don't want to load. If this is the case, why not have two – or more – boot disks, each for a different configuration (eg one for DTP, one for graphics etc).

Strange format

I am a new Atari 1040 owner. I have read in Your Second Manual about two tricks to do with formatting disks.

1. Making fewer directory sectors. By specifying four directory sectors instead of the standard seven, one achieves three more sectors for data.
2. Sectors can be laid non-sequentially on a track – this improves the reading speed of the drive head.

Formatters I possess do not seem to allow for these facilities. Is there a formatter which will allow the number of directory sectors to be specified and which will also lay sectors non-sequentially on a track?

Ian McGaffin, Livingston, West Lothian

My first thought when reading this letter was that of course there were formatters available to do this. On checking my stack of formatters, however, I have to admit that I couldn't find a single one! Many formatters do allow you to specify non-sequential sector numbers. This is often called twisted, skewed, or is specified by an interleave number – usually six.

Changing the number of sectors available for the directory, however, is more complex. If you have a copy of STOS, you can use the program in the Runtime STOS series of the October issue, and simply change the Number of Directory entries from 112 (112 entries = seven sectors) to 64 (four sectors).

In fact the disk format we use on the CoverDisk uses this facility to enable us to have the special single/double sided format. Our format in fact uses only three sectors for the directory, allowing 48 files in the root directory.

If you don't have STOS, then you could use a sector editor to change the relevant bytes of the disk (after formatting, as this will corrupt files on a disk). The byte that will require changing is the seventeenth byte on the boot sector. This will normally be 112 (70 in Hex). Change it to 64 (40 in hex) and, as if by magic, your disk uses only four sectors for the Root directory. If you want to save even more space, you can reduce the number of sectors per FAT to three (change byte 22 from five to three). In fact, if you do this, reduce the number of directory entries to three.

This means that only 10 sectors are required by TOS when a new disk is read (Boot sector + 3 for the Root directories + 3 for each of the two FAT tables).

If the disk is formatted to ten sectors per track, then TOS only needs to access one side of the disk, which should give you an insight of how the dual format used for the CoverDisk works! As always, when playing with the format of a disk, you should not rely on everything going smoothly, so take a backup before using the disk.

advice ATARI ST service

Finger on the button

I hope you or a reader can help me with a problem that has been causing me some irritation since I upgraded my TOS to version 1.4.

At frequent but irregular intervals the system is reading a single mouse click as a pair of clicks (not a double-click). The effect is such that in menu-driven programs such as word-processors, when selecting an item from a drop down menu, the single mouse click often causes the cursor to jump to where the mouse was positioned when the menu item was selected.

While this effect is irritating it does not kill the system. There is another effect which causes my system to crash when using wordprocessors. When using the mouse to drag the slider bar, the mouse occasionally changes into a pointing hand, and starts to draw a "rubber box". If it is noticed in time, and the hand returned to the box's origin, the system can be prevented from going completely catatonic.

And now I blow my credibility by giving you the details of my system, which can only be described as a highly mutated, late 1986-vintage, E-revision 520STM (yes, before they stuck floppy drives inside) of North American origin. It is now sitting happily inside an Atari Workshop Tower unit with 2.5 Mb of memory. Due to its origin, the keyboard vectors have had to be patched so that I can use the "\" key (which sits under the Delete key where God intended!)

The problem persists regardless of which drive I boot from and which auto-files or DAs are installed. I have tried using a different mouse, replacing the TOS chips, the GLU chip and even the keyboard! When you've all finished laughing, could anyone who has ever experienced this problem please share the experience – especially if the cause has been found and fixed!

Chris Richardson, London

The good news is that you are not alone! Though I haven't experienced the problem myself, there are others out there feeding the mouse to the cat in frustration! Fear not, however, for Charles F Johnson has come to your rescue by writing a desk accessory which appears to cure the fault. The even better news is that the program is on this month's CoverDisk!

Apple sauce

I am a Ph.D student about to start the nightmare task of writing a thesis. Although I intend to write at home, I will need to use the departmental laser facilities which are, of course, Apple Macs. I have two options: buy a Mac, or get an emulator.

Since, if I've got to spend money, I would rather have something more versatile than a DTP facility, I'm interested in emulation. I have a few queries which I hope you can help me with.

Firstly, am I right in thinking that I require 128K ROMs with Spectre GCR? Secondly, do I require a hard disk to use Spectre successfully, and would a 2Mb STE be sufficient? Finally, I've been told that Spectre does not provide Finder. Though obtaining this is not a problem, I would like to know which files are required in the system folder to operate usefully.

A Sheridan, Catford, London

To answer your queries first: Yes, you do require the 128K ROMs in order to use Spectre GCR. Ladbroke Computing International can supply the complete package (Spectre + 128K ROMs) for £409.99. A hard disk is not a requirement. Though it does make life easier, dual floppy drives will suffice. Finder is required in order to use Spectre GCR. The copy of the original disk from your Mac will have all the necessary files.

Having answered your queries, may I suggest a somewhat less expensive solution? Simply use your ST to write the text of your thesis, then save it to an IBM format disk – use one of the many PD formatters available, or use ReaFormat from the October CoverDisk – and transfer it to the Macs at the University. Even graphics can be converted from ST to Mac, given the right software, so all your work could be done on the ST.

Even if you have to buy some software to convert graphics, this is likely to be available as PD or Shareware, so should only cost a few pounds.

An alternative solution, of equal expense to yours, but more convenient, would be to buy a bubblejet printer (HP Deskjet 500 or Canon Bubblejet) and use this on your ST. The output is as good as laser quality, and you have the convenience of printing what you like, when you like.

Please note that, while we are always eager to help, we cannot reply to your queries except through this column. We do like to have your name and address, as well as a telephone number, so that we can contact you if it is necessary to clarify some point, but please do not telephone, or send in SAEs because they will not be returned.

Write to:
Advice Service, Atari ST User, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Deep joy

I own an Atari 1040STE and I recently sent away for a four player adaptor, expecting that it would plug into the side joystick port. However, the instructions show that it should be plugged into the printer port, where it worked perfectly. Does this mean that I could get another adaptor for the joystick ports on the side and have six or more joysticks plugged in at the same time?

Simon Courtenay, Preston

The joystick ports on the side of the STE machines are analogue ports. This differs from the "normal" Atari joystick port, which is digital. Very briefly digital joysticks only give left/right/up/down signals, Analogue allow fine control, such as 10 per cent left, 74 per cent up. You could fit either analogue joysticks, or an adaptor and digital joysticks to the port, but you would also require the software to use the joysticks.

Although there is no software at present supporting the analogue joystick port – and indeed no joysticks being marketed for the port – I would think that it is only a matter of time before the port begins to be exploited. Flight simulators, for example, are far better when played using an analogue stick, rather than a mouse or digital stick.

If you are interested in using the analogue port, then keep reading our Inside the STE series, where the secrets of the analogue interface will be discussed.

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Keep or

You don't need mountains of hi-tech equipment to make great music with your ST. All you need is Tracker, some samples and a little imagination. Ian Waugh tells all

You can now buy Tracker – which comes with lots of samples – for £15 and there are hundreds of samples available from PD libraries. The imagination you have to supply yourself.

The first thing to do is change the colour scheme. You may be able to see light and dark khaki letters on a medium khaki background but I can't! Use the "\" key to change the colours. Two squares in the lower right of the screen darken to show when the Shift and Alt key are "set". When they are both set – as they will be when you first boot the program – "\" cycles through 20 colour options for the main screen.

With Shift set you can change the colour of the activated buttons and with Alt set – or both buttons "unset" – you can change the colour of the track line and cursor. I generally plumb for a tasteful hi-tech grey but I have my stone and red moods, too!

There are as many ways of putting together a piece of music as there are musicians. If you haven't yet worked out a modus operandi, here's a suggestion. First, load a selection of samples which you think will fit the type of music you want to create. For example, if it's dance music, load a few good drum and bass sounds. Check out the Scratch2 sample on the Tracker disk, too.

You can load and audition a sample (by playing the QWERTY keyboard) while the file selector is onscreen and you can cycle through the sample slots by clicking the right mouse button.

Save the samples onto your work disk as a module. From now on, save everything as a module. That way you keep your song and samples together. You can save them separately later if you wish and remove any unused samples from the module file.

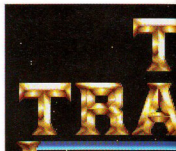
Begin by creating a simple drum pattern using hi hats or a rim shot, just to keep time. You can elaborate on it later. Most people put the bass track down first, or elaborate on the drum track. Work whichever way suits you best.

It's very difficult to record anything of any complexity in real time but you can "jam" over the rhythm track to get an idea of what you want to record. If you must record in real time, do so slowly and be prepared to edit it later.

Keep a note (ahem!) of the patterns on a piece of paper. It's very easy to forget which part of your song each pattern is. You'll find it helps, too, when doing the final song construction and it will make it easier when you assemble the mega 12 inch remix version.

Use the Cut (F1) and Paste (F2) track functions on drum tracks and make slight variations to them (add extra hi hats or a cymbal crash, for example) and so to prevent "drum track monotony". Song data uses far less RAM than sample data so you can well afford to be lavish with notes.

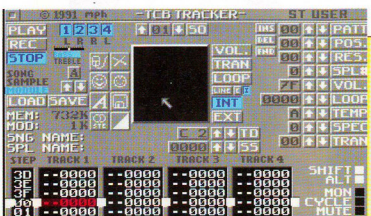
The more you use Tracker, the more you'll find yourself falling into a way of working. Scattered over these pages are a few hints and tips which will hopefully help you get the most out of the program.



The title screen to lead you into a musical extravaganza

Midi tips

- You can record notes into Tracker f a Midi keyboard but if you try to boot program with a keyboard connected y won't be able to enter the Tracker cod number. Boot Tracker first, then switch your keyboard.
- Contrary to what it says in the man the Midi icon does not let you record f a Midi keyboard. Instead, it syncs Trac to an external sequencer or drum machine. Before doing this, make sure the Pattern is set to position 00 or the



Working with samples

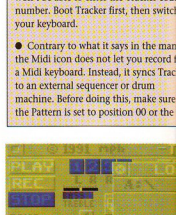
Although most "single shot" samples are only a few K long, you will accumulate some which are 10K, 20K or even longer. These can soon fill a floppy disk. It's good idea, therefore, to keep one or two disks specifically for samples. That way you know where they all are when you need them and it leaves your work disk free for the music.

Load the modules supplied on the Tracker disk. You'll find they contain lots of samples which are not in the sample folder. Save these out individually onto your sample disk for future use. If you obtain any other demo tunes, don't forget to do the same.

If you have some noisy samples which you really must use, activate the Amiga icon. This will take the "top" off the sound and lower the pitch but you may find the result more usable.

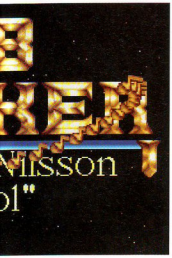
Tracker will load any type of file as long as it has a SPL extension! You can load data files and programs but most will sound like noise! You can load samples produced by any sampler by changing the extension although if the sample file format is different the results may not be very good. ST Replay and STOS Maestro samples work fine.

If you're really serious about working with samples, get a sampler! If you can't afford one, obtain a PD demo of Replay which will let you edit samples but not make your own. You will be able to load a sample into it, edit out any offending section or home in on a particularly interesting area and save it as an SPL file.



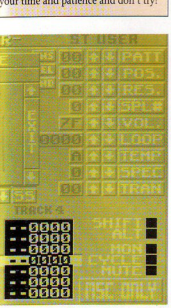
Load the samples and then strut your

Trackin' Masterclass



oe out of step. To record from a Midi oard, just activate the Record icon play.

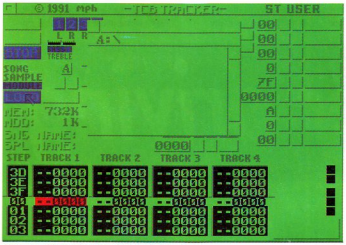
acker can only record one note at a on each of its four tracks. When g a Midi keyboard set it to mono e so it only transmits one note at a Be careful how you play it. You must n playing one note – that is, taken finger from the key – before Tracker ead the next one. Because the nse is so slow it's almost impossible ter a tune into Tracker in real-time – your time and patience and don't try!



Power User tips

Although using the mouse is easy, if you want to become a Power User, learn some keyboard controls. These are listed in the back of the manual and you can call up an onscreen list by pressing the Help key or clicking on the Smiling Face icon.

- If you use the mouse with a wordprocessor, you may find it easier to switch to mouse mode (click on the mouse button). This lets you whizz scroll through the Track Display area by moving the mouse. It's very useful for fast editing, too. Exit mouse mode by clicking the left mouse button.
- Remember you can use the right mouse button to scroll through the sample list.
- If you find yourself running out of tracks, use Overlay and Underlay to mix two tracks. This works best with drum tracks in which the snare and bass drums, for example, fall on different steps. If some hits overlap, you'll probably find that giving priority to the snare works best.
- You can even mix a snare track with a track containing sixteenth note hi hats. In this case, too, give priority to the snare.



More musical options to move your body

Disk management tips

- Tracker has its own file handler which doesn't recognise normal directories unless they have a Tracker suffix such as MOD (for modules), SPL (for samples) or SNG (for songs). Using floppies this is no problem. If you like to be neat, simply create three directories called TRACKER.MOD, TRACKER.SPL and TRACKER.SNG on your work disk. You don't even have to use separate directories as Tracker will only show one file type at a time.

However, if you have a hard disk, you can't simply put Tracker in its own folder. Well, you can. You can boot from within the folder but you won't be able to access the module, sample and song folders in it! As samples can be very large, it's very useful to use a hard disk with Tracker in which case simply put the three folders in the root directory.

Music tips

- If you've wondered why the note B appears as an H in the Track Display, it's because Tracker was written in Sweden where H represents the note B.
- If you have a sample edit program, "borrow" sections from sample demos – there are lots of pop and house demos in PD libraries. Select short drum, rhythm and vocal riffs and save them as separate samples. You can loop drum samples to produce an extended drum track. A single sample may contain within it a whole bar's worth of music – or more.
- Use the Special End Pattern D Marker to trim the sample to the correct length. Don't forget, though, this determines the length of the whole pattern, not just the one track. Don't put more than one End Marker in a Pattern or things might get confusing. It's a good idea to always to put End Markers in Track one, say.
- If you have the MSC (Monster Stereo Cartridge), get hold of Tracker version V1.1m, which sends two channels through the monitor port and two through the printer port. This doesn't display dots in the centre of the screen due to lack of processor time – this isn't a bug.
- If you don't have the MSC, you can make the sound a bit bigger and brighter by clicking on the Loudness icon. This is revealed by clicking on the Toggle icon.
- On the STE, tracks one and four go to the left and tracks two and three go to the right. You have to switch this on by clicking on the STE Stereo button.
- If you have a STE, be sure to use the bass and treble controls in the top left of the screen to "tweak" the overall sound.

Power driving

Power Computing have added yet another external drive to their stable, but this one has some unique features. Marc Young investigated

"Review this new disk drive from Power." they said.
"Well pardon me for not getting too excited, but what can I say about an external drive that hasn't been said a thousand times before?" came my cynical reply.
"It's got a virus checker built in!"
"Well, that's different!"
"And Blitz copier is built in too!"
"Hmmm. This sounds interesting...!"
"Oh, and it allows you to boot from drive B without using software."
"OK, I'm convinced, it is a different disk drive, let's have a butchers!"

Slimline

With all its extras packed in, I had expected the drive – snappily named the PC720B – to be a bit of a monster. Nothing could be further from the truth! It is a neat, slimline drive, in a cream case somewhat smaller than some external drives without all the features.

The drive comes complete with its own external power supply, though it is possible to power it from the joystick port if required. The cable to the ST is plenty long enough, allowing the drive to be positioned on either side of the ST with cable to spare.

At the rear of the drive are two three-position switches, one labelled 1/0/X, and the other A/0/B. The first switch acts as an on/off switch or, when switched to X, causes the boot from drive B feature to come into play. The second switch controls Virus Blocker mode, Normal mode or Blitz mode. It is a pity the switches had to be at the rear, as changing them becomes a bit of a circus act as you lean over the back to try and read the switch positions, but at least they are plenty large enough – to access without too many problems.

Using the drive

The use of the drive as a normal, everyday, external disk drive is, well, normal! It is quiet enough – I've heard quieter, but I've heard much worse – and operates just like any other drive.
Using the drive in Virus Blocker mode effectively write protects not only the drive itself, but also drive A. This prevents any data – not only viruses – from being written, and so I would doubt that it is of much use. Let's face it, if you remember to switch the drive to Virus Blocker mode, couldn't you just as easily remember to write protect your disk? The only practical use I could think of would be where the drive is used by young children, or maybe a number of people, who may be inserting many different disks which may be infected.

Compatibility

For single sided disk drive owners one of the annoying aspects of buying an external double sided drive has been the inability to boot many disks – especially games – from the external drive. The PC720B (doesn't it just trip off the tongue?) has the solution to this problem. Simply set the switch to the correct position and removing the disk from drive A will make the ST treat the drive just as if it were drive A.

The manual, and advertising, does warn that there is a possibility that this function will not work on every ST. During review one particularly ancient ST, with a (very) cheap replacement internal drive did refuse to work, but all others tested worked perfectly.

Backup copies

The Blitz mode uses updated Blitz software to perform very fast disk copies. An example of the sort of speeds it achieves is shown in Table I. Blitz software is provided on disk, though this is apparently not compatible with the standalone Blitz copier hardware.

While the figures show that Blitz has a genuine use for backups, especially for PD libraries, where many hours are spent copying disks, there is a moral dilemma associated with such a device. As it can be used for copying protected software, it tends to fall into the "should you ban photocopiers!" arena. As an experiment, I tried to back up both of my games (a prize if anyone can guess both correctly!) and neither was successful. Incidentally, has anyone noticed that Pirate is an anagram of ie Prat?

One very dangerous aspect of the Blitz hardware is that while in Blitz mode, any attempt to do anything other than copy disks is likely to corrupt any disk beyond recovery. Although the manual warns of this, and the drive light comes on while it is in Blitz mode, it is all too easy to

Bottom line

FEATURES: *External double sided disk drive, with the ability to write protect both itself and drive A. With the option to boot from drive B and the Blitz backup hardware built in.*

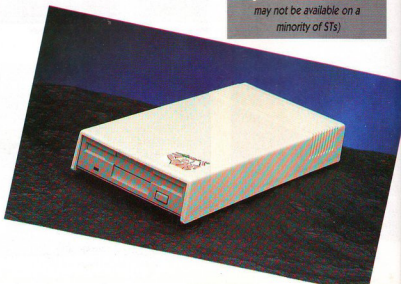
EASE OF USE: *There is a danger of positioning the switches incorrectly, which can lead to disastrous results. Also there may be problems on some STs trying to boot from the drive.*

Product: *Power PC720B*
Supplier: *Power Computing Ltd, Unit 8, Railton Road, Kempston, Bedford*
Telephone: *0234 843388*
Price: *£65*
Configuration: *All STs (some features may not be available on a minority of STs)*

Table 1 - Speed Comparisons

The details in this table were performed copying an ST User cover disk from the internal drive of an STFM to the PC720B

METHOD	TIME(Mins.Secs)
NEODESK Disk Copy (No Format)	1.58
NEODESK File Copy (No Format)	6.35
DC Formatter Disk Copy (No Format)	1.54
DC Formatter Disk Copy (With Format)	2.54
TOS 1.4 Desktop Disk Copy (No Format)	2.25
PC720B Blitz Disk Copy	0.43



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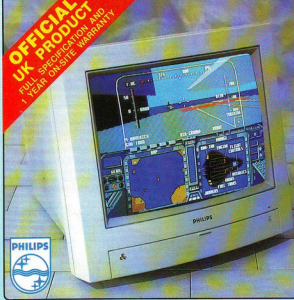

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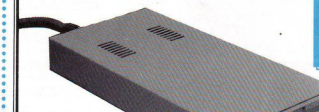

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Atari ST

Atari ST User brings to you six special pages devoted to your very own favourite ST subjects, starting here with two pages of Midi and Music. On the following pages:

Communications 139
Following British Telecom's decision to shut down Micronet, Atari ST User takes an in depth look at the approved IT alternative: CompuServe. What can it offer?

Emulation 141
Trouble with MicroSoft's PC operating system? Digital Research, the makers of Gem, may have something to tickle your fancy. Günter Minnerup investigates.

Desktop Publishing 143
If you're trying to create top quality Desktop Publishing on a budget then you'll need plenty of good advice. To find out how to get the best results Charles Michael's your man.

Business 145
The ST can help keep your business running smoothly. This month Phil Trory offers some handy tips on how to use your customer files to make professional mailshots.

News Round-up

● At last, version 3.1 of C-Lab's Notator and Creator has appeared. Yours for only £20 or wait until next month for the review. More from Sound Technology, Letchworth Point, Letchworth, Hertfordshire, SG6 1ND. Tel: 0462 480000.

● *Mississippi Software has released BLISS – Bulk Library Sample Sender. Its function is to transfer samples in bulk from one sampler to another. There are different version of BLISS for different sample transfers. BLISS 1 can transfer Roland S-series samples to Akai's S1000. BLISS 2*

Beginners start here

I've had several letters from budget-conscious readers over the past few months asking if there are any good sequencers in PD land. The answer is yes!

We looked at the Accompanist – also called the Cosh Sequencer after the chap who wrote it – in this column in June but there is another program worth checking out called Alchimie Junior.

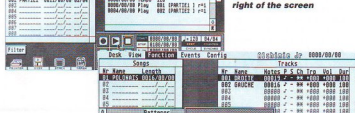
It's shareware and of Swiss origin but the "read me" file is in English – most of it! – and it's quite explanatory. It should run on any ST but only in high res. It has separate Track, Pattern and Song windows plus a Master window which shows how the patterns are put together in a song. A pattern can be made to repeat and you can insert tempo changes here. You can record up to 256 patterns.

The four main windows in Alchimie – Songs, Tracks, Patterns and Master. The transport controls are in the bottom-right of the screen

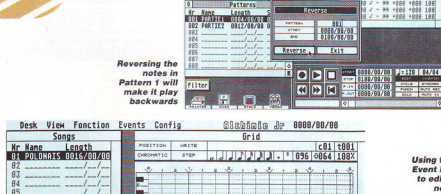
Operation is very much Gem-based with many functions such as move and copy being performed by clicking and dragging. Editing takes place in a grid editor. Notes are shown as arrows which can be lengthened and moved. Vertical bars above the arrows indicate their velocity.

There's also an event list for more precision editing. Check out some advanced edit functions, too, such as stretch, double, rotate and reverse (great fun with Bach). It also supports the Midi file format.

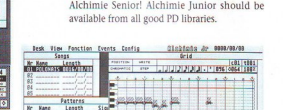
The current version is 2.22 but when you register ($25) you get details of updates and Alchimie Senior! Alchimie Junior should be available from all good PD libraries.



Reversing the notes in Pattern 1 to make it play backwards



The Grid Editor shows notes as arrows. The vertical bars above them indicate velocity. The Even list is in the bottom left of the screen



Using the Event list to edit a note

Selecting a groups of notes in the Grid editor for a block edit function

does the deed with Akai's S900/950 machines.

Also new is the XE8 Organiser for Akai's now discounted XE8 drum expander. It basically makes good the shortcomings of the instrument's user interface. Both programs cost £35 each. More from the distributors: Four Minute Warning, 298 Horbury Road, Wakefield, West Yorkshire, WF2 8QX. Tel: 0924 386527.

● Still with samplers, Slam is a sample librarian and manager for Akai's S1100, S1000, S950 and S900 samplers. It will catalogue your entire sample collection allowing you to add individual comments to each sample. It can then search its database for a particular sound. You can print disk labels for the sample disks and print the entire library for reference. It costs £89 and I'll be looking at this soon, too. If you can't wait you can get a demo disk for £7. More from Intrinsic Technology, 4 Aukland Court, London, SE27 9PE. Tel: 081-761 0178.

● *Want some drum grooves? Also new in is a mega collection of drum patterns on a disk called Dr Beat. There are 15 styles here and over 150 individual patterns in Midi file format. You won't believe the price – £10 including postage and packing! A quick blast gives it the thumbs up but more about this next month.*

If you can't wait or are worried that they might put the price up send your tenner now to: Heavenly Music, 39 Garden Road, Jaywick, Clacton on Sea, Essex, CO15 2RT. Tel: 0255 434217.

On the Right Trax

OK, I admit it. I've dragged my heels a little as far as Roland's Tentrax is concerned but it wasn't all my fault. Although the program has been around since the beginning of the year it's taken Roland quite a while to send a review copy. Still, I have been playing with it for a few months.

Essentially it's a budget-priced dedicated sequencer designed to compliment Roland's MT-32 and CM (Computer Music) modules, the CM-32L, CM-32P and CM-64M. It was developed by Steinberg of Cubase and Pro-24 fame.

It will run on any ST but it needs a high res monitor. It has its own user interface which is reasonably Gem-like but it only has one menu and it doesn't support desk accessories.

The main screen is laid out like a 10 channel mixing desk – guess where the name Tentrax came from – complete with moving VU meters, pan pots and faders. Very cute.

Each track is fixed to transmit on its respective Midi channel so it ties into the MT-32 very neatly and sounds are assigned by name – brill! You can forget about Midi channels and program change numbers (track one is the exception but you'd only use this with a second expander).

You can record notes, volume, pan, modulation, pitch bend data or all data. New data replaces old data of the same type so you can record a music line and add pan or pitch bend data later. You can program tempo changes, too.

Tentrax's main screen is set out like a ten channel mixer. The faders fade, the pan pots pan and the VU meters move

Quantisation is not reversible although it can be applied to a certain range of bars. You can save and load a range of bars, too.

A nice plus is the inclusion of a drum grid editor for constructing rhythm patterns. It can only show 20 drums on screen at once, although you can still use the other drums even though the process is a little fiddly.

There's also a score editor although it's very basic and can only show one track at a time. Still, we are talking budget, remember.

Major niggle is the fact that RAM is not allocated dynamically and each track can only hold 5330 events, just enough for a song. If you want more, forget it. Pretty bad show, especially from Steinberg.

It would be nice to be able to access some edit functions such as velocity offset from the main screen and an indicator to show if a track contained data would be useful. Many parameters can be set with the mouse but others must be typed in. Why? You can load Midi format files but not save them, virtually tying you to the program should you ever entertain the idea of taking your music elsewhere.

OK, some niggles are minor and most are far outweighed by the good features. "Normal" sequencer users will never know the delights of using a program tailor made to suit your synthesiser.

The program is very easy to use. If you're a newcomer to sequencing and have a MT-32 or CM module, Tentrax is ideal. Rumour has it an update is in the pipeline. More news when we have it.

Tentrax costs a very nominal £99. More from Roland UK, Rye Close, Ancells Business Park, Fleet, Hants, GU13 8UY. Tel: 0252 816181.

Super CD Sampler

What's the staple diet of a sampler? Yep – samples! Zero-G Datafile One is a sample CD aimed at the whole sample market – pro and semi-pro musicians, DJs, producers, programmers and so on.

Ostensibly you would sample it into a professional machine such as a Roland, Ensoniq or Akai sampler but the reason for including it in this column is that it is an excellent source of samples for ST-based samplers such as the Replay family.

The first thing to note is the number of samples it contains – 1,000 no less! The pecuniary reader will deduce that this works out at less than half of one new penny per sample.

Most samples are only recorded once – many sample collections contain two recordings of each sample – with a second's silence between them. All sounds are in mono. They are all matched for level so you only need set up your sampler for one sample and all the others should record at optimum volume.

The CD is a collection of samples put together by Ed Stratton, alias Man Machine, originally for his own use. Many are geared towards dance music. There are samples of oldie-but-goodie Roland TR808, TR909 and TR727 drum machines plus over 150 additional snares, bass drums and other percussion samples.

There are over 100 bass sounds suitable for most forms of music from house, acid and rap to disco.

There are over 50 breakbeats, one or two bars in length, in a variety of forms, some from drum machines, others containing other percussion or guitar. The manual explains how to incorporate these into a musical loop.

To compliment the dance mix there are 10 scratches and lots of vocal hits, robotic speech, male and female vocal ad libs and vocal effects, choirs, gasps and screams. Great fun!

To round off the collections there is a wide assortment of animal sounds, grunts and yells, electronic effects, the obligatory orchestral stabs, ethnic flutes and horns.

But perhaps what's most surprising is the quality of the samples. In a word – excellent.

If you like playing with samples, whether you have a pro sample machine or an ST-based sampler, this CD will give you hours, nay days of sample pleasure. Excellent value for money. Recommended.

Zero-G Datafile One costs £49.95. More from Time and Space, PO Box 306, Berkhamstead, Herts, HP4 3FP. Tel: 0442 870681.

Step in to sequencing shareware with Ian Waugh and the details

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Through the net

Eddie McKendrick takes a detailed look at CompuServe – The BT approved site for 12,000 comms nomads once collectively known as Micronet

The first thing that will hit home to Micronet members about CompuServe is the sheer scale of its international operation. The service has in excess of 850,000 subscribers worldwide accessing more than 1,400 different online information services.

CompuServe is the world's biggest dial-up information service and as such it provides a fascinating window on the global village. The network is a forum for information dissipation. Its interactivity also allows CompuServe to provide a discussion platform for thousands of diverse topics..

Like most similar services, the dominant information strand is microcomputing. There is of course a parallel to Micronet here. Net Microbases formed a solid backbone, supporting a range of leisure and consumer interest sections. CompuServe offers a far wider support base than Micronet, but be warned, some formats, notably BBC Micro and Sinclair Spectrum are all but ignored. Obviously this should not prove too much of a disappointment to ST owners.

Mail man!

CompuServe's mail service is a fairly standard affair by today's demanding standards. Obviously it is possible to send your thoughts to any of the other 850,000 members. Beyond this files can be transmitted and special preformatted greetings and Telex messages can be dispatched.

Each CompuServe user has access to an address book facility for storing commonly used account numbers.

CompuServe's news takes quite a while to wade through.. The core of the service is domestic USA news and financial data.

The presentation style is very dry compared to Ian Burley's Micronet news. I dare say most readers will become comfortable with the new inflection given time.

Quite a few of the specialist news services have tariffs which make Prestel's 31p a minute business package look cheap. Micronet converts are well advised to avoid CompuServe's premium services with the same vigilance previously reserved for CitiService.

Open forum

The backbone of CompuServe comprises a web of anonymous forums. I say anonymous because these potential gold-mines are usually hidden behind cryptic keywords or less than obvious menu selections.

Efforts are made to make life easier with the provision of a "find" facility. Typing in a topic will result in relevant forums being displayed on a multiple choice menu. For example, typing "Find Atari" will display the dedicated ST Forums alongside information about the Lynx and Atari's PC range.

Each Forum comprises four sections, namely news, messages, files and conferences.

Forum news

News provides information on new services added to the forum and updates members on special events and conferences..

Forum message sections are similar to conventional bulletin boards, providing a platform for member comments, questions and banter on a myriad of issues.

Forum file areas provide hundreds of downloads catering for specific interests. This is similar to Micronet's telesoftware facility, albeit on a much larger scale. One bone of contention, is that the host does not support Zmodem. The best on offer is Xmodem unless you have a comms package designed specifically with CompuServe in mind. Such a package would allow use of the "Quick" range of proprietary protocols. These are claimed to be slightly faster than Zmodem but are exclusive to CompuServe.

Forum conferences

Finally, and of most interest, we come to the forum conferences. These are nothing more than well implemented chat facilities, something which Micronet found itself unable to offer in its final years. Users from all over the world can exchange views on any subject, without censorship, in real time. The nearest facility Micronet offered was Dialtalk, which in comparison was limited both in terms of facilities and freedom of speech.

The bulk of CompuServe's vast membership is American. If you want to have anyone to chat to it is best to take time differences into account.

CompuServe's interactive facilities extend beyond conferencing into their unique "CB Simulator". As the name suggests, this is an area where members get together and chat on a number of different "channels".

The tenuous CB metaphor is appropriate because each channel has a different topic of discussion. It is possible to switch freely between channels, jumping from conversation to conversation.

The 'net work

Your bank manager might be relieved to learn that a telephone call to the States is not required to get online. In the UK CompuServe can be accessed via BT's PSS Dialplus system.

Dialplus is a local call away from most people You don't have to look very far to find a catch though. True, calling your local PSS node will be just as painless to your phone bill as connecting to Micronet. BT however levy a significant premium charge for accessing any service via PSS. CompuServe cover this overhead with a connection surcharge. This currently amounts to a fairly substantial $8.50 per hour prime time and $4.50 off peak.

Add to this a usage charge of $12.50 per hour and daytime charges soon reach the dizzy heights of $21 per hour.

An interesting point is that CompuServe bill in dollars and the only way to pay is with plastic. You are therefore at the mercy of the credit card company as far as exchange rates are concerned.

Summing up

Now, $21 an hour (around £12) could never be disguised as the bargain of the century. The culture shock of CompuServe to Micronet members will be totally overshadowed by the financial trauma induced by the first, and possibly final, credit card deduction.

Depending on what you want, the service is not overpriced. CompuServe can be considered very reasonable value, but only if you are actually going to make full use of it. As I indicated earlier, there are over 1,400 databases online. If you have no intention of exploring them CompuServe will be an expensive liability rather than an invaluable reference.

I am sure most members did not explore Micronet's relatively small portfolio of databases fully. That was obviously their loss, but the loss incurred was limited to only local call charge after 6pm. A very small price to pay in CompuServe terms.

If you're of modest means and only want to dabble in comms for fun, CompuServe isn't for you. If however you want to broaden your horizons and have the world at your fingertips, this system is just the gateway you have been waiting for.

For my money there is very little to be gleaned from CompuServe for the bulk of Micronet's membership. It will take a very special service to emulate the atmosphere generated by the eight year old Videotex service – and to my mind, this isn't it.

Micronet members will already have received full details of the CompuServe service. If you are not a netter call 0800 289458 for an information pack.

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Adam 31 Dec December 1991

Smooth operator

Everybody knows their own interpretation of the true meaning of the three letters IBM, such as "It's Better Manually". My own favourite is "Installed By Masochists", which seems to sum up pretty fairly the trials and tribulations that inexperienced, and even fairly seasoned, users tend to have when installing the DOS operating system, or modifying an existing installation.

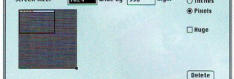
CONFIG.SYS and AUTOEXEC.BAT are difficult enough concepts to grasp, but when it comes to device drivers, memory management, video standards and file buffers, you get the impression that computers were designed to make life more difficult rather than easier.

This is not because Microsoft and the vendors of alternative operating systems are bloody-minded – quite the reverse, they would dearly love to make DOS machines as user friendly as the Apple Macintosh and the ST. But they are caught in the complexities of an outdated hardware architecture and the need to maintain compatibility and consistency across the many different implementations of what is supposed to be an "industry standard".

This means sticking to the lowest common denominator, so that even if you have a machine with the latest Intel 486 chip, megabytes of RAM and a SuperVGA display, you are caught in the timewarp of the original PC-XT conventions.

DR-DOS5

The best that can be done to make the novice's first steps a little easier is a semi-automatic, interactive installation procedure. A good example of this is DR-DOS5, which is bundled with the AT-Speed emulator but can also be used with other DOS emulators on the ST. You boot for the first time from the supplied master disk, which then takes you straight into the installation procedure, copying the relevant files and writing AUTOEXEC.BAT and CONFIG.SYS for you.



Defining your own custom screen size is easy: just drag the resize handle in this dialogue. But do not forget to leave enough RAM for your applications!

With floppy disks, this is extremely straightforward, but be warned if you intend to install DR-DOS5 on your hard disk – if you value your files, give Compo's friendly helpline a ring before you go any further.

Should you, in fact, use DR-DOS instead of the more conventional MS-DOS? To have any hope of competing with the market leader, Digital Research had to offer something extra beyond mere compatibility, and some of these extras can be very useful. Memory management is perhaps its strongest point, enabling you to release virtually all of the 640K base memory for applications, and making good use of the megabytes of extended memory which ST users tend to have available.

There is also a rather nice full-screen editor to replace the dreaded EDLIN, and the command line history feature makes it easy to edit any mistakes made at the command line prompt. Being raised on Gem, ST owners may also like Viewmax, a graphic shell which is very reminiscent of Gem – not too surprising, as Digital Research invented Gem in the first place.

On the other hand, there are drawbacks. DR-DOS5 takes up rather more disk space than, say, MS-DOS 3.3, and offers only a limited range of screen standards. CGA, EGA, VGA, and Hercules are provided for, but I missed the Olivetti standard, my favourite with ST emulators as it sports exactly the same 640 x 400 screen resolution as the SM124/125 monitor. CGA is rather too crude for my taste, EGA leaves irritating random lines at the bottom of the screen, and both VGA and Hercules require some tiresome scrolling of the display. But the choice is yours, and full marks to Compo for providing you with that choice.

Big Mac

Perhaps the most tiresome aspect of the affordable Macintosh models, such as the good old MacPlus and the more recent Classic, is the tiny monochrome display which always reminds me of one of those miniature TV cubes found at Dixons. Spectre GCR owners, of course, can enjoy the Mac at full ST resolution, but for many DTP and graphics applications even the SM124/125 is rather restrictive.

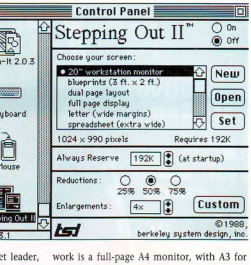
The minimum required for serious DTP work is a full-page A4 monitor, with A3 for double page spreads and even larger sizes desirable for some spreadsheets, image manipulation and CAD work. Big monitors are prohibitively expensive, however, so it is just as well that there is a cheap software solution.

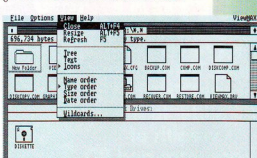
Stepping Out II cannot stretch your hardware to the required dimensions, of course, but it turns your existing screen into a sort of "window" through which you may now gaze at a much larger, "virtual screen". Moving the mouse to the edge of the physical screen will smoothly scroll the display in the relevant direction, so that you can edit a large Quark XPress page, for example, without having to use the scroll bars and wait for the screen to be redrawn.

The entire "virtual screen" can be displayed in reduced view, and a magnifier will zoom in on any section for work in fine detail. Inevitably, the extra screen memory required eats into the available application RAM, and it also tends to slow things down a bit, but I rarely do without Stepping Out II these days and only wish that a similarly functional and user friendly utility was available for my ST in its native mode.

Stepping Out II is a control panel device and easily installed by copying the program into the system folder. Published by Berkeley Systems, it should be available from most good Mac dealers in the UK for around £40.

Stepping Out is configured from the Control Panel and offers a wide choice of screen sizes. The screen memory is allocated when you restart the computer





Strikingly similar to Gem, ViewMax provides a graphic user interface for DR-DOS which does not even require a mouse: all menus and commands can be accessed from the keyboard

Should you junk Microso PC operating system in favour of a rival from Digital Research, makers of Ge Plus a cheap and easy wa treating you eyes to a Big Mac feast. Günter Minnerup reports

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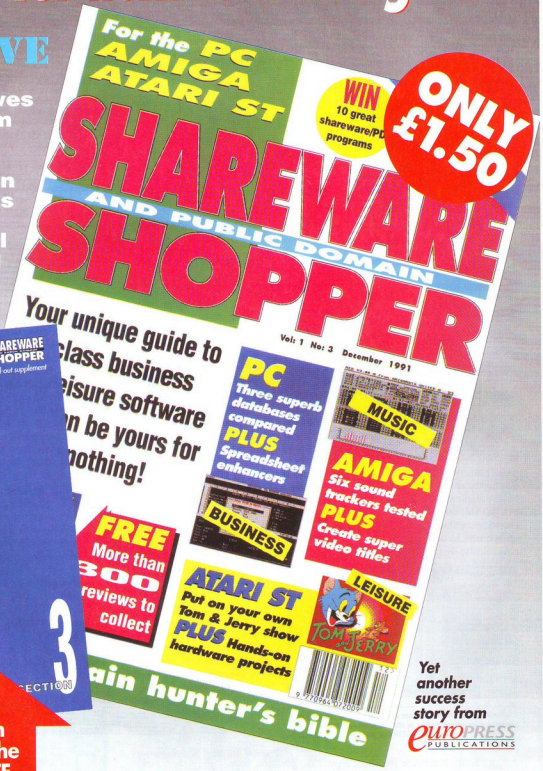

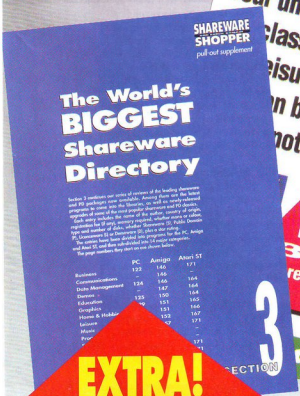

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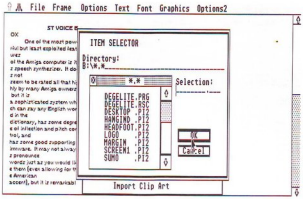
One for the pros

If you're working to a tight budget, you've no doubt come across Easy Text Plus, zzSoft's budget priced desktop publisher with a long features list. It's all the work of one man, Robert Pearson, who started the program a couple of years back and has been continuously developing it in a mixture of GFA Basic and assembler. It's now selling well on the Continent as well as in this country and a new marketing deal will see copies appearing in the US.

Things have not stood still at zzSoft since the release of Plus. After a successful book on machine code programming, Robert is now well on the way to a finished version of Easy Text Professional. This will be a completely new DTP, incorporating some of the best features found in Easy Text Plus and leading programs like Timeworks and Calamus.

The new program will be able to crop and scale both bitmapped and vector graphics, while maintaining their aspect ratios. It will handle grey-scale images correctly and you'll be able to use customised fill patterns from Degas. Text will be directly editable within each frame, but there may well also be a text editor within the program for bulk text additions. Gdos fonts will be supported and an disk of extra faces may also be made available. The new program will also support paragraph styles with tagging and you will be able to link text from one frame to another. All this sophistication should give several commercial offerings a run for their money.

Easy Text Professional will be launched before Christmas at around £40 and current users of Easy Text Plus will be able to upgrade for £25 or so. One of the main sources for the program in this country will be Goodmans International on 0782 335650.



Easy Text Plus is soon to be partnered by the bigger, better and slightly more expensive Easy Text Professional

Bubbles cut costs

Still thinking of those who can't afford a large capital outlay for their DTP systems. What do you do for a printer? The obvious answer at the budget end of the market is the dot matrix, but for very little more you can pick up a Canon BJ10E ink jet (the BJ stands for BubbleJet – the ink comes out in minute bubbles). If you shop around, these little printers can be found for under £200, yet they print at 360 dpi with jet black ink (sorry) and give output which at a glance could be taken for laser print.

The basic printer is about the same size as the laptop PCs which seem to be proliferating everywhere, but is lighter and doesn't unfold like a clamshell. Paper is fed conventionally through a slot in the top cover, but automatically – there's no platen knob. The tiny plastic head traverses back and forward across the paper, creating the page a line at a time, but almost silently. It doesn't print as quickly as a laser, of course, but can give a 9-pin machine a run for its money. The print quality is way, way better.

Currently, there aren't that many DTPs which handle the BJ codes directly, though the machine emulates an Epson dot matrix, so there's little problem there. However, new applications, like Timeworks 2, will drive the machine in its native mode. The only thing not supported by the BJ is an italic character set.

If you're using it for printing from a wordprocessor as well as your DTP, you'll have to make do with bold or underlined text. Even so, this exceptional little printer must be the DTP bargain of the year.

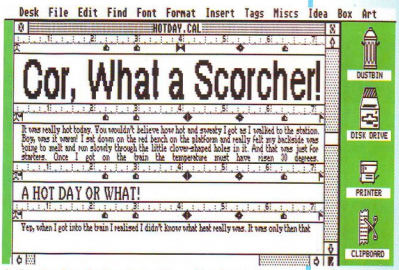
Tagging along

When the documents you're putting together get longer than a couple of pages, you really should start thinking about tags. If you run Timeworks Publisher, you're probably already using them, as they are an integral part of that program. Other DTPs and wordprocessors offer them for those who want, but don't place as much emphasis on their use.

If you haven't bothered with tags yet, you should spend a little time seeing just what they can do for you. A tag is a bit like a wordprocessor macro. You define the face, size and style of the font you'll be using and specify its justification, leading and other typography. Then you give the settings a name. Once set up, you can apply the same set of attributes to any text in your document simply by highlighting it and assigning the same tag.

The real beauty is that if, for example, you need to change the font used in all your headings, you need only modify the tag and all text subject to it will be automatically updated.

You can create tags in one of two ways; either by selecting attributes from a series of dialogues or, as in Calligrapher Pro, by setting up a piece of text and using it as a sample for the tag.



Calligrapher Pro using tags for headline, subhead and body copy

desktop publishing

Charles Michae looks at up-market DTP, ink jet printing and how to play tag

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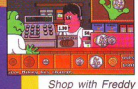

Shop with Freddy and his friends choosing coins to pay the bill.

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Archimedes and PCW versions will follow in early 1992.
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A shot in the dark

Phil Trory considers mailshots to revive old customers, and some legal advice

Most businesses have the names and addresses of existing customers in a computer somewhere, so why not use them to drum up more business? If you can organise them as a list in an Ascii file, then you have the makings of a mailshot.

Almost all wordprocessors have some sort of "mail merge" facility, either built in, or available as a separate package. ST Writer, which is public domain and was actually on an ST User CoverDisk a while back, has everything you need. You can even use ST Writer to prepare the address list, but be sure to use the Save Ascii option, as it will not like reading from a formatted document. Make sure that each address has the same number of lines – if necessary, leave blank lines between the end of a short address and the start of the next one.

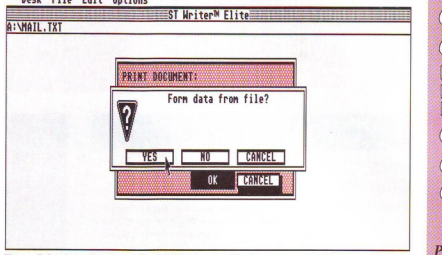
Then type the letter as normal, but press the F9 key at the start of each line where the address would normally go. A highlighted question mark will appear and you should have an F9 in your document for each address line. So, if you have used six lines for each person, or company in your address list, you should have six highlighted question marks in your letter.

If you are using A4 paper, you will have to change the page length – the number following the highlighted Y on the first line of the document – from 132 to 138. If your printer does not have a sheet feeder, put Control W after the 138, so ST Writer knows to wait for a new sheet after each page. Now when you select Print, a dialog box will pop up, asking if you have a data file. Select File and pick the name of your address list file from the file selector – ST Writer assumes that the filename extension is .DAT – and you should soon have a pile of neatly customised letters ready to send out.

Without a cut-sheet feeder on the printer, I find I can tolerate loading each sheet by hand for about 25 letters. For larger mailshots, a feeder at £50 to £100 will pay for itself in saved time and boredom.

It is worth giving some thought to the look and content of your letter. If possible, always address it to a named individual, rather than a job title, and customise the salutation (that's the "Dear whoever" bit). There is nothing worse than starting "Dear Mr Smith", when the recipient is Mrs Smith, or writing "Dear Sir" to someone you have been on christian name terms with for years, so put the salutation into the address file as a separate field. Then you know each one is right.

Avoid the Readers' Digest style: "This is your lucky day, MR SMITH. Out of all the people in ACACIA AVENUE...". On the other hand, notice how many mailings you receive have a "PS" at the foot of the page, reinforcing the message. The theory is that, even if you ignore the rest of the text, your eye is drawn to the PS – and it should be interesting enough to save the letter from the bin.



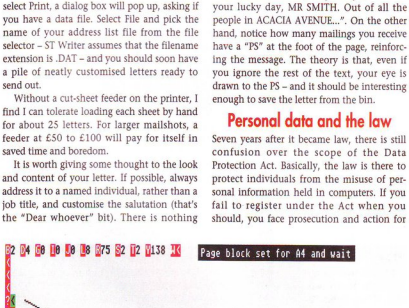
The mailshot letter is prepared in ST Writer, using F9 wherever you want to read a line from the data file. If you are using a pre-printed letterhead, remember to leave enough space at the top of the letter. Try to keep the text to one page and make as big an impact as possible

Personal data and the law

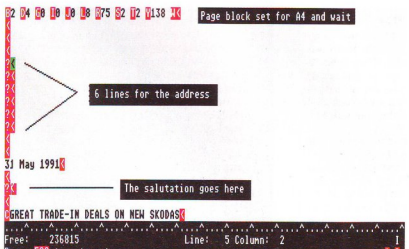
Seven years after it became law, there is still confusion over the scope of the Data Protection Act. Basically, the law is there to protect individuals from the misuse of personal information held in computers. If you fail to register under the Act when you should, you face prosecution and action for damages. However, several categories of personal data are not covered, or are exempt. These include data:

- processed manually, or by non-programmable equipment.
- relating only to dead individuals.
- held only in wordprocessing.
- relating to payroll, or financial records, including management information and forecasts, pensions and statutory sick pay.
- regarding domestic and family matters.
- consisting of club membership and distribution lists, provided the members have been given an opportunity to object and the lists are not used for any other purpose.

If data you hold is not obviously excluded by one of these categories, or you are in any doubt, you would be well advised to seek advice from a solicitor, or direct from the Data Protection Registrar, who provides free Guidelines booklets. Copies of the Act (ISBN 0105435848) cost £4.80 from HMSO.



If you don't have a data file prepared, ST Writer will prompt you to type in the addresses as each letter is printed. Unfortunately, there is no way of identifying where you have got to, so it is easy to get lost



Looking at the data file maintained in ST Writer, it is easy to see the attractions of using a database, or mail merge package

CONTACTS

- Data Protection Registrar, Water Lane, Wilmslow, Cheshire, SK9 5AX. Telephone: 0625 535777
- HMSO, St Crispins, Duke Street, Norwich NR3 1PD. Telephone: 0603 622211

ENTERTAINMENT XTRA

SELL-THRU • SATELLITE • CINEMA

Put down your joystick, switch off your monitor and relax with some extra entertainment, courtesy of Atari ST User's very own critic – Antony Purvis

Off the shelf

F/X: MURDER BY ILLUSION (15)

RCA/Columbia £7.99

A big-time gangland operator offers to give evidence against some other bigger-time gangland operators, thereby guaranteeing a mob contract on his head. What better way to protect him than to convince everyone that he's already dead?

Bryan Brown plays Rollie Tyler, a special effects expert called in to stage a fake assassination in order that the word can spread of the witness's untimely death. Once involved in the set up, Rollie soon finds out that part of the American justice system isn't on his side, and soon Rollie himself becomes the target.

When it hit the cinemas in 1985, F/X didn't smash any box office records or do very well. When released on video shortly after, it became a huge and very popular title. The film itself is superbly executed. Around every corner is an inventive twist to the plot.

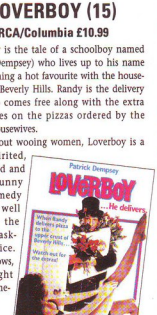
Superb acting, a gripping plot, great special effects, and real entertainment make F/X: Murder By Illusion an excellent film that must be seen. It is currently doing the rounds in UK cinemas too, and is well worth a look...

LOVERBOY (15)

RCA/Columbia £10.99

Loverboy is the tale of a schoolboy named Randy (Dempsey) who lives up to his name by becoming a hot favourite with the housewives of Beverly Hills. Randy is the delivery boy who comes free along with the extra anchovies on the pizzas ordered by the lonely housewives.

All about wooing women, Loverboy is a high spirited, fast paced and very funny teen comedy that's well worth the £10.99 asking price. Who knows, you might learn something...

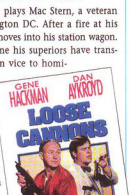


LOOSE CANNONS (15)

RCA/Columbia £10.99

Gene Hackman plays Mac Stern, a veteran cop in Washington DC. After a fire at his apartment, he moves into his station wagon. At the same time his superiors have transferred him from vice to homicide and assigned him a new partner – Ellis Fielding. (Dan Aykroyd)

But Ellis is no ordinary cop. He has a host of friends, all living inside his head, for Ellis is a multiple schizophrenic! The two just don't get along, especially when Ellis (and company) wreck Mac's prized station wagon during the course of a high-speed chase.



Gene Hackman fits into the overall chaos surprisingly well and Dan Aykroyd, of course, is perfect for the role, carrying off the multiple personalities with great style. It's fast, furious, and very funny.

VICE VERSA

RCA/Columbia £7.99

One thing that Marshall Seymour wasn't expecting in his busy executive lifestyle was to find himself spending his day in his 11-year old son's body. His son (Fred Savage) wishes they could swap places. Marshall agrees, and thanks to a dodgy magic skull thing from Thailand, that's just what happens.

Vice Versa was one of the countless body swap movies that were so popular three years ago. Of course, there's only so far that a point can be stretched, and Vice Versa has many very obvious similarities to Tom Hank's Big. But originality aside, Vice Versa is a funny and sharply written film. Judge Reinhold and Fred Savage are superbly cast, giving performances that must not be missed. Worth £7.99 of anyone's money.

Skylights

SKY

The pick of Sky's Movie channels in November

Those of you with access to the satellite movie channels have probably fallen out of the habit of actually buying movies on video. So to keep you happy, here's a quick guide to some of the entertainment high spots on Sky Movies Plus and The Movie Channel in November.

Look out for Chances Are, a romantic comedy starring Cybill Shepherd and Robert Downey Jnr. in which Downey plays Cybill's ex-husband who dies and is reincarnated.

Steven Seagal is Hard To Kill on the 10th and 19th of this month, providing fast action, spectacular stunts and great effects along the way. Lambada – The Forbidden Dance, or whatever it's called (!) is shown on the 2nd, 11th and 27th, and should go down well with any youthful types out there. Even if you're not into dancing this is worth a view.

Baby Mikey hits the small screen in Look Who's Talking, the classic baby talk movie that spawned a flop of a spin-off and a sit-com based around the idea. (Watch out for "Baby Talk" on Sky One.) A Stockbroker sells her soul to the devil for the promise of success in Limit Up this month, and David Puttnam's movie Memphis Belle gets an airing on the 30th.

Worth watching if only to see how it was the Americans who won the war and no one else. Hmm.

Monkey Shines is a charming little horror movie that comes your way on the 4th, 16th, 21st and 30th. It's the tale of a disabled man who is given a capuchin monkey to assist him with his daily tasks. It's not long before it all turns rather sinister and the monkey becomes responsible for a number of deaths. Good stuff.

The Adventures of Baron Munchausen appears on the 1st, 9th, 24th and 28th, and those fabulous Baker Boys pops up on November 6. Brothers Beau and Jeff Bridges star. Arnold Schwarzenegger (Uzi Nine Millimetre!) appears in The Running Man on November 17 – an essential one to watch there.

"Wierd" Al Yankovic, he of the many Michael Jackson spoof records such as "Eat It" and "Fat", appears in UHF on November 7th, 14th and 25th. Wierd Al plays George, given an American UHF TV station by his uncle. New programming such as "Ghandi II – The Punisher" and "Conan The Librarian" soon ensues. Patchy humour in places but not a bad film.

Honourable mention this month goes to Harlem Nights, on the 16th, 19th and 27th. Eddie Murphy and Richard Pryor star in a tale of 1918 speak-easies and gangsters.

My opinion is that you won't like this (Hello readers, I feel I know you well already..). Watch out for the 116 uses of the f*** word, too.

ATARI ST USER GRAND GRAM

THIS MONTH'S PRIZES

Last month every copy of *Atari ST User* featured a unique GRAND GRAB serial number. The panel below contains 500 randomly selected winning numbers. If any of these match the GRAND GRAB number on your personal copy of *Atari ST User* issue 69, you are already well on the way to winning one of **eighty top games** from Ocean and Mirror Image.

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- If your GRAND GRAB number from *Atari ST User* issue 69 (November 1991) matches any of those listed above, carefully complete your claim form.
- Photocopies of winning GRAND GRAB number panels will not be accepted.
- The first fifteen fully completed GRAND GRAB claim forms to be drawn from the compiled entries on Thursday December 12, 1991 will each win a copy of Terminator 2 from Ocean. The following 15 winners will receive a copy of The Simpsons game – Bart versus the Space Mutants. The next fifty winners will receive budget releases from Mirror Image.
- All remaining winners will collect various runner-up prizes including software, *Atari ST User* subscriptions and T-shirts.

1. *Atari ST User* GRAND GRAB is open to all readers with the exception of Europress Group employees, agents and advertisers.
2. Each claimant MUST complete the skill question on the GRAND GRAB claim form before their entry becomes valid.
3. The main GRAND GRAB prizes will be awarded to the first 80 claimants drawn from assembled entries on Thursday December 12, 1991.
4. All remaining claimants will receive unspecified runner-up prizes.
5. *Atari ST User* reserve the right to substitute prizes without notice.
6. The editor's decision is final and no personal correspondence can be entered in to as a result of a GRAND GRAB claim.
7. All successful claimants will be listed in future issues of *Atari ST User*.

GRAND GRAB claim form

Name

Address

Daytime telephone

Attach GRAND GRAB winning number panel here:
(Photocopies not accepted)

Question:
Which TV channel broadcasts "The Simpsons"?

(a) Sky One ☐ (b) Channel 4 ☐ (c) The Comedy Channel ☐

Send this completed coupon to: GRAND GRAB CLAIMS,
Atari ST User, Europa House, Adlington Park, Macclesfield, SK10 4NP.
All entries must be received before Thursday December 12, 1991.

The prizes

Games grab bag

The next fifty lucky winners will be immersed in games action thanks to Mirror Image. There are copies of 3D Pool, Carrier Command, Waterloo and Rocket Ranger up for grabs.

It's nothing personal

The first 15 claimants will win Ocean's game of the action movie sequel – Terminator 2.

Join the Austrian T800 in level after level of blast-'em-up action.

It's worth winning, if only for the exclusive free T-shirt!

Don't have a cow man!

Thanks to *Atari ST User* and Ocean, the next 15 winners can join Homer, Marge, Lucy, Maggie and of course Bart in an everyday tale of American cartoon folk.

Help Bart to save planet earth from evil space mutants and still have time to ride his skateboard.

All this and animation you won't believe, in The Simpsons game – Bart versus the Space Mutants.

NEXT MONTH'S GRAND GRAB EXTRAVAGANZA

Thanks to *Atari ST User* you can make a good impression with a Star printer or get engrossed in an enchanting Magic Storybook.

What's up for grabs?

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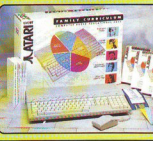

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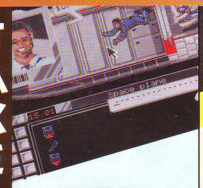

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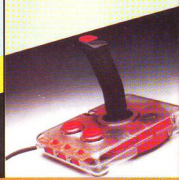

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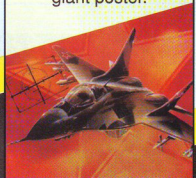

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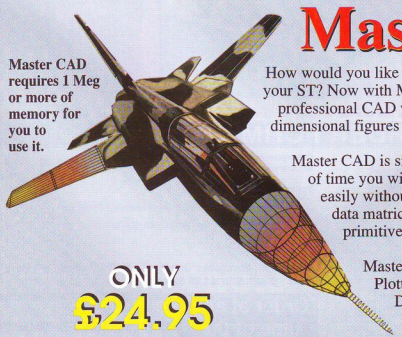

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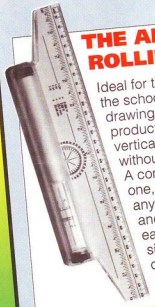

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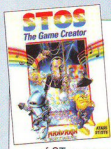

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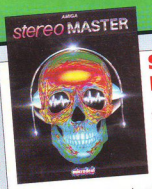

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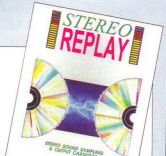

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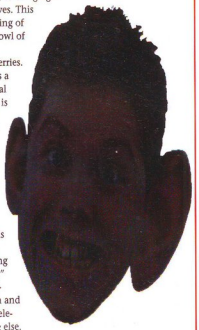
Biffa speaks...

Rising from the lowly ranks of office gopher to the lofty heights of industry guru, Jonathan "Biffa" Maddock is the computer magazine equivalent of Buddha. For many long, long months the *ST User* offices have swelled with his words of wisdom and intelligent, poignant reflections on the nature of existence.

And now, in an unashamed attempt at world domination, Biffa speaks to you, the moist and fluffy punters, to bring light and meaning into your hollow lives. This month Biffa reflects on the meaning of life, and why in the 1990s the "Bowl of Cherries" simile is redundant.



"They say life is like a bowl of cherries. Well, it isn't. A bowl of cherries is a small receptacle containing several red fruits. Life on the other hand is an abstract concept whereby an animate object senses and reacts to the environment about it. In my opinion, cherries just aren't 'hip', they're not dynamic enough to appeal to a modern multi-segmented society. Cherries are just way too 80s.

"I believe that life is like a pizza, and here's why: Everyone is welcome to take a slice, but you can't be sure you'll get the topping you want. Go in peace, my flock."

Next month, Biffa proves conclusively that there is life after death and insults Harry Secombe over the telephone. Be here, or be somewhere else.

DO YOU HAVE WHAT IT TAKES TO GROW WITH EUROPRESS?

We're at it again – Europress just keeps growing and growing. We have recently launched a new division to publish our latest acquisitions – Crash, Zzap! and Sega Force. More magazines means more staff. There is now room in one of our established editorial teams.

Atari ST User needs a new Technical Editor to continue the magazine's rise to market leader status.

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All applications must be received by Friday January 17, 1992.

THE Last word

In our clutches

Cast your mind back to August. Way back then, when the sun still shone, we ran a competition to come and visit us at *ST User* for a day. Something of a booby prize you might think, but no, hundreds of you seem to be desperate to see the *ST User* crew in all their hideous glory.

So popular was this competition that it's taken us this long to sort through all the entries. We have, however, at long last, chosen a winner. Mr. Terry Spriggs from Plymouth is the lucky fella in question and you'll be able to see how he gets on in a future issue.

He'll be dragged down to Europa House, incarcerated in the *ST User* office and forced to meet John "Chesney" Butters, Jools "Jools" Boardman, Terry "Van Gogh" Thiele, the ubiquitous Biffa and many, many more rogues and vagabonds. We'll make him stay in a posh hotel overnight, and practically blackmail him into accepting a free 24-pin printer, a giveaway copy of WordPerfect and a framed, unique, only one in existence, glossy chromalin cover. What nasty fiends we are.

Also worthy of honourable mentions are those who made the shortlist. Sean Wright down in Devon sent us an excellent feature on the STE, James Bloodworth from Nottingham took a novel approach and discussed rôle playing on the ST and Mr LM Green sent a highly professional feature on getting to grips with ST DOS. Worthy items one and all, from some promising journalists in the making.

Mystery compo

Yes, once again it's time for a completely unnecessary and needless competition. Our games cupboard runneth over and so for no other reason than that we love you all dearly we're prepared to give away a spanking new copy of a hot new game! Have we gone mad? Well, yes, we probably have, but we don't care!

What do you have to do to be in with a chance? How can you shamelessly take advantage of our manic generosity? Simple, all you have to do is guess which game it is we're giving away. It's been reviewed in *Gamer* over the last three months, so dig out those back issues and start guessing. Send your entries to "Armalyte Competition" at the usual address and the first one out of the proverbial hat gets the mystery prize.

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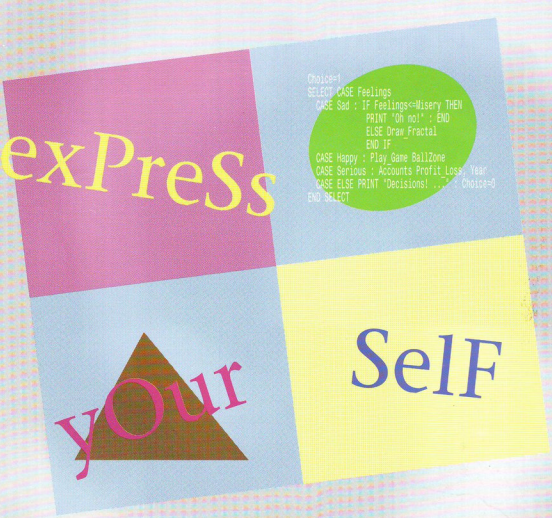

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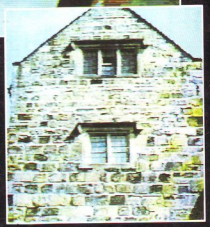

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